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# East-West Divide in Abortion Behaviour in the EU Countries Since 1990: Ongoing or Vanished Differentiation?

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## Abstract

In the late 1980s, the East-West divide by birth control was identified in Europe as both parts differed by contraceptive practices and abortion rates. The aim of this chapter is to investigate changes in abortion behaviour and ‘whether the East-West divide in abortion behaviour remained relevant by 2009’. As the large variation in terms of abortion rates and contraceptive patterns is still identified in Europe, we want to investigate ‘to what extent it has reflected in the birth control patterns’. The main results could be summed up as follows: (1) the East-West divide in abortion behaviour was distorted, but not fully eliminated. Besides the former Eastern and Western abortion patterns, the new ‘low abortion’ pattern has emerged. (2) Within the EU countries, convergent trends towards lower abortion level were identified since 1990. However, as regards the structure of abortions, a pattern of divergence has been apparent due to differences in transition to modern contraception use. (3) The use of modern methods of contraception rather depends on structural macro-level factors and contextual incentives and barriers as the impact of individual characteristics on the use of contraception does not differ much between countries under study.

**Keywords:** abortion, contraception, abortion rate, fertility, East-West division

## 1. Introduction

In the late 1980s, the East-West divide by birth control was identified in Europe as both parts differed by contraceptive practices and abortion rates [1]. This East-West divide resulted from divergent historical trends between the two regions [2]. ‘Abortion culture’ was the term used to characterise the nature of birth regulating behaviour in the formerly socialist countries of Soviet bloc, that is, Eastern Europe, up to the end of the 1980s [3, 4]. Liberal abortion legislation made induced abortions easily accessible as well as socially acceptable. Abortions were highly prevalent because they were available upon request and mostly free of charge [5]. Due to its wide availability, easy accessibility and social acceptability, abortion became an element of reproductive culture with moral legitimacy [6]. In most countries, women had an average of one to two lifetime abortions. In Soviet Union and Romania, however, women with three to five abortions were not uncommon [7, 8].

Modern contraceptives (hormonal contraception) were less available and of poor quality; thus, most couples relied on traditional methods [4].

On the contrary, in Western Europe, modern contraceptives were widely available, and registered abortion rates in Western European countries were significantly lower than those in Eastern European countries [8]. One of the explanations of such profound differences in birth control practices lays in different timing of liberalization of abortion law in Western and Eastern European countries. In most former socialist countries of Eastern Europe, abortion law was liberalised in 1950s and predated the spread of hormonal contraception since the late 1960s. In most Western European countries abortion law was liberalised later, in the 1970s and 1980s, thus after the spread of modern contraceptives [9]. In Western Europe, the transition towards the dominant use of modern contraception was termed the contraceptive revolution [10] and took place during the 1960s and 1970s [8].

Moreover, abortion played different roles in these two regions as women who had abortions differed sharply between the countries of Eastern and Western Europe [1]. In the Eastern European countries, abortion was used to limit family size once certain parity had been reached; thus induced abortion was the most frequently requested by married women with two or more children. The highest abortion rates were registered in women in their late 20s and 30s and formed a rather 'late abortion pattern' [4]. On the other hand, in Western European countries, abortion was used primarily in case of mistimed pregnancies, so most women who had abortions were young, childless and unmarried [1]. The highest abortion rates were the most typical for young age categories of women, thus formed a pattern that could be labelled as 'early abortion pattern'.

Before 1990, the East-West differences in Europe were apparent not only in birth control methods but also in fertility patterns. In Western Europe, large-scale changes in childbearing were under way since the 1970s. Modern contraceptives were instrumental in childbearing postponement to the later age of women and fertility decline below replacement level in this region [11]. In contrast, in Eastern Europe, the early childbearing pattern characterised by the highest fertility rates of women in the age of 20–24 years and fertility around replacement level was kept in the Eastern Europe until the beginning of the 1990s [12]. Accordingly, the early childbearing pattern and late abortion pattern were closely connected. Besides, since the contraceptive prevalence was low, trends in fertility and abortion rates were inversely related [13].

At the beginning of the 1990s, the East-West divide was characterised by the profound difference in both the abortion level and the contraceptive prevalence. While in Western and Northern Europe, the abortion rate varied between 14 and 22 abortions per 1000 women aged 15–44; in Eastern Europe, it was on average 88 per 1000 [14]. As regards the contraceptive use in Western and Northern Europe, more than 94% of users employed modern effective methods (pills, IUD, and barrier methods) in contrast to only 44% of them in Eastern Europe [8]. Since 1990, political and socio-economic transformation has occurred in Eastern Europe that also reflected in profound changes of the reproductive behaviour. The early childbearing pattern gradually vanished as a result of transition towards later childbearing. In Eastern Europe, decrease in both fertility and abortion rates was registered in the 1990s [12]. Trends in fertility and abortion rates ceased to be inversely related and became independent in some countries [15]. Although contraceptive use increased and abortion rate steadily decreased in most Eastern European countries during last decades, in some countries, abortion rates remain relatively high (42 per 1000 in 2010–2014), more than 20% of women in reproductive age still relied on traditional methods and the level of unmet need for contraception varied between 15 and 20% [16].

The 1990s are regarded as the period of major discontinuities and a growing differentiation in Eastern Europe. Although there were some studies on abortion trends since 1990, most of them related to comparison across world regions with no specific attention to Western or Eastern European countries [17–19]. Nevertheless, more attention was paid to European cross-national comparisons in contraceptive practices [20–23]. Recently, two studies supported the continuation of East-West divide in contraceptive use [16, 24]; however, in these two studies, the continuation of East-West divide was taken as presumption to be confirmed, and the increased regional variation, particularly within Eastern Europe, was ignored.

Furthermore, less attention has also been devoted to assessment of changes in abortion in relation to changes in contraceptive use in Eastern Europe despite investigation of the relationship between trends in contraceptive use and in the incidence of induced abortion has been a subject of many studies on other world regions [25–27]. Interestingly, findings have not been consistent as increased contraceptive use need not necessarily lead to lower abortion rates and vice versa [26]. Fertility change plays the key role of mediating factor, which means that in case of a rapid fertility decline significant decrease in abortion need not occur as only increased contraceptive use by itself may be unable to meet the growing need for fertility regulation. This was particularly relevant for Eastern Europe in the 1990s.

In the 2000s, widening of EU and further integration of Europe were expected to contribute also to demographic convergence within EU. Many countries in Eastern Europe took steps towards reforming their reproductive health policies and programmes related to family planning as well as discussed the factors that could promote increased contraceptive use and decline in reliance on abortion [28]. The aim of this chapter is to investigate changes in abortion behaviour and ‘whether the East-West divide in abortion behaviour remained relevant by 2009’. As the large variation in terms of abortion rates [14] and contraceptive patterns [24] is still identified in Europe, we want to investigate ‘to what extent it has reflected in the birth control patterns’. Has the former East-West divide remained or has the new one emerged? 2009 was taken for detailed analysis of the relationship between abortion and contraceptive behaviour in EU countries as the most detailed data on abortion and, in particular, on contraceptive use were available’.

## **2. Data and methods**

Data sources on abortion and birth control method are of different quality; therefore, several international data sources were used. The international databases referred on abortions included Eurostat and [29]. As regards the contraception use, data collected by the UN [30] and data from [29] were relevant. Moreover, data from the Generation and Gender Survey, the second wave, (2007–2008; [31]) were used for detailed analysis of characteristics of users. Furthermore, cross-country differences in abortion legislation should be taken into account when making a comparison. Only 21 out of 28 EU countries with liberal legislation and available data on abortions were considered for analysis. Ireland, Malta, and Poland were not included into analysis due to restrictive legislation [29]. Austria, Croatia, Cyprus, and Luxembourg were not included as no national or international data on abortions were available. The time limit for an induced abortion is not uniform across countries [29]. It is 10–14 weeks of gestation in most EU Member States, but higher in Sweden (18 weeks) and the UK (24 weeks). Countries have also different policies and practices with regard to the time limit for induced abortion for a foetal or maternal indication. Parental authorization for induced abortion of women under the age of



18 years is required in 11 countries under study: Czech Republic, Denmark, Estonia, Greece, Hungary, Italy, Latvia, Lithuania, Portugal, Sweden, and Slovakia. Finally, completeness of available data, defined as covering at least 90% of all legal abortions [17], was reported for 10 countries from Western Europe (Belgium, Denmark, Finland, France, Germany, Italy, Portugal, the Netherlands, Sweden, and the United Kingdom) and for 6 countries from Eastern Europe (Bulgaria, Czech Republic, Estonia, Hungary, Slovakia, and Slovenia). Higher risk of under-reporting could be found in Latvia, Lithuania, and Romania, and also in Greece and Spain. It relates particularly to abortions performed in private clinics or abortions among migrants. Some national statistics may not include medical abortions. By 2010, medical abortion was not allowed in five Eastern European countries under study: Czech Republic, Hungary, Lithuania, Romania, and Slovakia.

Comparative analysis included both the changes in the level and structure of induced abortions, and changes in contraceptive practice. General abortion rate is defined as the number of legally induced abortion per 1000 women aged 15–49. Age-specific induced abortion rate is defined as the number of induced abortion of women per 1000 women of given age group. Contraceptive prevalence rate is defined as the percentage of women in reproductive age (15–49 years) or their partners who were using a contraceptive method at a particular point in time [30]. The analysis of relationship between contraception and abortion was based on data that were obtained for 18 European countries from online databases of Eurostat as regards abortions and from the UN [30] as regards prevalence of modern contraceptive use (percentage using contraception among women who are married or in a union, modern method: sterilization, pills, injectable, implant, IUD, male condom, or vaginal barrier method). Cluster analysis of birth control indicators was used to give more detailed insight into current typology of abortion behaviour in the EU. The following four indicators were included into cluster analysis: general abortion rate in 2009, abortion rate of women aged 15–19 years in 2009, ratio of abortion rates of women in the age group 20–24 to 25–29 years in 2009, and contraceptive prevalence rate of modern methods (latest available data). These indicators were selected to capture the specific aspect of abortion behaviour that could differentiate between abortion patterns. Greece, Portugal, and the Netherlands were not included in cluster analysis as abortions by age group of women were not available for these countries.

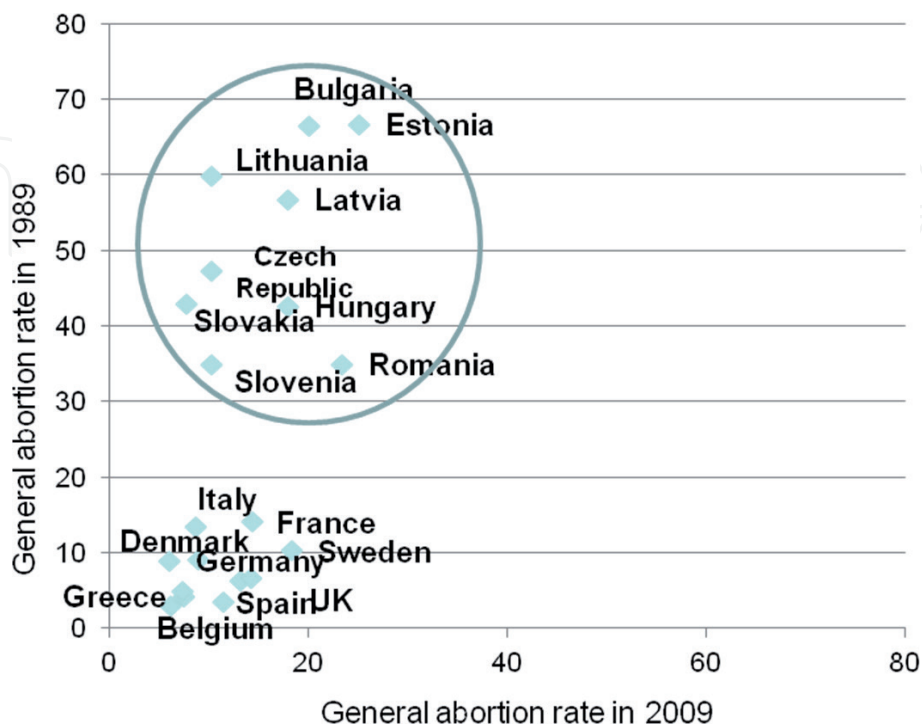
Finally, data from the second wave of Generation and Gender Survey [31] were analysed as they provide more information about contraceptive behaviour in selected three countries: the Czech Republic (2008), France (2008), and Bulgaria (2007). This survey collected representative data from people aged between 18 and 79 in European countries. The key feature of the survey is the cross-national comparability by providing the survey design, a standard questionnaire, and common definitions and instructions in all countries [32, 33]. The core question, investigating current use of contraceptive methods, was ‘Are you doing or using anything to prevent pregnancy?’. For the purpose of comparison, only data concerning women of reproductive age (18–44) were included in the analysis. Furthermore, the analysis was restricted to women of reproductive age, who had a partner—whether cohabiting or not—at the time of the interview. Therefore, the total number of women aged 18–44, eligible for analysis, was 1522 in the Czech Republic, 1334 in France, and 556 in Bulgaria. We utilised SPSS version 20 to analyse the data and, more specifically, to compare the percentage distributions of female respondents by contraceptive status. In the event that respondents reported multiple contraceptive methods, only the most effective method was taken into account. The traditional and less effective methods cited in the analysis included withdrawal and periodic abstinence. The pills, IUDs, and condoms were

all considered to be effective contraceptives. However, when applying multivariate statistical analysis to identify differences in the use of modern contraceptives by individual characteristics, only the pills and IUDs were included into calculations. Adjusted odds ratios were used to assess predictors for the use of the modern contraceptives. We applied binary logistic regression to adjust for potential confounding factors. Age, type of partnership, number of children, and education were included as independent variables, while the use or non-use of pill or IUD was the dependent binary variable.

### 3. Results

Changes in cross-national variations in abortion rate can be assessed when plotting EU countries according to both values in 1989 and 2009 (**Figure 1**). Interestingly, a group of Eastern European countries could be clearly separated from Western European countries, which suggests continuation of East-West divide. It is apparent that Eastern European countries differed from the West region by both level of abortion rates and by abortion trends between 1989 and 2009. As all Eastern European countries registered a profound decline in abortion rates during this period, variations in abortion rate across the East region were significantly reduced. While the general abortion rate in 1989 ranged between 35 (Slovenia) and 66 (Bulgaria and Estonia) abortions per 1000 women aged 15–49, in 2009, it was only between 7.7 (Slovakia) and 25 (Estonia) abortions per 1000 women aged 15–49. Interestingly, the abortion rate fell most precipitously in Slovakia and the Czech Republic, i.e. in those countries that did not register the highest incidence of abortion. In most of the countries, the decline in abortion rate occurred predominantly in the 1990s, and after 2003, the pace of the decrease slowed down [17].

In contrast to the East region, variation in abortion rates within the West region in 1989 was not large as Western European countries mostly registered low abortion rates, between 3 (Greece) and 14 (France) abortions per 1000 women aged 15–49 (**Figure 1**). Furthermore, although abortion rates held fairly steady in Finland and

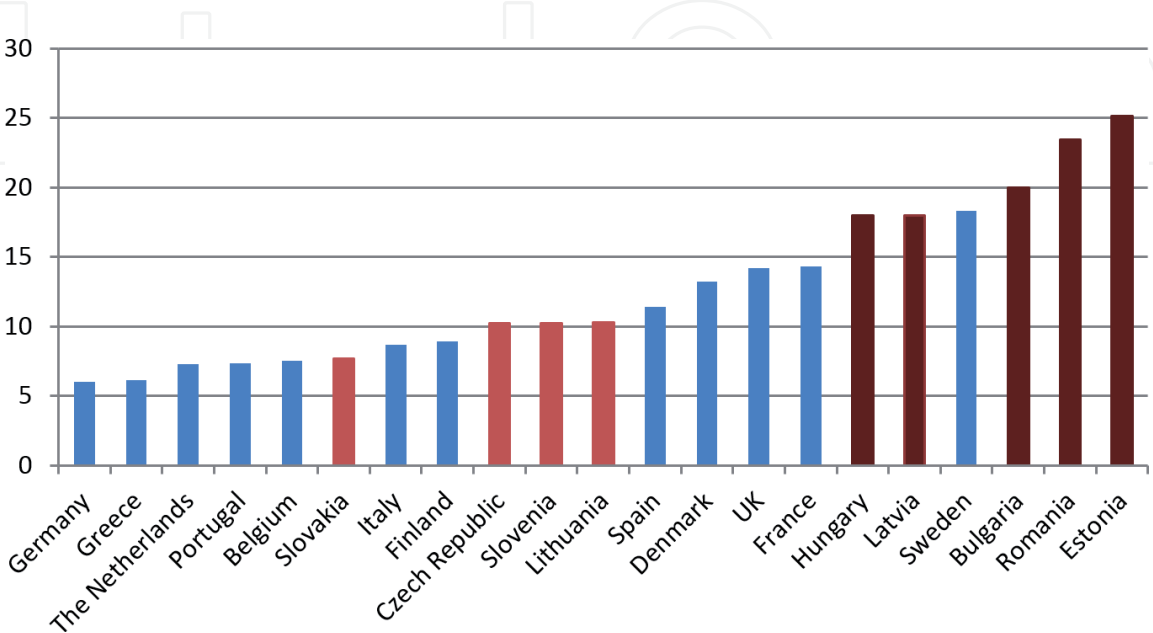


**Figure 1.**  
EU countries by general abortion rates in 1989 and 2009 (abortions per 1000 women aged 15–49).

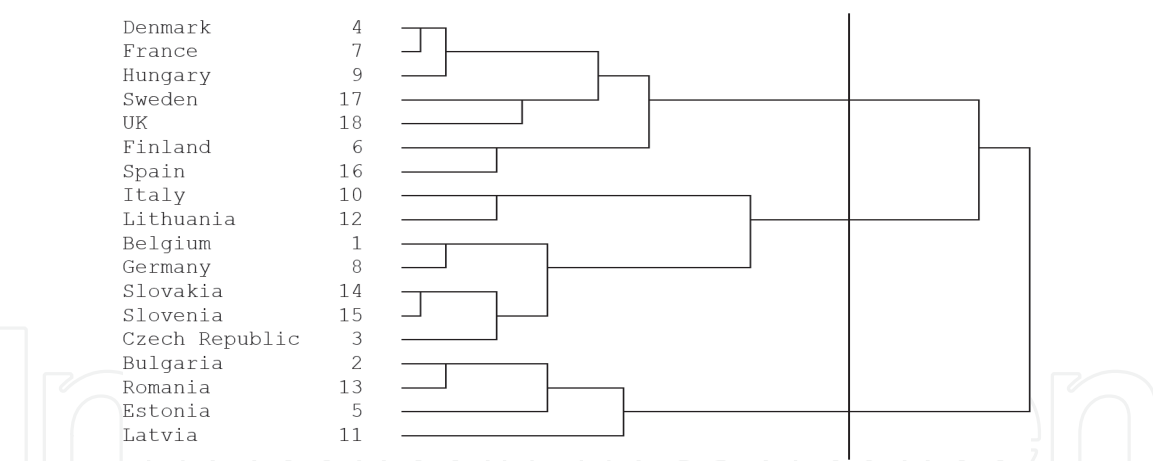
France, and Italy together with Germany registered decline in the abortion rate, the dominant trend in this region was an increase in abortion rate. It regarded both countries with rather higher abortion rate within this region, that is, Sweden, the UK, Denmark, and those with low abortion rate, that is, Greece, Spain, Belgium, and the Netherlands. The steepest rise (from 3 to 11 abortions per 100 women) was registered in Spain, which was attributed to the rapidly growing immigrant population. Similarly, immigration is behind the increase in abortions also in other countries. Recent studies indicated that 25–36% of abortions in Finland, the Netherlands, and Sweden were requested from foreign-born women, largely those of non-European origin [17].

Contrary to previous findings, ordering of countries according to abortion rates in 2009 rather suggests vanishing of the former East-West divide (**Figure 2**). Although the highest abortion rates were found in Eastern European countries (Estonia, Romania, and Bulgaria) and the lowest abortion rates were found in Western European countries (Germany, Greece, the Netherlands, Portugal, and Belgium), Slovakia together with Czech Republic, Slovenia, and Lithuania reached levels even lower than those registered in five countries of the former West region, that is, Sweden, France, the UK, Denmark, and Spain. Thus, as regards the abortion rate in 2009, a group of four countries that were formerly a part of Eastern Europe no longer belonged to the East region.

Cluster analysis based on birth control indicators of 18 EU countries in 2009 revealed the existence of three clusters of countries that differ by both level and structure of abortion as well as by contraceptive prevalence rate of modern method (**Figure 3**). These clusters are characterised by differences in average values of general abortion rate, abortion rate of teenage women, ratio of abortion rate of women aged 20–24 and 25–29, and contraceptive prevalence rate of modern method (**Table 1**). The first cluster can be taken as a continuation of the former ‘early abortion pattern’ as it consisted predominantly of Western and Northern European countries, Denmark, Sweden, Finland, the UK, and France. Newly, Hungary and Spain emerged in this cluster. As the ratio of abortion rate in age 20–24 to 25–29 is higher than 1, the concentration of abortions mainly among young women is the main characteristic of this cluster. Moreover, the abortion rate of teenage women is quite high despite the high contraceptive prevalence of modern methods in these



**Figure 2.**  
General abortion rate in 2009 in EU Member States (abortions per 1000 women aged 15–49).



**Figure 3.** Dendrogram with three clusters of EU countries determined by similarities in abortion pattern in 2009. Notes: Cluster analysis using average linkage between groups, SPSS version 20. Variables included into cluster analysis: abortions per 1000 women aged 15–49, abortions per 1000 women aged 15–19, ratio of abortion rates in 20–24 to 25–29 (2009), and contraceptive prevalence rate of modern methods.

| Cluster | Pattern        | Countries  | Abortions per 1000 women aged 15–49 | Abortion rate in age 15–19 | Ratio of abortion rate in age 20–24 to 25–29 | Contraceptive prevalence of modern methods % |
|---------|----------------|--|-------------------------------------|----------------------------|--|--|
| First   | Early abortion | Denmark, France, Hungary, Sweden, the UK, Finland, Spain               | 13-Mar                              | 16.53                      | Jan-16                                       | 64.3   |
| Second  | High abortion  | Bulgaria, Romania, Estonia, Latvia                                     | 21.63                               | 16.93                      | 0.95   | 47.43  |
| Third   | Low abortion   | Italy, Lithuania, Belgium, Germany, Slovakia, Slovenia, Czech Republic | Aug-32                              | Jul-30                     | 1.00   | 69.10  |

**Table 1.** Distribution of 18 EU countries into three clusters, the average values of indicators.

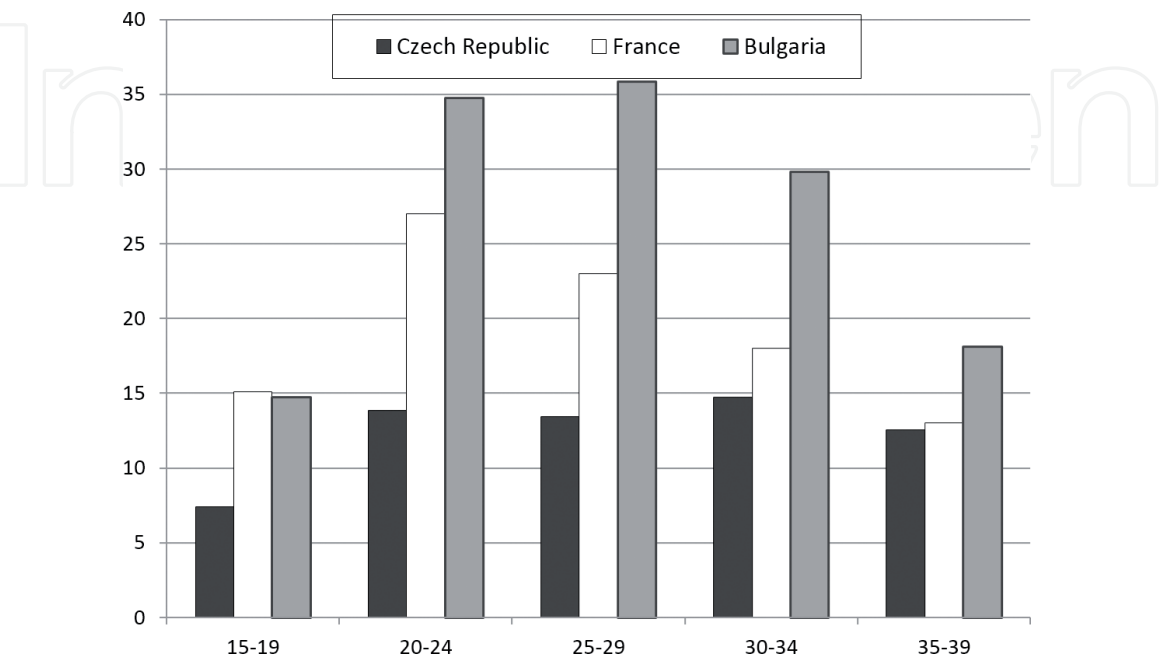
countries. The abortion rate of teenage women is even as high as in the second cluster of countries characterised by ‘high abortion pattern’ typical for Bulgaria, Romania, Estonia, and Latvia, that is, the Eastern European countries. Abortion rate was reduced in these countries; however, it was still high in all age groups in comparison with other EU countries. Ratio of abortion rate in age 20–24 to 25–29 is only slightly lower than 1 suggesting that dominant characteristics became the relatively high abortion level instead of highest frequency of abortions among women in the late 20s and early 30s as it was two decades before. The third ‘low abortion’ cluster emerged as a new one and consists of a mix of countries, that is, Italy, Belgium, Germany, and four Eastern European countries that are part of the East region: Lithuania, Slovenia,



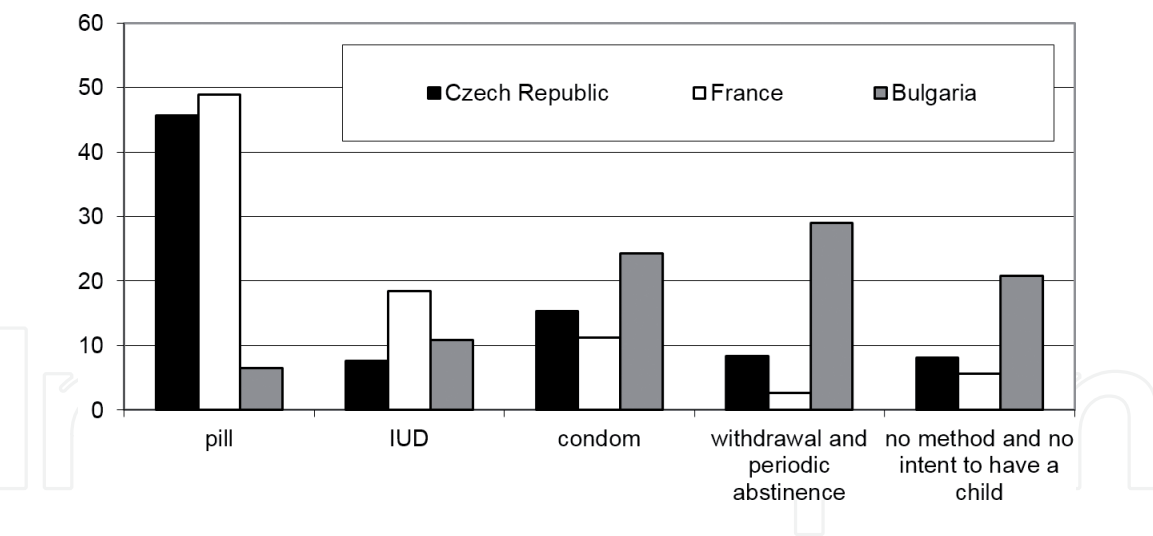
Slovakia, and the Czech Republic. These countries have low abortion rate combined with high contraceptive prevalence of modern methods in common.

Looking at those clusters in more detail, three patterns of abortion behaviour in EU countries can be better identified (**Figure 4**). France was selected from the first cluster as representative of the former Western ‘early abortion pattern’ characterised by high abortion rate among women younger than 25 years and particularly among teenage women. Although in France the highest percentage of women using pills was found (**Figure 5**), it is connected with the highest propensity to end an unwanted pregnancy among teenage woman, suggesting the increase in demand for fertility control due to a delay in fertility has not been sufficiently met yet. Bulgaria was selected from the second cluster as the representative of the ‘high abortion pattern’ (**Figure 4**). Women aged 20–29 years accounted for the highest frequency of abortions, and the abortion rate of women aged 30–34 is also considerably high. Interestingly, the abortion rate of youngest Bulgarian women aged 15–19 is comparable with that of French women in this age group. Behind the high abortion rate are the low improvements in modern contraceptive practice, as only 40% of Bulgarian women of reproductive age use modern methods of birth control (**Figure 5**). While these two clusters confirm the continuation of the former ‘Western’ and ‘Eastern’ patterns, the third one has emerged recently as a result of a rapid increased use of effective contraceptive methods. The Czech Republic could be taken as a representative of this ‘low abortion pattern’, with high contraceptive prevalence of modern methods (78%) and low general abortion rate (12%). The fall in abortion rates was most pronounced in the age group with traditionally highest rates of abortion, that is, between 20 and 34 years, which resulted in diminishing the differences in abortion rates between all age groups.

The comparison of contraceptive behaviour in the Czech Republic, France, and Bulgaria based on data from the second wave of the Generation and Gender Survey highlights differences in family planning practice in the three countries. While both in the Czech Republic and France the highest percentage of women aged 18–44 years and having partner uses the pills (45% and 49%), in Bulgaria, the dominant effective method of contraception is condom (23%). In contrast to the Czech Republic and France, 20% of Bulgarian women aged 18–44 years and having partner rely on traditional and less-effective method. Furthermore, in



**Figure 4.**  
*Age-specific abortion rates in 2009 (abortions per 1000 women).*



**Figure 5.** Percentage distribution of women by method of contraception, generation and gender survey, second wave, and women aged 18–44 having a partner. Data source: GGS2 (second wave), Czech Republic (2008), France (2008), and Bulgaria (2007).

|                        | Czech Republic | France  | Bulgaria |
|------------------------|----------------|---------|----------|
| Type of partnership    |                |         |          |
| Living together (ref.) | 1              | 1       | 1        |
| Not living together    | 1.78***        | 1.43**  | 1.35**   |
| Age group              |                |         |          |
| 18–24                  | 8.00***        | 6.65*** | 3.69***  |
| 25–29                  | 2.83***        | 3.37*** | 2.23***  |
| 30–34                  | 1.85***        | 1.93**  | 1.45**   |
| 35–39                  | 1.34**         | 1.45**  | 1.14*    |
| 40–44 (ref.)           | 1              | 1       | 1        |
| Number of children     |                |         |          |
| 0 (ref.)               | 1              | 1       | 1        |
| 1                      | 1.02           | 1.12    | 1.15     |
| 2                      | 1.20           | 1.23    | 1.11     |
| 3 +                    | 1.09           | 1.13    | 1.21     |
| Educational level      |                |         |          |
| Lower (ref.)           | 1              | 1       | 1        |
| Secondary              | 1.06           | 1.31*   | 1.12     |
| Higher                 | 1.26*          | 1.42*   | 1.39**   |
| Number of users        | 1522           | 1334    | 556      |

Data source: GGS2 (second wave), Czech Republic (2008), France (2008), Bulgaria (2007).  
Note: Binary logistic regression, \*\*\*  $p < 0.01$ ; \*\*  $p < 0.05$ ; \*  $p < 0.1$ , SPSS version 20.

**Table 2.** Determinants of contraceptive use of the pill or IUD by women in selected countries (odds ratio).

Bulgaria, high level of unmet need for contraception probably exists as almost 20% of Bulgarian women do not practice fertility control although they do not intend to have a child. Other studies also confirmed the highest prevalence of non-use and traditional method use [16, 28]. The impact of individual characteristics on the

use of modern method (pills and IUD) was analysed by binary logistic regression. After adjustment for all characteristics in **Table 2**, the use of the pill was found significantly associated with the type of partnership, age, and education in all three countries. The Czech youngest women are eight times more likely to use the pill or IUD than women aged 40–44 years old while Bulgarian youngest women less than four times. Not living with a partner significantly predicts the use of the pill as well as higher education attainment. Interestingly, the number of children did not prove to be a statistically significant predictor in all countries under study.

#### **4. Discussion**

Between 1989 and 2009, a sharp decrease in abortion rates in Eastern Europe narrowed variations in abortion behaviour across EU countries. We have found that the East-West divide in abortion behaviour was distorted, but not fully eliminated. Up to 2009, the main differentiating signs remained similar to the former abortion patterns as high abortion rates across all age group of women were still typical for the ‘Eastern’ abortion pattern and the high abortion rate of young women kept to be typical for the ‘Western’ abortion pattern. However, a considerable decline in the abortion rate in some Eastern European countries (Lithuania, Slovakia, the Czech Republic, and Slovenia) resulted in formation of a new abortion pattern different from the former Eastern and Western patterns. These countries joined some Western European countries that also registered a decline of already low abortion rate (Italy and Germany).

However, during the period under study, Eastern European countries started to differ not only in abortion behaviour but also in contraceptive practice. Some recent cross-country studies disregard that Eastern European countries significantly differed by the increase in the use of modern contraceptives since 1990. The study of Dereuddre et al. [16, 24] confirmed that the East-West divide in contraceptive use continued to be relevant up until recently. Accordingly, Western European countries were characterised by the widespread use of modern contraception, and Central and Eastern European countries were characterised by a high prevalence of traditional methods. However, this study did not recognise that in some Eastern European countries, in particular the Czech Republic and Slovakia, the transition to the dominant use of modern contraceptives occurred in such profound way that it could be considered as complete [13, 15]. Rapid transition to use of modern contraceptive method prevented a shift of high abortion rate to the youngest age group of women similarly to the characteristics of the former ‘West’ abortion pattern. Instead, a new pattern of low abortion across all age group could be formed.

Thus, around 2009, three abortion patterns could be determined. The ‘early abortion pattern’ continued to exist although it was no more dominant only for Northwestern part of Europe as Spain and Hungary showed similar characteristics. The relatively high teenage abortion rate and abortion rate of women aged 20–24 years is due to the great variation in quality and quantity of sexuality education and sexual and reproductive health services financing, and partly due to a growing demand for abortion from women in ethnic minority groups [29]. Moreover, the longer gestational limit for an induced abortion in some countries (the UK and Sweden) could also contribute to the maintenance of this model. France was taken as a typical example of this abortion pattern. Despite abortion rates remain stable in France since the early 1990s, the age of the women who have abortions decreased during this period [19]. Since the mid-1990s, abortion rates below the age of 25 years increased while remaining stable at other ages. It seems

that this early abortion pattern was even strengthened in the context of delayed childbearing. Besides, the extension of gestational limit in 2001 and legalization of medical abortion in private practices in 2004 and in family-planning centres in 2009 probably also contributed to fixing this pattern in France.

Interestingly, the other two countries came out to belong to this 'early abortion pattern'. Spain was the country where the abortion rate has significantly increased in the 2000s. It was probably due to an increase in immigrant population as immigrant women's abortion rate was found three times higher than that of Spanish women [33]. Similar findings relate also to other countries with a higher proportion of immigrant populations like Sweden and Finland since immigrants have greater difficulties to access contraception. Finally, in Hungary, improvements in contraceptive use were registered as the pill became the most frequently used contraceptive methods instead of barrier methods [34]. However, the increase in contraceptive prevalence did not prevent unintended pregnancies of young women since the abortion rate among young women remained relatively high.

The 'late abortion pattern' typical for Eastern European countries prior to 1990 seems to have been transformed to 'high abortion pattern' for part of these countries. Thus, the specific Eastern European pattern continues to exist in the context of more liberal abortion law than prior to 1990. This pattern is not characterised by high abortion rate dominantly in older age of women like prior to 1990 when most of abortion law enabled women to request an abortion only after having a certain number of children. Despite a decline in abortion level and an increase in contraceptive prevalence by 2009, these countries continued to differ from the rest of EU countries by higher abortion rate across the whole reproductive age of women. The increase in contraceptive prevalence itself was not a sufficient determinant of reduction of abortions in any age group as mainly the increase in use of less effective methods occurred. Rather the shift in method mix towards modern contraception could induce the more profound decline in abortion level [26]. Abortion rate is high in societies where low contraceptive prevalence or use of ineffective methods is combined with low-fertility norms, and in societies with a high propensity to rely on induced abortion [25]. Accordingly, some increase in contraception prevalence was probably not accompanied by the replacement of traditional methods with more effective alternatives in these countries. Accordingly, the high abortion rate still registered in Bulgaria, Estonia, Latvia, and Romania in 2009 can be explained by high prevalence of using traditional method and still high propensity to rely on induced abortion despite sexual and reproductive health programmes were established in the 1990s [28]. Only modern contraception can replace abortion. The previous studies [26] showed the inverse of the relationship when the proportion of women using traditional methods was plotted against abortion rate, that is, reliance on abortion was increasing with the prevalence of traditional method of contraception.

Besides, fertility decline that occurred in Romania in the first half of the 1990s was not sufficiently compensated by contraceptive prevalence rise and resulted even in the temporal increase in abortion rate [35]). Furthermore, this fertility decline related to the births of second and third-order and it did not contribute to first birth postponement [36]. Although subsequent decline in abortion rate has been registered, some experts pointed out that the number of unreported, privately performed induced abortions particularly in Romania has increased substantially [17]. The declines rather represent a combination of real declines in incidence and a shift to unreported abortions. Significant reduction in the abortion rate would be obtained if most traditional contraceptive methods shifted to modern methods. Decline in abortion rate without the widespread



use of effective birth control methods is not sufficient to encourage the shift in reproduction pattern. Van de Kaa [11] identified modern contraceptives as the means that made possible not only the low fertility but they also acted as a catalyst of changes in reproductive pattern within the concept of second demographic transition.

On the contrary, other four Eastern European countries, the Czech Republic, Lithuania, Slovakia, and Slovenia, that formerly registered high abortion rate, contributed to form the new 'low abortion pattern' characterised by low abortion rates across all age group of women. This pattern is based on the increased use of efficient modern contraceptive methods and could be also found in Italy, Belgium, and Germany. During the 1990s, fertility decline occurred in the Czech Republic, Lithuania, Slovakia, and Slovenia and did not result in any an increase in unmet need for family planning as no increase in abortion rate was observed. Instead, a decline in abortion in all age group of women was registered. Both young and older women improved their contraceptive behaviour although the highest increase in use of the pill was registered among young women below the age of 25 years. As a result, young women do not rely on abortion when planning childbearing but rather prevent unintended pregnancy. So once there were conditions for effective family planning, the abortion rate could rapidly fall without any legislative restrictions on access to abortions [15]. The increase in contraceptive use has been sufficient to encompass both the sharp decline in abortion and the trend towards fertility postponement. The spread of modern contraceptive methods facilitates fertility changes and may result in altering norms regarding fertility regulation, but also in reverse, attitudes with regard to contraceptive use may be shifted [11]. Accordingly, significant improvements in contraceptive practice in these Eastern European countries might encourage shaping of a new reproduction pattern, that is, late fertility pattern, as it was documented in the Czech Republic [13].

Analysis of the link between contraceptive use of modern methods and individual characteristics has brought findings that are consistent with other studies, in particular as regards the educational attainment [16, 23, 24, 37]. Our results also confirmed that highly educated women are more likely to use modern contraception in all analysed countries across all abortion patterns. Moreover, young women are the most receptive to use hormonal contraceptives. While the proportions of users of contraceptive methods vary considerably particularly between the Czech Republic and France on one side and Bulgaria on the other, the characteristics of the users of modern effective methods were found to be similar. Therefore, the causes of these variations might be partly explained by the macro-level factors [38]. Variations observed in contraceptive prevalence and in the mix of methods are determined both by the socio-demographic characteristics of the respondents and by macro-level factors such as legislation, reproductive health care system, family planning programme, or cultural factors and religiosity. Social and cultural expectations as well as access and availability may be the leading factors in behavioural change concerning traditional contraceptive use [16]. Differences in contraceptive use across Europe can also attribute to differences in gender inequality [24]. Particularly, country levels of gender equality are linked to the East-West divide in the type of contraceptive method used. Moreover, family policies may also play a role in decision-making about the method of contraceptive use. Facilitating the reconciliation of paid work and family life seems to enhance reproductive health [39, 40]. More attention for family policies may encourage modern contraceptive use [16]. This is particularly relevant for Eastern European countries like Romania and Bulgaria where development of family policies lags behind other Eastern European countries like Slovenia or the Czech Republic [41].

## 5. Conclusion

The main results could be summed up as follows: (1) The East-West divide in abortion behaviour was distorted, but not fully eliminated. Besides the former Eastern and Western abortion patterns, the new 'low abortion' pattern has emerged. (2) Within the EU countries, convergent trends towards lower abortion level were identified since 1990. However, as regards the structure of abortions, a pattern of divergence has been apparent due to differences in the transition to modern contraception use. (3) The use of modern methods of contraception rather depends on structural macro-level factors and contextual incentives and barriers as the impact of individual characteristics on the use of contraception does not differ much between countries under study.

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