

Are the Millennials Getting Less Married? An Analysis of Selected European Countries

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Abstract

The study investigates the causal link between the Millennials (ML) Population (18-37 year age) and the Marriage Rate (MR) (married population/total population) for the countries of France, Germany, Italy, Netherlands, Spain, and the United Kingdom (UK) by using the bootstrap causality test. The findings suggest that ML population has a significant negative impact on MR in Italy and the Netherlands, while MR has a significant negative impact on ML population in Spain. Besides, the System Generalized Method of Moment Regression (SGMM) is conducted to release the effects of the Divorce Rate (DR), Education Attainment (EA), Globalization (GB), Social Protection (SP), Secularization (SEC), House Prices (HP), Financial Crisis (FC), and Working Population of women (WP) variables on MR and ML population. Likewise, the outcomes display that these are the leading factors of explaining ML population. Our results support the two-period model of Peters (1986), which states that MR is the combination of the economic, social, and religious elements and has important policy implications.

Keywords: Marriage, Marriage Rate, Millennials, Millennials Population, Bootstrap Causality Test, Divorce Rate, Financial Crises, Cohabitation, Individualism.

Jel Classification: J12, Q56, G01, B41

1. Introduction

This study aims to investigate the relationship between the Millennials (ML) population and Marriage Rate (MR) for the countries of France, Germany, Italy, Netherlands, Spain, and the UK by using the bootstrap Granger causality test for the period 1998-2017. Secondary goal of the study is to analyze the factors affecting the ML population and MR for the same European countries. The System Generalized Method of Moment Regression (SGMM) is conducted for analyzing the factors affecting the ML population and the MR. The variables of Divorce Rate (DR), Education Attainment (EA), Globalization (GB), Social Protection (SP), Secularization (SEC), House Prices (HP), Financial Crisis (FC), and Working Population of women (WP) are taken as factors that are investigated whether they affect MR and ML population.

Marriage is a central social institution of the societies (Edlund *et al.*, 2013), and it offers numerous benefits like happiness, fertility and controlling crime rate (Zagorsky, 2005; Zhang *et al.*, 2018; Su *et al.*, 2020). The trade-off between the cost and benefits of marriage may have

changed by the ML population perception about the institution of marriage. The balance between the advantages and disadvantages of marriage may have changed depending on time, emotional and financial expenditures (Becker, 1973). It is recently debated that the divorce rate is falling, while fewer people are getting married. Furthermore, the majority of the advanced countries have experienced a change in the family formations attributed to Second Demographic Transition (SDT), weakening of the traditional institution of family and marriage (Cherlin, 2004). Individualism has facilitated same-sex marriages and cohabitation (Thomas & Mulder, 2016).

Demographic shifts have resulted in delay of marriage, growing age of first birth, increasing divorce rates, rising of women rate in the work market and education. These factors are becoming more evident and causative with the rising ML population. The ML population has slowly but surely decrease MR and sluggish to form their household (Pew Research, 2010). Marriage is one of the less concerned topic and not a requirement. It can be availed after establishing a career and purchasing a house. Likewise, financial anxiety dissuades ML population to follow marriage institution, viewed as the middle-class institution, more isolated and the high expectation from marriage before. In the past, people were pragmatic and had no option other than marriage. It has shown the reasons for less MR, which are increasing the economic independence of women, changing attitude towards marriage, economic difficulties, and excessive use of effective contraceptives can be the main factors of less MR.

There are some general features of ML population. Firstly, one of the key traits of ML population is that they tend to get married later than Baby Boomers. The percentage of ML population getting married before 30 is only 23% compared to 56% who were married by this age in 1968. The average age at first marriage in Europe has risen from 30 and 27 in 1999 to 34 for men and 31 for women. Likewise, ML populations are waiting longer to have children. In brief, the average age at which women give birth to their first child has been rising to 29 in Europe over the past few years, the highest ever. This is because ML population are focused on their careers or don't currently make enough money to afford having a child, many of them are waiting longer for getting married and having children (Fesser, 2018). However, waiting longer for getting married and having children do not always mean that ML population wants to stay single forever. The average marriage age has increased from 23 to 30 based on the Goldman Sachs Global Investment Research. Another feature of ML population is that more ML population chooses to live with their parents according to Goldman Sachs Global Investment Research. The percentage of ML population married and living on their own has decreased by more than 50% since 1968. It might be depending on those features, over the last few decades, the MR has fallen drastically in the major European countries due to the generational crisis which results in fewer MR.

Analyses in this study are conducted for the six European countries of France, Germany, Italy, Netherlands, Spain, and the UK for the period 1998-2017. All these six countries comprise 78% of the population in Europe and are the biggest six European countries in terms of population. Therefore, their effects are expected to be higher on the whole of Europe and it has been focused on those European Countries in this study. These countries should be investigated primarily. There may be many factors that affect MR in nations, such as financial issues, house prices, social protection, globalization, education attainment, as well as demographic features. The study investigates not only the causal link between the ML population and MR but also the factors affecting MR and ML population for the six European countries. The outcomes of the bootstrap Granger causality test indicate that ML population is leading MR in Italy and the

Netherlands, while MR has a significant influence on ML in Spain. Likewise, the SGMM outcomes indicate that HP, GB, WP, SEC, and MR are the leading factor of explaining the fluctuates of ML population. Besides, DR, HP, and GB are found the explanatory factor of MR fluctuates. Our results support the two-period model of Peters (1986), which states that MR is the combination of several economic, social, and religious elements.

This article is a useful addition to the existing literature in many forms; first, it adds a new dimension regarding the relationship between ML Population and MR. It is the first study about investigating the relationship between ML Population and MR in the selected European countries. The other contribution is related to the methods of assessments, it is included the bootstrap Granger causality in our empirical analysis. This technique gives an advantage over the traditional methods to explain in more detail. Third, the detailed patterns of the causality between ML population and MR are determined and our finding concluded that interaction differs in these countries. Moreover, the study will be able to be used for developing policy implications for these countries to mitigate the issue. The rest of the chapter proceeds as follows. Section 2 evaluates the literature followed by section 3 of the two-period model. Section 4 defines the methodology. Section 5 illustrates the data followed by the empirical analysis in Section 6. Section 7 summarizes and possible practical application

2. Literature Review

Sandfort (2002) explores the attitude and belief of ML population towards family, religion, education, and politics. The findings show that ML population prefers marriage but having children later in life. Smock *et al.* (2005) study the economic factors affecting marriage decisions and they suggest that financial issues do matter for MR. NaiPeng (2007) evaluates the trend of increasing age at marriages and concludes that the average age for MR has increased as well as the never-married population has become double. Martin *et al.* (2014) analyze the declining MR and growing ML population in the US and find that the percentage of married ML is declining. They also find that the married ML population falling lower than the previous generation and ML will remain unmarried through the age of 40. Haneman (2017) examines the shifting attitude of ML population towards MR and finds that ML population is perfectly comfortable with cohabitation. Abalos (2017) evaluates the associated factors of the rising DR and concludes that higher education and cohabiting results in an increasing trend of divorces. Eickmeyer & Manning (2018) estimate the rising trend of cohabitation instead of MR in the ML population. They reveal that ML population more likely to live without marriage. Schneider *et al.* (2018) report that a major factor driving the falling MR is economic difficulties. Ruzhi *et al.* (2019) confirm that HP plays an important role in MR in China due to financial constraints, education attainment, globalization, secularization, and working population of women. Su *et al.* (2020) find that HP has a significant impact on MR and is considered incomplete without housing. Similarly, unemployment and female education have a negative influence on MR.

It is concluded the previous literature about the relationship between ML population and MR in the following ways. First, the prior studies evaluated ML population and MR concentrating on the specific segment in a region or country which lacking heterogeneity components. It is believed that ML population is not a regional phenomenon, determined by various macroeconomic factors, and overlooking such elements may cause biased results. These six counties comprise 78% of the European population characterized by different factors that play an important role in MR. Second, several studies cover the survey finding that is limited to

some specific area, and findings cannot be generalized to the whole population. Third, the assessment of the previous literature reveals that traditional methods are used to examine the causal link between ML population and MR. It is argued that such traditional techniques are not suitable to recognize the cross-sectional association between the variables and lack the control to capture time fluctuating. This leads to a statistically nonsense relationship that lacks the functional association suggests that such a method can be applied only in the identical condition in the same mode. Further, they experience the problem of including concurrent evidence from both time series and cross-sectional aspects that can produce the country-specific effect (Chang *et al.*, 2013; Khan *et al.*, 2019). As the selection of the statistical method is the foremost in the causality evaluation (Nazlioglu *et al.*, 2011). The current paper evaluates the relationship between ML population and MR for six European countries utilizing the bootstrap panel Granger causality procedure assuming the cross-sectional reliance to overcome the obstacle of low power and to boost outcomes. It gives a more steady parameter valuation as associated with other methods (Hacker & Hatemi-J, 2006; Khan *et al.*, 2019).

3. Two-Period Model

The study employs the two-period model suggested by Peters (1986) to describe the transmission channel between ML population and MR. It is considered that there are two periods, one when the couples expect information about the utility of MR and realized in period two. The greater expected value than single will result in couples to MR. The value of MR is behind the decision of whether to get married or not. This gain is the product of numerous factors that may influence the benefits of MR and it is likely to create a situation where MR is not useful for the couple. It is assumed that the couple tries to reach on the decision whether to marry or not and period 1. The joint value for MR_1 husband H and wife W. This MR_1 is the combination of various elements of both partners, which can lead the couple to get married.

$$MR_1 = MR_{H,1} + MR_{W,1} \quad (1)$$

Similarly, the individual has the choice to remain single for period 2 is, S_H and S_W , respectively. In the second period when the individual has, no complete knowledge related to the value of marriage or single. Instead, true values are not realized until the second period. While this joint probability distribution value is realized in period 2.

$$f(MR_2) \square N(0, \sigma^2_{MR}) \quad (2)$$

and the joint probability distribution of the value if they divorce in the second period

$$g(S_H, S_W) \square N(0, \sigma^2_s) \quad (3)$$

Where, S_H is the husband and S_W is wife in the second period $MR_2 = MR_{H,2} + MR_{W,2}$. There is discount factor b before entering the knot of marriage and probability of divorce p , which is a function of MR_2 , S_H , and S_W . Suppose V is an expected present value of marriage in the period-1.

$$V = MR_1 + b[e(MR_2)(1 - \rho) + e(S_H, W_H)single * \rho] \quad (4)$$

The couple decides to stay single if the joint value of staying is greater than getting marrying:

$$V \geq S_H + S_W \tag{5}$$

In period 2, the true values of MR_2, S_H and S_W are realized. In case of the realized determining elements of the utility of the marriage or to be single change, the couple decides to abstain from marrying in period 2.

$$S_H + S_W > MR_2 \tag{6}$$

$$S_S + S_W > MR_{H,2} + MR_{W,2} \tag{7}$$

The utility value of marriage is a pivotal factor for ML population to enter the institution of marriage or not. This utility is the combination of several factors, which include economic, social and religious reasons. The changes in these elements play an important role in ML population. However, MR rates are declining dramatically in many European countries in the last two decades. Thus, it is significant to inspect this issue, which has many social and economic effects on nations. There may be many factors that affect MR in nations, such as financial issues, house prices, social protection, globalization, education attainment as well as demographic features.

3. Research Methodology

3.1. Panel Causality Test

In Granger causality, the previous period information of a variable explains another variable in the current period (Granger, 1969). It is recommended when countries display cross-sectional dependence and heterogeneity. Several panel causality approaches motivate the scrutiny of such associations (Kar *et al.*, 2011; Mhadhbi, 2014). To evaluate the above two characteristics, Konya (2006) proposes the bootstrap panel process. The technique is based on the Seemingly Unrelated Regression (SUR) assessment and the Wald test with a country-specific bootstrap threshold to find causal relationships. Each country’s critical values are vital because they exclude them from stationary and co-integration tests. The country-related restriction is allowed to the countries, which show Granger causality it is expressed in the following formula:

$$\begin{aligned}
 ML_{1,t} &= \chi_{1,1} + \sum_{i=1}^{lg_1} \varphi_{1,1,i} ML_{1,t-i} + \sum_{i=1}^{lr_1} \psi_{1,1,i} MR_{1,t-i} + \varepsilon_{1,1,t} \\
 ML_{2,t} &= \chi_{1,2} + \sum_{i=1}^{lg_1} \varphi_{1,2,i} ML_{2,t-i} + \sum_{i=1}^{lr_1} \psi_{1,2,i} MR_{2,t-i} + \varepsilon_{1,2,t} \\
 &\cdot \\
 &\cdot \\
 &\cdot \\
 ML_{N,t} &= \chi_{1,N} + \sum_{i=1}^{lg_1} \varphi_{1,N,i} ML_{N,t-i} + \sum_{i=1}^{lr_1} \psi_{1,N,i} MR_{N,t-i} + \varepsilon_{1,N,t}
 \end{aligned}
 \tag{8}$$

$$\begin{aligned}
 MR_{1,t} &= \chi_{1,1} + \sum_{i=1}^{lg_2} \phi_{2,1,i} MR_{1,t-i} + \sum_{i=1}^{lr_2} \psi_{2,1,i} ML_{1,t-i} + \varepsilon_{2,1,t} \\
 MR_{2,t} &= \chi_{1,2} + \sum_{i=1}^{lg_2} \phi_{2,2,i} MR_{2,t-i} + \sum_{i=1}^{lr_2} \psi_{2,2,i} ML_{2,t-i} + \varepsilon_{2,2,t} \\
 &\cdot \\
 &\cdot \\
 &\cdot \\
 MR_{N,t} &= \chi_{1,N} + \sum_{i=1}^{lg_2} \phi_{2,N,i} MR_{N,t-i} + \sum_{i=1}^{lr_2} \psi_{2,N,i} ML_{N,t-i} + \varepsilon_{2,N,t}
 \end{aligned}
 \tag{9}$$

Where, l is the lag length, in the Equations (8) and (9), MR mentions the marriage rate, and ML signifies the ML population. The Granger causality can be estimated in four ways:

- (i) The uni-directional Granger causality will occur from ML population to MR if not all $\lambda_{1,i}$ are zero but all $\phi_{2,i}$ are zero.
- (ii) The unidirectional Granger causality from MR to ML will arise when all $\lambda_{1,i}$ are zero but not all $\phi_{2,i}$ are zero.
- (iii) MR and ML population will have a bi-directional Granger causality when neither $\lambda_{1,i}$ nor $\phi_{2,i}$ is zero.
- (iv) MR and ML population will have no Granger causality when all $\lambda_{1,i}$ and $\phi_{2,i}$ all are zero.

3.2. System Generalized Method of Moment Regression (SGMM)

To examine the relevant group effect of the macroeconomic variable and the endogeneity problem, it uses the System Generalized Method of Moment Regression (SGMM) suggested by Arellano and Bover (1995). To inspect the influence of MR along with other expected variables on ML population and the ML impact on MR, it is estimated in the following two equations.

$$ML_{it} = \gamma_0 + \gamma_1 ML_{i,t-1} + \gamma_2 MR_{it} + \gamma_3 X_{it} + \varepsilon_{it}
 \tag{10}$$

where ML_{it} denotes the initial millennial population, $ML_{i,t-1}$ is the lagged ML, MR_{it} is marriage, X_{it} is other explanatory variables and instrumental variables.

$$MR_{it} = \gamma_0 + \gamma_1 MR_{i,t-1} + \gamma_2 ML_{it} + \gamma_3 Y_{it} + \lambda_t + \mu_{it}
 \tag{11}$$

Where MR_{it} is the initial value of MR, and $MR_{i,t-1}$ is the lagged value of MR, Y_{it} represents that other variables can affect MR. Moreover, γ_t symbolize the exogeneous instruments while α_1 to α_3 are the coefficient of different variables and instruments that can effect the regression.

4. Data

This study analyses the relationship between ML population and MR for the six European Countries of France, Germany, Italy, Netherlands, Spain and the UK. The annual data is used from 1998 to 2017. The source of data is Eurostat, World Bank Development Indicators (WDI) and the United Nations (UN) population indicators. The ML population is equivalent to the population between the age of 18-37 and it is added in each year. The total ML population is the ratio of the ML population to the total population, which is retrieved from the United Nation and World Bank database. The millennial generation is known as generation Y, who were born after 1980 and are the age of 18-39 now. It is also known as the “children of baby boomers” (Pew Research Center, 2010). MR is crude marriage per thousand. Table-1 illustrates descriptive statistics for ML population and MR for all these six countries. All of the variables represent a positive mean. The ML population has the highest volatility for the Netherlands and Germany respectively. Whereas, MR of the UK and the Netherlands show the highest volatility respectively. The values of the skewness of ML population are negative for half of the countries and, it is positive for the MR. The kurtosis values are less than 3 for ML population and the MR denotes that all countries have platykurtic distribution. All the variables are non-normally distributed as specified by the Jarque Bera test.

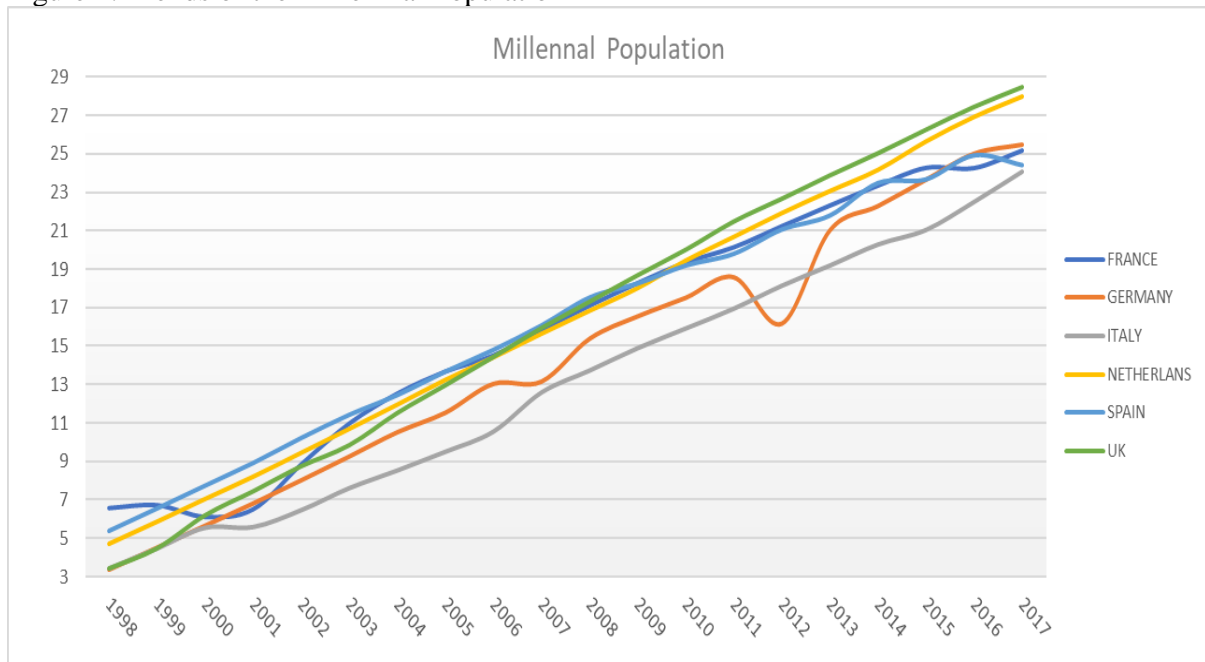
Table 1. Descriptive Statistics

Country	Descriptive	Mean	Std. dev.	Skewness	Kurtosis	J-B
France	ML	16.890	6.620	-0.169	1.663	1.584
	MR	4.187	0.504	0.122	1.513	1.892
Germany	ML	14.368	6.907	0.067	1.871	1.076
	MR	4.023	0.635	-0.078	1.527	1.826
Italy	ML	13.038	6.534	0.110	1.700	1.446
	MR	4.801	0.206	0.652	2.546	1.589
Netherlands	ML	16.278	7.296	0.011	1.837	1.232
	MR	4.533	0.589	0.536	2.236	1.446
Spain	ML	16.090	6.283	-0.186	1.771	1.374
	MR	4.306	0.724	0.075	1.346	2.296
UK	ML	16.299	7.988	-0.070	1.735	1.347
	MR	4.741	0.368	0.075	1.459	1.997

Notes: Std denotes standard deviation and J-B denotes the Jarque–Bera test for normality. ML: indicates Millennial Population, MR: denotes Marriage rate

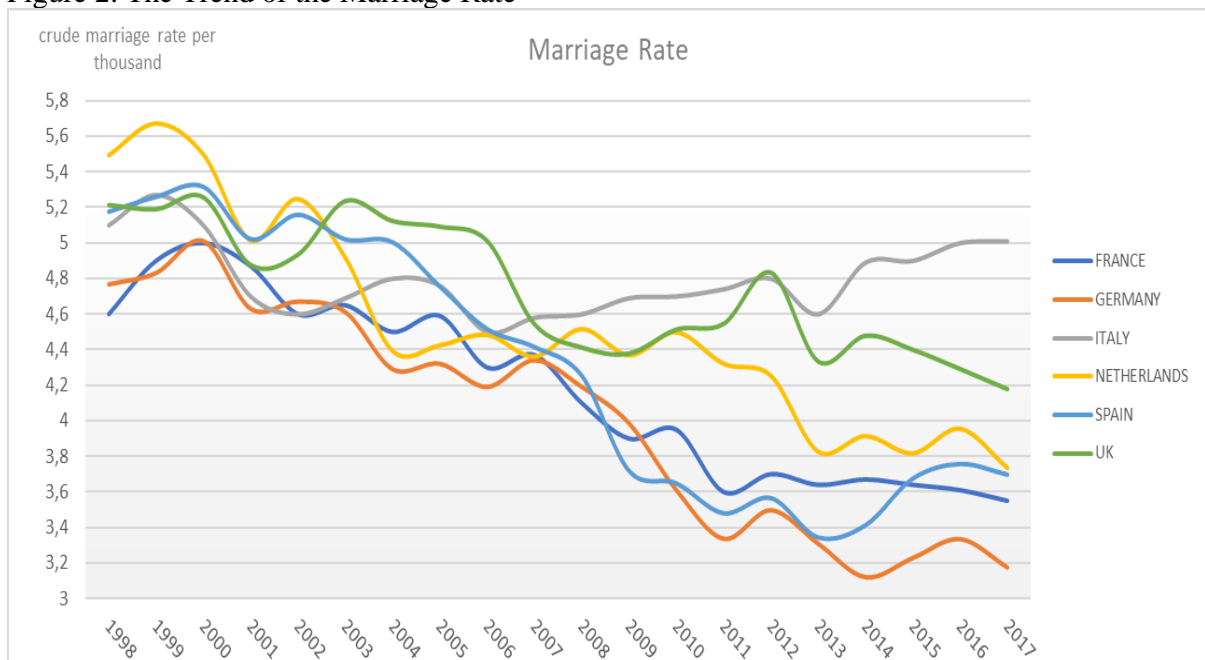
According to the literature, numerous factors may have a significant group impact on both the series. The most important variables that are included in the study are the Divorce Rate (DR), Education Attainment (EA), Globalization (GB), Social Protection (SP), Secularization (SEC), House Prices (HP), Financial Crisis (FC), and Working Population of women (WP). These variables have a noteworthy contribution to inflation in these countries and obtained from WDI. The DR is equal to the number of divorces during the years. While the HP is equivalent to the index of the residential property prices over the years. It is used the KOF Globalization Index which covers the economic, social and political aspects of globalization. Likewise, SEC is used as a control variable and proxied by the religious diversity index scores and the country which has diversity implies the tends towards SEC (PEW Research, 2014). The study uses GB, SEC and FC as a control variable. The data shows that the ML population has witnessed a rising trend over the study period for these countries, illustrated in Figure-1.

Figure 1. Trends of the Millennial Population



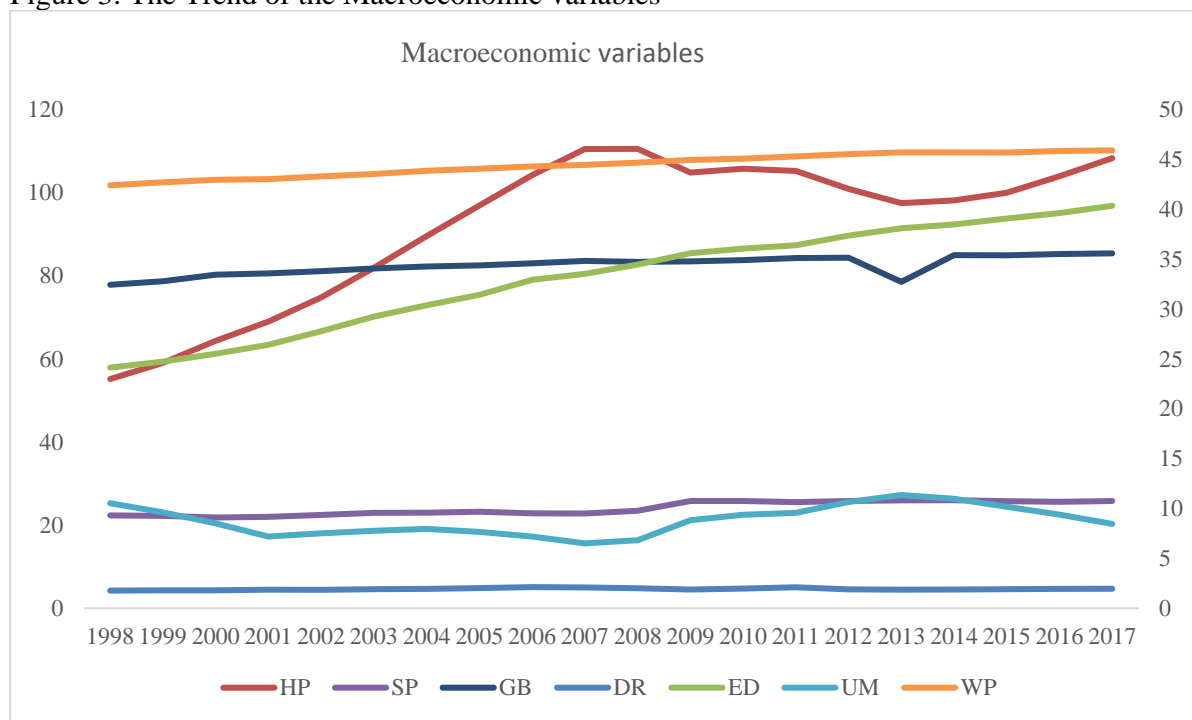
In contrast, the Figure-2 highlights several trends in MR, especially it declined in around the year 2000 in these countries. Next, it is witnessed that there is a rapid decline of MR in France, Spain, and Germany after the financial crisis in 2008. Similarly, MR declined in all countries during 2013-2014, while an upward trend is observed in 2015-2016 except UK and Netherlands.

Figure 2. The Trend of the Marriage Rate



However, Figure-3 exhibited the trend of the controlling variables which indicate that HP has several ups and downs over the study period.

Figure 3. The Trend of the Macroeconomic variables



5. Empirical Results

The study investigated not only the causal link between the ML population and MR but also the factors affecting MR and ML population for the six European countries. Table-2 reports the causality running from ML population to MR. It tests the null hypothesis that ML does not Granger cause MR and the null hypothesis is rejected in Italy and the Netherlands at 5% and 10% significance respectively. It means that as ML population increases MR declines, the result is similar to Martin *et al.*, (2014) work, which states that the increasing ML population led to declining MR. The MR in Italy has fallen by almost 24% in the last decades and ML population increase. The process of divorce is extremely expensive and no law protecting husband fortunes like separation of wealth; so, it seems despite the tendency is not easy to marry easily. It takes a long time and cost, and the financial matters will be dealt with at the time of divorce.

Another reason might be the restraint factors; prolong the stay of ML population in the family mainly caused by high unemployment of youth, the unwarranted work housing conditions, rising trend of houses rent has pushed the younger population to stay long at parents' home (Castiglioni *et al.*, 2009). The attitude of ML population towards the martial has narrowed down and the contributing factors are the cohabitation, which is slowly rising in Italy. This slow pace of cohabitation is because in the past the parents have more control over the young and lack of educations. However, it spread with the acquiescence of parents and the increasing education has paved the way for society to accept the phenomenon. Similarly, the legal separation has also given an impetus to end the marriages and made the process less cumbersome (Rosina & Fraboni, 2004). The process of secularization has taken place in Italy very slowly because of the presence of the Catholic churches, which has a far significant impact on the family system (Castiglioni *et al.*, 2009).

Table 2. Granger causality running from ML population to MR

	C	Wald Statistics	Bootstrap Critical Value		
			1%	5%	10%
Country					
France	-0.102	6.649	26.130	18.065	14.674
Germany	-0.093	6.452	37.268	25.317	17.889
Italy	-0.025	5.275*	21.307	6.697	5.233
Netherland	-0.208	17.968**	29.407	17.148	10.772
Spain	-0.103	5.544	57.338	25.851	22.803
United Kingdom	-0.051	3.627	41.381	34.987	19.547

Note: 1. *, ** indicates significance at the 10% and 5% levels, respectively.
2. Bootstrap critical values are obtained from 10,000 replications.

It is also noticed that the ML population has a significant impact on MR in the Netherlands, which suggests that as ML population is increasing, MR decline. There is a tendency of getting low marriages as well as marry at later ages. The average age of first marriage has risen from 28 to 32 for females and 30 to 34 for men in 2017. In addition, the registered partnership in the Netherlands has given rise to decline MR. In the process the people who do not want to marry choose for the registered partnership, which has caused in the declining marriage rate in the last decades which are more easily dissolved. The registered partnership accounts for almost 18% of all. Netherland is the first country to allow same-sex marriages in 2001, which indicates the changing attitude of the people towards marriages and entering same-sex marriages. According to the Statistical Netherland (CBS), a decreasing trend in marriages can be attributed to the financial insecurity as a result of flex time and shorter job contracts, the couple desires to accumulate the money and buy the house. ML population percentage is lower in Europe than in worldwide in general. When it is considered the general features of ML that they are getting married less, waiting for marriage longer, preferring not to have a child or waiting for having a child longer, the percentage will decrease further and lead to the aging problem more severe. Thus, developing policies depending on the factors that have been found a significant impact on ML and MR is a crucial task for Europe's fate.

It is found that there is no causality from ML population to MR rate for the remaining countries, which suggests that there are other elements for the explanation of fewer marriages for these countries. These countries witnessed more awareness and openness as well as equal rights for gay marriages. Likewise, the wave of globalization and digitalization connectivity make ML not family friendly, driven by social media rather than family. There is a tendency in Western Europe where a woman starts to take more responsibilities and more leadership roles and becomes more important. This may be deemed as the emancipation of women from the traditional household and cause a reduction in the MR. There is a phase of adjustment where men are not used to women being stronger and wealthier which does not help the marriages. Also, consumer behaviour has changed with the rising millennial which have new requirements and preferences that traditional business practices are not able to capture unless they have women in top management and overall diversity. The institutional framework might be a reason behind the fewer marriages; as in France, people choose the PACS instead of getting married which provides the financial benefits for the cohabitants without growing all the way (Mazuy, 2014). The house prices are high and still increasing which make the millennial to avoid or

delay the marriages. In Germany, more than 21% are aged above 64, express that the majority of the people cross the age of marriage.

The results of the Granger causality from MR to ML population are reported in Table-3. It is noticed that only in Spain the null hypothesis is rejected at a 1% level, which indicates that the MR has a negative impact on ML population. According to the census of 2011, single people are the largest category, as well as the DR, which is double in the last decade. The fewer and later stage marriages are on the rise which might be a potential causal factor in the declining fertility rate (FR). Spain has fewer children at a later stage per woman as compared to the rest of the EU member countries. Whereas, the remaining countries MR does not affect ML, which might possible that other factors may cause to influence the ML.

Table 3: The Granger causality running from MR to ML population

Country	C	Wald Statistics	Bootstrap Critical Value		
			1%	5%	10%
France	-0.136	0.259	30.787	17.650	10.473
Germany	-0.048	0.106	23.034	11.734	7.775
Italy	-0.362	3.957	10.363	7.541	6.673
Netherland	-0.011	0.848	18.225	10.883	8.066
Spain	-0.123	6.470*	9.604	7.200	5.578
United Kingdom	0.013	0.483	30.439	16.853	7.642

Note: 1. * indicates significance at the 10% level.
 2. Bootstrap critical values are obtained from 10,000 replications.

Table-4 demonstrates the results of the dynamic panel test about the group factors on both ML population and MR respectively. The findings suggest that MR, HP, GB, WP, SEC, and the previous value of ML population have a significant impact on ML population respectively. It is further concluded that MR has a positive impact on ML population, which implies that as the MR increases the ML population will increase. Similarly, HP has a positive impact on ML, which implies that as HP increases the ML population also increases. The work is in line with Mulder (2013), which enlightens the strong link between the HP and a married couple to move into a separate home. The rising HP may be one of the obstacles in a stable family. While GB has a negative impact on ML population as the process of GB increases ML population decrease. Likewise, the increase in WP has a negative impact on ML population. The rising WP might prefer to be independent and earn their own identity and position without entering the institution of marriages and tendencies on their male partners.

For this purpose, they opt to be single or may get married at a very late age, which results in a smaller number of populations. Similarly, education has a more likely significant impact on the changing behaviour of women towards abortion and gay marriage. The SEC has a negative impact on ML population, which means that as the people get away from the religion results in a smaller number of marriages, which turn out to be a low number of ML population. For most of history, Christianity was the leading religion but now it has become one of the world's most secular regions. They slowly drifted away from the religion, stopped trusting in religious beliefs and non-Christian outnumbered from those who practice religion. This increasing trend in secularization has favoured legal abortion and same-sex marriages.

Table-4: Dynamic panel-data estimation, one-step system SGMM

Variable	Coefficient (a)		Coefficient (b)	
	ML		MR	
ML				-0.003
ML (-1)	1.019***			
MR	0.427**			
MR (-1)			0.884***	
DR	-0.066			-0.079***
HP	0.008***			-0.002**
GB	-0.072***			-0.002
WP	-0.081***			
SEC	-0.797***			
FC	0.147			
C	3.762***			0.062*

Note: *, **, *** denote significance at 1, 5 and 10%.

Table-4 also illustrates the dynamic group impact on MR and the results reveal that DR, HP, GB has a negative significant influence on MR. It explores that as DR rises MR decreases in these countries, the main reason can be that increasing trend in the divorces detests and shakes their faith to enter in the knot of marriage. Cohabitation or living together without marriage is also called the trial marriage and it allows the couples to assess the long-term compatibility, lacking will lead to breaking up prior entering to marriage, thus decreasing the DR (Kuperberg, 2014). The rising HP has a negative effect on MR in these countries, which implies that marriages have a strong link with the houses. The work is in line with Milosch (2014) that negative HP shock threatens married couples. When the newlywed couple plans their family life, they need a house to live and as recently, the real estate prices have skyrocketed in these countries, which have caused the ML to stay away from marriages or are getting very late. The financial constraints, lack of job opportunities and the burden of student loan has made it complicated to pursue the institution of marriage. Similarly, the process of GB has decreased the rate of marriages, which means that as the social, economic and political openness increase between the nations the people are getting fewer marriages. GB has created an environment where ML population perceives marriage as an outdated and conservative approach.

The empirical results of the study have policy implications in several aspects of the respective countries. The percentage of ML population in Europe is lower than the world in general (Stokes, 2015; Fesser, 2018). When it is investigated that the size of the ML population over the whole world population, it is seen that the ML generation is a larger cohort than previous ones globally. In specific, it is assessed that they signify almost 24.0% of the world's whole population, much more than the Generation X or Baby Boomers, which represent 19.5% and 17.0% respectively. However, percentages are different in European Union Countries. As per Eurostat data, there were approximately 102 million, roughly 20% of the population are EU Millennials in 2017. EU Baby Boomers estimated slightly a larger share of 23.4% (Stokes, 2015; Fesser, 2018). When it is considered the realities that they are getting married less, waiting for marriage longer, preferring not to have a child or waiting for having a child longer, the percentage will decrease further and lead to the aging problem more severe. Therefore, European ML population behaviour is a significant role in determining Europe's fate and so it should be developed a policy based on factors that have been found a significant impact on both ML population and MR.

European countries have an aging population and therefore, will face severe economic challenges in the near future. Hence, it is important to know what the ML population of Europe believes and how their views differ from Baby Boomers. When the point of view of the European ML population to the marriage and the reason for the decrease in marriage percentages are known, policy can be developed, perhaps an aging population problem will be prevented, and this may go a long way toward determining Europe's economy. It should develop policies on the factors that affect MR and ML population for the European countries investigated. 12 years have passed since the beginning of the 2008 global financial crisis. The effects of the crisis continue to intensify in some regions, and the European Union (EU) is one of them. With the European debt crisis, the effects of the crises in the European Union continue. Hence, financial difficulties prevent ML population from getting married. For example, increases in HP cause millennials to marry less. Therefore, government or financial institutions can make special campaigns on this subject. They might provide different financial alternatives for millennials to have a house.

Divorce Rates (DR) has also been found to influence marriage. Legal arrangements on divorce can be looked at again. Or several state-funded social institutions can work to ensure the continuation of marriage. They can invite ML to act consciously by raising their awareness on this issue. Likewise, increased GB is one of the factors that reduce marriages, and international policies need to be developed here. The processes of globalization promise a threat to the stability and quality of marriage. Religions around the world have some duties in this regard. According to statistics, Christianity, which has the highest number of members worldwide, in cooperation with other religions can do to strengthen married life today. There is a need for a cure for modern marital disruption, which provides reforming and reconstructing the institution of marriage. It should be social support to nurturing relevant forms. A complex cultural effort and work are needed to increase MR in worldwide. In our belief, world religions have important contributions to make such an effort successful. Impacts on ML population should also be addressed separately in policy development. Our all-empirical results conclude that MR has a positive impact on ML, which implies that as the MR increases the ML population will increase. This result shows that to reduce the aging population problem in Europe, a policy should be developed to increase marriage. This again requires policy development on the factors (HP, DR, GB) affecting MR.

6. Conclusion

The study examines if there is a causal link between the ML population and the MR for France, Germany, Italy, Netherlands, Spain, and the United Kingdom (UK) by using the bootstrap causality test during 1998-2017. The results indicate that the ML population has a significant negative influence on MR in Italy and the Netherlands, while the MR has a significant negative impact on the ML in Spain. In addition, the System Generalized Method of Moment Regression (SGMM) is conducted to release the effects of Divorce Rate (DR), Education Attainment (EA), Globalization (GB), Social Protection (SP), Secularization (SEC), House Prices (HP), Financial Crisis (FC), and Working Population of women (WP) variables on MR and ML population. Likewise, the SGMM results display that HP, GB, WP, SEC, and MR are the leading factors of explaining the fluctuations of the ML. In addition, DR, HP, and GB are found the explanatory factor of MR fluctuates. Our results support the two-period model of Peters (1986), which states that MR is the combination of the economic, social, and religious elements. Compared to the global statistics, the percentage of ML in Europe is lower than worldwide. When the facts of that they are getting married less, waiting for marriage longer,

preferring not to have a child or waiting for having a child longer are added, the percentage will decrease further and this causes a more serious aging problem. Therefore, European ML population behaviour has a considerable contribution in determining the fate of Europe and therefore, it should be developed a policy based on factors that have been found a significant impact on both ML population and MR.

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