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### MACROECONOMIC DETERMINANTS OF MARRIAGE AND DIVORCES IN AZERBAIJAN

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**ABSTRACT.** This research aims to identify how macroeconomic performance affects the marriage and divorce trends in Azerbaijan. Authors take economic growth, unemployment, and inflation rate indicators as primary measures of overall macroeconomic performance for 2000-2022 and employ ARDL methodology to examine the existence of long-run associations. Research results are in line with previous findings in the literature, confirming the significant long-term impact of inflation and unemployment rate on the divorce rate in Azerbaijan. Though the economic growth rate has no significant impact on the divorce rate, the research shows a positive impact on marriages and a decreasing influence on divorces in the country. Higher inflation and unemployment rates push the divorce rate upward. The unemployment rate has a particularly significant negative influence on the number of marriages in the case of Azerbaijan. Because the upward trend in the divorce rate is a hot topic in public discourse and perceived to be a social problem in the country, the research has substantial policy implications perspective.

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### Introduction

The transition from a traditional to a modern society in Azerbaijan began primarily in the early 20th century during the Soviet era, characterized by a relatively high natural population growth. This trend persisted into the post-independence era, with Azerbaijan's population recently surpassing 10 million. Despite these positive demographic developments, the dynamics of marriages and divorces, particularly the increasing divorce rate, are concerning demographic sustainability. Marriages decrease per 1000 people, and divorce records demonstrate a growing trend (see Figure 1).

Divorce is a sensitive issue affecting individuals, families, and societies. Key aspects of divorce as a social problem include its social impact, economic consequences, impacts on children, and associated legal and administrative complexities. Divorced individuals may face challenges such as property division, alimony payments, and maintaining separate households,

leading to financial insecurity and poverty. A survey-based study reveals an increasing trend in divorces to be a perceived social problem in Azerbaijan (Aliyev, 2023, p.50). Previous studies underline the role of macroeconomic performance in explaining divorce rate dynamics in various cases. Economic growth (Baghestani & Malcolm, 2014; Hill, 2015; Schneider & Hastings, 2015; Caarls & de Valk, 2018; Koç & Kutlar, 2021), unemployment (Hellerstein and Morrill, 2011; Baghestani and Malcolm, 2014; Ariizumi et al., 2015; González-Val and Marcén, 2017; Koç and Kutlar, 2021; Ul-Haq et al., 2023), poverty (Amri, Adnan and Fitri, 2022) and inflation (Nunley, 2010; Farzanegan and Gholipour, 2016; Aama Bandeh Gharaei et al., 2023; Ul-Haq et al., 2023) most frequently appears in the related studies. However, to the best of our knowledge, there is no specific empirical study on Azerbaijan. From this perspective, the current study explores macroeconomic determinants of marriages, divorces, and the divorce rate in Azerbaijan for 2000-2022, using the Autoregressive Distributed Lag Models (ARDL) approach.

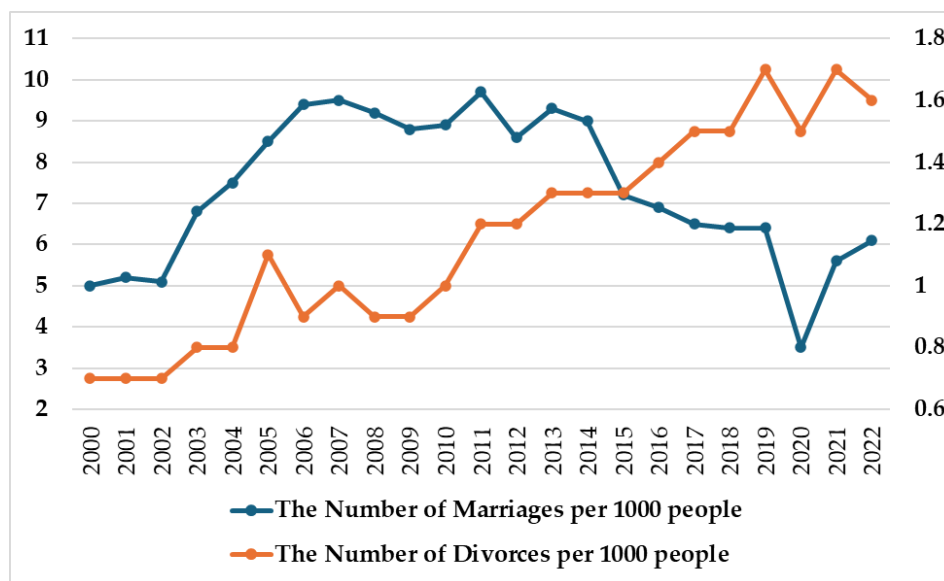


Figure 1. Dynamics of marriages and divorces in Azerbaijan  
Source: The State Statistical Committee of Azerbaijan Republic.

Azerbaijan’s macroeconomic trajectory after regaining its independence in 1991 shows that economic stagnation persisted until 1994, followed by a period of economic restructuring driven by an oil strategy (Aliyev & Suleymanov, 2012). The country enjoyed an oil boom from 2005 onwards (Aliyev & Gasimov, 2018) and experienced a positive real economic growth trend. However, the responsiveness to oil price innovations (Majidli & Guliyev, 2020; Mukhtarov, Aliyev, and Zeynalov, 2020; Zulfigarov & Neuenkirch, 2020; Yildirim & Arifli, 2021; Mukhtarov et al., 2021) causes fluctuations in the economy and creates macroeconomic troubles. This scenario prompts questions regarding the relationship between macroeconomic performance and marriages/divorces, particularly the divorce rate.

The study aims to estimate the long-run impact of economic growth, inflation, and unemployment on marriages, divorces, and the divorce rate. Findings confirm that macroeconomic stability is a magnificent determinant of marriage and divorce-related decisions in Azerbaijan. Research highlights the importance of keeping the price level and unemployment rate under control to effectively influence marital stability in the country.

## 1. Literature review

The relationship between macroeconomic indicators and the divorce rate has been extensively researched in the existing literature. The dynamics of marriages and divorces, especially the divorce rate, have been an important issue for investigation within the context of macroeconomic stability.

Hill (2015) indicates that the relationship between economic growth and the divorce rate is positive, while Edin and Reed (2005) also reveal a negative linkage, depending on the specific country(s) being studied. Schneider and Hastings (2015) and Biel (2024) observed that economic downturns in the United States had negatively affected many families and contributed to significant marital failures. This is because many families cannot meet their basic needs due to economic hardships. Edin and Reed (2005) note that marital stability is usually associated with high economic standards. However, conflicts can arise and lead to divorce if economic expectations are not met or are inadequate (Edin & Reed, 2005).

However, Hill (2015) argues that marriages initiated during challenging economic conditions are more likely to endure compared to those in consistently poor economic situations. Additionally, existing research investigating the impact of economic factors on marriage highlights the significant role of economic stability in marital continuity (Baghestani and Malcolm, 2014; González-Val and Marcén, 2018). Thus, significant positive outcomes are observed in many marriages when family income increases. Herbst (2011) argues that an increase in individual income taxes can have a sufficiently significant negative impact on marriage success and consequently increase the divorce rate.

Kahn and Waldfogel (2000) and Wood (1995) use individual-level data to assess the extent to which the decline in labor market perspectives among low-income groups can contribute to the observed decline in marriages. In other studies, the relative income of individuals (Watson & McLanahan, 2010; Loughran, 2002) and women's job conditions (Bitler et al., 2004; Lauzadyte-Tutliene et al., 2022) have been highlighted for their importance in marital stability (Fernández Puente et al., 2021s).

Meanwhile, socioeconomic instability, including the inability of the household head to meet material and psychological needs, is a significant cause of marital breakdown (González-Val & Marcén, 2017). Financial hardship, particularly related to the husband's employment status, is found to be a key predictor of divorce (Andersen, 2005; Sadeghi & Agadjanian, 2019). Unemployment and financial difficulties negatively impact marital stability, increasing the risk of divorce (Maslauskaitė et al., 2015). This link between financial problems and divorce is further supported by research in the case of South Africa, which found that financial issues led to divorces among young couples (Mohlalole et al., 2018). Similarly, a study in Ethiopia indicated that wives without house ownership had higher odds of divorce (Dagneu et al., 2020). Conversely, economic stability, such as an increased husband's income, is associated with a reduced risk of divorce (Raz-Yurovich, 2012; Aliyev, 2022).

With a panel (1991-2012) of 29 European countries, González-Val and Marcén (2017) studied how the number of divorces is linked to the business cycle. Their research confirms the existence of a negative relationship between the unemployment rate and divorces, pointing out pro-cyclical behavior. Indeed, Baghestani and Malcolm (2014) found marriages and divorces to be pro-cyclical when the economy is underperforming, in the case of the US.

However, studies find a positive impact of the unemployment rate over divorces positively in case of Turkey (Koç & Kutlar, 2021), the US (Amato & Beattie, 2011; Hellerstein & Morrill, 2011; Schaller, 2013), China (Ul-Haq et al., 2023), and Iran (Aama Bandeh Gharaei et al., 2023), among others. Regarding inflation and divorce rate association, the result varies. According to some scholars, financial strain and rising living expenses brought on by

inflationary pressures can exacerbate marital conflicts and even increase the likelihood of divorce (Roncagliolo & Blas, 2021). The positive impact of inflation is revealed in the case of the US (Nunley, 2010), Iran (Aama Bandeh Gharaei et al., 2023), and China (Ul-Haq et al., 2023). On the other hand, inflation could encourage couples to remain together because of similar financial objectives or economic needs (Olusola et al., 2022). Nunley (2010) asserts that inflation exhibits statistical significance, displaying both positivity and persistence. Furthermore, the enduring repercussions of inflation are noteworthy. The maintenance of price stability may hold promise in mitigating divorce rates.

## 2. Methodological approach

Our research employs secondary data sourced from the State Statistical Committee of the Republic of Azerbaijan, comprising time series data spanning from 2000 to 2022. The variables examined encompass inflation (measures in %, INFL), economic growth (measures in %, EG), unemployment rate (measures in %, UNEM), number of marriages (per 1000 people, MAR), and divorces (per 1000 people, DIV) and the divorce rate (RATE).

The economic model specification is:

$$Y_i = f(EG_t, UNEM_t, INFL_t) \tag{1}$$

Where  $Y_i \in (\ln(RATE)_t, \ln(DIV)_t, \ln(Mar)_t)$ .

Table 1. Unit root test results

Variables	ADF		PP		KPSS		
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	
Intercept	<i>Ln(RATIO)</i>	-0.49	-4.62***	-0.49	-4.62***	10.94***	0.21
	<i>Ln(DIV)</i>	-1.05	-6.55***	-1.08	-8.21***	0.67**	0.07
	<i>Ln(MAR)</i>	-1.99	-5.60***	-1.94	-5.61***	1.15***	0.19
	<i>INFL</i>	-2.91*	-4.56***	-2.70*	-6.09***	0.08	-
	<i>UNEM</i>	-3.47**	-	-4.22***	-	0.49**	0.58**
	<i>EG</i>	-1.61	-3.61**	-1.61	-3.64**	0.33	-
Trend and intercept	<i>Ln(RATIO)</i>	-2.12	-3.69**	-2.12	-13.9***	1.35***	0.002
	<i>Ln(DIV)</i>	-4.31**	-	-4.11**	-	0.06	-
	<i>Ln(MAR)</i>	-2.15	-4.82***	-2.06	-198.6***	8.81***	0.006
	<i>INFL</i>	-2.85	-4.39***	-2.76	-5.80***	0.08	-
	<i>UNEM</i>	-1.27	-5.19***	-2.08	-12.9***	0.18**	0.50***
	<i>EG</i>	-4.49**	-	-2.26	-3.53**	0.09	-

Notes: ADF, PP, and KPSS denote the Augmented Dickey-Fuller, Phillips-Perron, and Kwiatkowski-Phillips-Schmidt-Shin tests, respectively. Maximum lag order is set to 4 and optimal lag order is selected based on Schwarz criterion in the ADF test; \*\*\*, \*\* and \* indicate rejection of the null hypotheses at the 1%, 5%, and 10% significance levels respectively; The critical values are taken from MacKinnon (1996) and Kwiatkowski-Phillips-Schmidt-Shin (1992) for the ADF, PP and KPSS tests respectively.

Source: own calculation

We apply Augmented Dickey-Fuller (Dickey and Fuller (1981), hereafter ADF), Phillips-Perron (Phillips and Perron (1988), hereafter PP) and Kwiatkowski-Phillips-Schmidt-Shin (Kwiatkowski et al. (1992), hereafter KPSS) unit root tests. Table 1 reports the unit root test results of ADF, PP, and KPSS with intercept and trend and intercept. Test results reconcile the non-stationarity of dependent variables, which are all non-stationary at the first difference. Only *Ln(DIV)* is trend-stationary.

Regarding the independent variables, the results are contradictory at some level. However, we are able to generalize the test results that all independent variables are I(0) or I(1).

Without trend, *INFL* is weak stationary ( $p < 0.1$ ), and *EG* is non-stationary at level according to ADF and PP, but stationary due to KPSS. When de-trending is considered, ADF and PP find *INFL* and *UNEM* to be I(1) while KPSS's result on the contrary, all tests find *EG* trend-stationary at the level. Because unit root test results find the dependent variable in *I* non-stationary at the level and stationary at the first difference (see table 1) and at least one independent variable is non-stationary at the level in all cases, applying Autoregressive Distributed Lag (ARDL) model (Pesaran & Shin, 1999; Pesaran et al., 2001) should be more effective which enables to estimate long-run relationship when variables are I(0), I(1) or mix of these.

Following Pesaran et al. (2001), the empirical model structure includes long-run and short-run components:

$$d(Y)_t^i = \alpha_0^i + \alpha_1^i Y_{t-1}^i + \alpha_2^i INFL_{t-1} + \alpha_3^i UNEM_{t-1} + \alpha_4^i EG_{t-1} + \sum_{k=0}^n \gamma_k^i Z_{t-k} + \alpha_5^i D2020 + \alpha_6^i t + u_t^i \quad (2)$$

Here,  $i$  denotes the difference due to which variable we take from  $Y_i \in (\ln(RATE)_t, \ln(DIV)_t, \ln(Mar)_t)$ .  $Z$  includes all short-run component elements. Because Covid-19 related restrictions affected the divorce rate, especially the number of marriages, we add a dummy ( $D2020$ ) variable to the model to control for the pandemic's impact. In the models, trend ( $t$ ) factor is considered

This research focus on existence of cointegrating association. Hence, we look at

$$\alpha_1^i Y_{t-1}^i + \alpha_2^i INFL_{t-1} + \alpha_3^i UNEM_{t-1} + \alpha_4^i EG_{t-1}$$

part, apply F-bounds test (if cointegration revealed) and use Bewley's transformation<sup>1</sup> (Bewley, 1979) to calculate the long-run coefficients, accordingly.

### 3. Conducting research and results

#### 3.1. Reading the trends

##### 3.1.1. Economic growth and the divorce rate

Figure 2 depicts the relationship between economic growth (measured as a percentage) and the divorce rate (also measured as a percentage) from 2000 to 2022. According to the graph, economic growth displays substantial fluctuations, fluctuating moderately during 2000-2004 (within 5-10% intervals), reaching a peak of 35% in 2006. In the remaining years, economic growth plummeted, turning negative in 2009, indicative of a recession. Growth during 2013-2022 fluctuated again, remaining mostly between 0% and 15%, with noticeable dips and peaks, notably a dip in 2020 and a recovery thereafter.

Figure 2 displays a stable trend for the divorce rate before 2010, fluctuating within a 5-10% interval. The divorce rate started increasing significantly, reaching a peak of around 40% in 2020. COVID-19-related restrictions on public events should significantly affect the divorce rate in 2020. However, after the peak in 2020, the divorce rate decreased but remained relatively high compared to earlier years, settling around 25-30%.

<sup>1</sup> The transformation implies the long-run  $(\alpha_1^i Y_{t-1}^i + \alpha_2^i INFL_{t-1} + \alpha_3^i UNEM_{t-1} + \alpha_4^i EG_{t-1})$  part being equal to zero. Therefore,  $Y_t^i = \frac{\alpha_2^i}{\alpha_1^i} INFL_{t-1} + \frac{\alpha_3^i}{\alpha_1^i} UNEM_{t-1} + \frac{\alpha_4^i}{\alpha_1^i} EG_{t-1}$ .

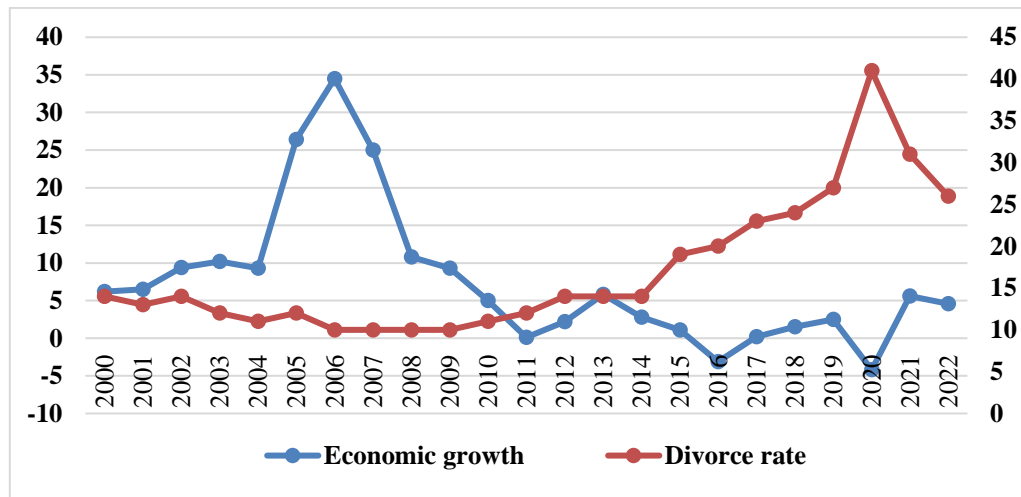


Figure 2. Dynamics of economic growth and divorce rate in Azerbaijan  
*Source:* The State Statistical Committee of Azerbaijan Republic.

Figure 2 yields a notable inverse correlation between economic growth and the divorce rate in the case of Azerbaijan. For instance, the high economic growth during 2005-2007 corresponds with a relatively low and stable divorce rate. Conversely, the significant increase in the divorce rate from 2014 onwards corresponds with lower and more fluctuating economic growth. The peak in the divorce rate in 2020 coincides with a dip in economic growth, potentially indicating economic stress factors such as the COVID-19 pandemic impacting marital stability and the number of marriages. Hence, economic growth appears to have a stabilizing effect on marriage, as indicated by lower divorce rates during periods of economic prosperity. On the contrary, economic downturns may contribute to marital stress and higher divorce rates.

### 3.1.2. Inflation and the divorce rate

After regaining its independence in 1991, Azerbaijan was challenged by economic depression and hyperinflation during 1991-1994, which stabilized in the following years (Aliyev & Suleymanov, 2012). Up to 2004, the inflation rate remained relatively low, fluctuating around 5% or less. However, the country started to enjoy an oil boom and received large amounts of revenues from natural resource exports (Aliyev & Gasimov, 2019), which enhanced the “heat” in Azerbaijan's economy. There was a significant increase in the inflation rate, peaking at around 20% in 2008. The inflation rate dropped sharply after 2008 (probably due to oil price fall), hitting a low point around 2010, and then showed some fluctuations but remained generally below 10%. The inflation rate experienced further fluctuations, with a noticeable rise during 2015-2017 (following twice currency devaluations in 2015) and an increase in the later years, peaking again in 2022.

As Figure 3 depicts, there is a notable correlation between inflation spikes and changes in the divorce rate in Azerbaijan. For instance, the spike in inflation around 2008 corresponds to a relatively stable divorce rate. However, the steady increase in the divorce rate from 2013 onwards does not directly correspond with inflation trends, suggesting that other factors may also be influencing the divorce rate. Though the direct correlation is not always evident in the data, inflation may affect the divorce rate by creating financial stress over households, married couples, and unmarried individuals. Meanwhile, other socioeconomic factors likely play a

significant role in influencing divorce rates alongside inflation, such as unemployment rate and economic growth.

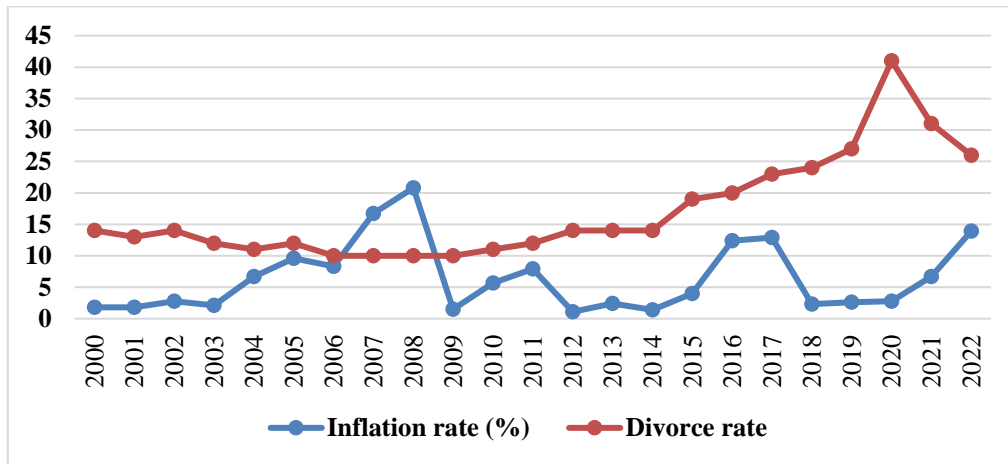


Figure 3. Dynamics of inflation rate and divorce rate in Azerbaijan  
Source: The State Statistical Committee of Azerbaijan Republic.

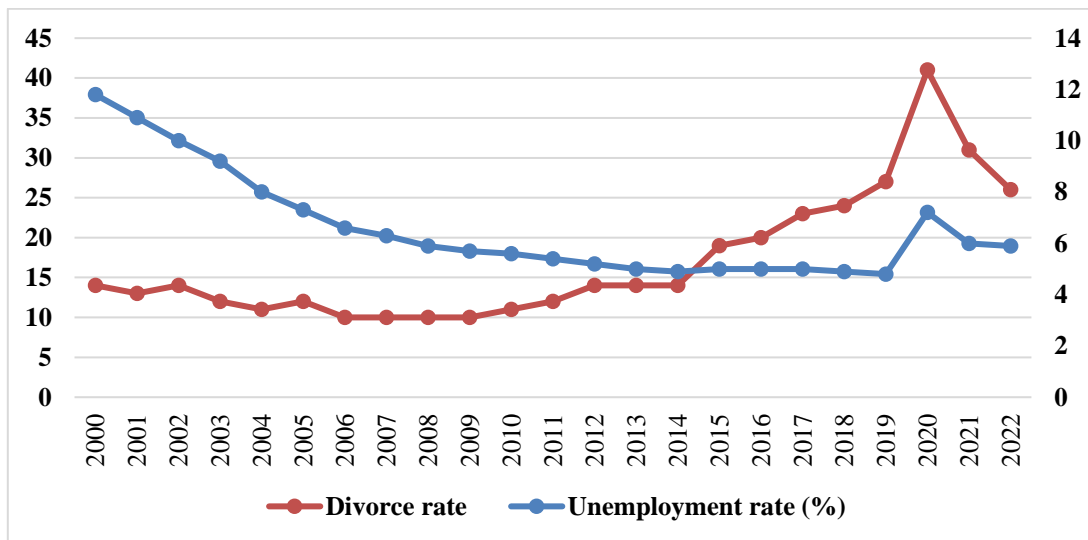


Figure 4. Dynamics of unemployment rate and divorce rate in Azerbaijan  
Source: The State Statistical Committee of Azerbaijan Republic.

### 3.1.3. Unemployment rate and the divorce rate

Unemployment, as a significant social and economic problem, was a big challenge up to the early 2000s in Azerbaijan. Official statistical records reveal a relatively high unemployment rate, around 12%, and showed a significant decline throughout the period, reaching approximately 5% by 2007. There was an increase in the unemployment rate, peaking at around 10% during 2008-2010, declining steadily in the next decade, and stabilized around 4-6%. Azerbaijan's official unemployment rate rose during the COVID-19 pandemic in 2020 to 7.5% and stabilized around 6% in the following years. However, the official unemployment rate is at a satisfactory level, probably due to considering the rural population employed (see "post-Soviet paradoxes" of unemployment rate in Silagadze (2017); the society's perception is not in the same line. According to Aliyev (2023), unemployment is within the perceived top-5

social problem in Azerbaijan, the survey data reveals. However, we should proceed with only official data.

According to official data, the divorce rate remained stable in spite of the significant decrease in the unemployment rate during 2000-2008. During the global financial crisis (2009-2010), the unemployment rate increased sharply, while the divorce rate remained stable, suggesting other factors might have mitigated the expected increase in divorce rates during economic hardship. The steady decline in the unemployment rate did not correspond to a decrease in the divorce rate, which began to increase during 2011-2019. The sharp increase in the unemployment rate coincided with a peak in the divorce rate in 2020, suggesting that economic stress due to the pandemic may have impacted marital stability and number of marriages.

### 3.2. Empirical results

ARDL estimation results of equation (2) are reported in table (2). At first sight, we observe that the coefficients of the lagged dependent variables are statistically significant at 5% and negative. However, results display a very strong overcorrection record. The value of lag of the dependent variable is greater than 1 in absolute value. Hence, short-run deviations are corrected towards long-term equilibria within less than 1 year.

Tables (2) and (3), together, confirm the existence of a cointegration relationship in all models. Calculated F-statistic values are more significant than the upper bounds of the finite sample critical values. Simultaneously, diagnostic analysis of estimated models (Table 2, Panel B) provides strong evidence for the reliability of our findings. According to the Breusch-Godfrey LM test, there is no serial correlation problem in the estimated models ( $p > 0.05$ ). In the same way, models are correctly specified homoscedastic residuals (BPG and ARCH) and are typically distributed.

Table 2. ARDL estimation outputs

Independent variables	Dependent variable		
	$d(\ln(RATIO))_t$	$d(\ln(DIV))_t$	$d(\ln(MAR))_t$
	Model (1)	Model (2)	Model (3)
$\ln(RATIO)_{t-1}$	-3.992** (1.33)	-	-
$\ln(DIV)_{t-1}$	-	-1.542*** (0.15)	-
$\ln(MAR)_{t-1}$	-	-	-1.48*** (0.30)
$INFL_{t-1}$	0.043** (0.012)	0.005** (0.002)	-0.015** (0.005)
$UNEM_{t-1}$	0.756** (0.26)	-0.075*** (0.013)	-0.324** (0.09)
$EG_{t-1}$	-0.015** (0.004)	-0.007*** (0.002)	0.009*** (0.002)
$d(\ln(RATIO))_{t-1}$	2.007 (0.94)	-	-
$d(\ln(RATIO))_{t-2}$	0.803 (0.41)	-	-
$d(EG)_t$	0.008** (0.002)	0.009*** (0.002)	0.004 (0.002)
$d(EG)_{t-1}$	0.008 (0.01)	0.007*** (0.002)	-
$d(EG)_{t-2}$	0.022** (0.01)	0.009*** (0.001)	-



## RECENT ISSUES IN ECONOMIC DEVELOPMENT

$d(INFL)_t$	0.013** (0.003)	-	-0.007** (0.003)
$d(INFL)_{t-1}$	-0.018* (0.006)	-	0.004 (0.003)
$d(INFL)_{t-2}$	-	-	-0.003 (0.002)
$d(UNEM)_t$	0.111 (0.11)	-	-0.348** (0.11)
$d(UNEM)_{t-1}$	-0.569* (0.23)	-	0.059 (0.031)
$d(UNEM)_{t-2}$	-0.561** (0.17)	-	0.247*** (0.05)
$D2020$	0.341 (0.312)	0.209*** (0.06)	0.279 (0.28)
$t$	0.418* (0.14)	0.046*** (0.01)	-0.092*** (0.02)
$C$	0.525 (0.29)	0.131 (0.10)	6.135*** (1.41)

**Panel (B): Diagnostic analysis**

Model (1)	$ARDL(3, 3, 2, 3)$ , $\sigma = 0.039$ , $\chi_{sc(2)} = 54.7 [0.0952]$ , $\chi_{BPG} = 1.18 [0.5127]$ , $\chi_{ARCH(2)} = 1.218 [0.3233]$ , $JB = 0.532 [0.7664]$ , $F_{FM} = 1.322 [0.3170]$
Model (2)	$ARDL(1, 3, 0, 0)$ , $\sigma = 0.035$ , $\chi_{sc(2)} = 0.871 [0.4548]$ , $\chi_{BPG} = 0.757 [0.6565]$ , $\chi_{ARCH(2)} = 1.289 [0.3042]$ , $JB = 0.783 [0.6759]$ , $F_{FM} = 0.228 [0.8250]$
Model (3)	$ARDL(1, 1, 3, 3)$ , $\sigma = 0.036$ , $\chi_{sc(2)} = 0.91 [0.4724]$ , $\chi_{BPG} = 1.08 [0.4933]$ , $\chi_{ARCH(2)} = 0.591 [0.5659]$ , $JB = 0.471 [0.7900]$ , $F_{FM} = 0.0004 [0.9836]$

Note:  $ARDL(\dots)$  displays lag specification of the corresponding model. \*\*\*, \*\* and \* indicate rejection of the null hypotheses at the 1%, 5% and 10% significance levels respectively; ( ) displays standard error of each coefficient.  $\sigma$  represents standard error of the regression.  $\chi_{sc(2)}$ ,  $\chi_{BPG}$ , and  $\chi_{ARCH(2)}$  stand for the chi-squared statistics to test the null hypotheses of no serial correlation, no heteroscedasticity, no autoregressive conditioned heteroscedasticity in residuals, respectively.  $JB$  and  $F_{FM}$  denote Jarque-Bera and F statistics to test the null hypotheses of normal distribution and no functional form mis-specification respectively. Probabilities are in [ ]; Estimation period: 2000-2022.

Source: own calculation

Table 4 presents long-run coefficients for each regression model. Results are fairly straightforward and in line with previous research findings. Inflation, as a very important macroeconomic indicator, has an increasingly significant impact on the divorce rate in Azerbaijan. Unsurprisingly, price increases demotivate individuals to get married ( $p < 0.01$ ) while stimulating divorces ( $p < 0.05$ ). A one percentage point increase in the inflation rate, in the long run, causes a 1.1% increase in the divorce rate.

According to research findings, unemployment is a key determinant of the divorce rate through its significant impact on marriages and divorces in Azerbaijan. Note that it significantly affects both growth per thousand marriages and divorces ( $p < 0.01$ ). The impact is negative in both cases, while it is (in absolute value) significantly more significant for the growth of the number of (per thousand people) marriages. Because a higher unemployment rate decreases the number of marriages more compared to the impact on the number of divorces per thousand, the divorce rate increases by 18.9% (not a percentage point) following a 1 percentage point rise in unemployment. Such a significant impact of inflation can be explained by lower variation in the official unemployment rate in Azerbaijan. However, unemployment is one of the primary determinants of divorce rate changes (Koç & Kutlar, 2021; Amato & Beattie, 2011; Hellerstein & Morrill, 2011; Schaller, 2013; Ul-Haq et al., 2023; Aama Bandeh Gharaei et al., 2023), and recent research (see Aliyev, 2023) reveals, inflation and unemployment to be within the top-5

social problem in perception of Azerbaijani people, both justify the empirically revealed long-run unemployment-divorce rate relationship in case of Azerbaijan.

Table 3. F-bounds test results

	$\alpha$	Asymptotic ( $n = 1000$ )		Finite sample ( $n = 30$ )		Cointegration
		I(0)	I(1)	I(0)	I(1)	
<b>Model (1)</b> $F_{st} = 6.56$	1%	5.17	6.36	6.64	8.32	+
	5%	4.01	5.07	4.68	5.98	
	10%	3.47	4.45	3.87	4.97	
<b>Model (2)</b> $F_{st} = 31.51$	1%	5.17	6.36	6.64	8.32	+
	5%	4.01	5.07	4.68	5.98	
	10%	3.47	4.45	3.87	4.97	
<b>Model (3)</b> $F_{st} = 15.4$	1%	5.17	6.36	6.64	8.32	+
	5%	4.01	5.07	4.68	5.98	
	10%	3.47	4.45	3.87	4.97	

Note: I(0) and I(1) denote lower and upper bounds value of the test. If  $F_{st} > I(1)$  value means cointegration exists.

Source: own calculation

Table 4. The long-run coefficients

Independent variables	Dependent variable		
	$Ln(RATIO)_t$	$Ln(DIV)_t$	$Ln(MAR)_t$
$INFL_t$	0.011** (0.002)	0.003** (0.001)	-0.01*** (0.003)
$UNEM_t$	0.189*** (0.006)	-0.049*** (0.007)	-0.219*** (0.021)
$EG_t$	-0.004 (0.002)	-0.005*** (0.001)	0.007*** (0.001)

Note: \*\*\*, \*\*, and \* indicate rejection of the null hypotheses at the 1%, 5%, and 10% significance levels, respectively. Standard errors are in ( ).

Source: own calculation

Regarding the impact of economic growth, estimation results reveal a significant positive impact on marriages, while a number of divorces are affected negatively ( $p < 0.01$ ). However, the impact is not significant in magnitude. Meanwhile, positive and negative impacts each other when the impact on the divorce rate is considered. Hence, according to research output, economic growth has no significant impact on the divorce rate ( $p > 0.1$ ).

#### 4. Discussion

This research examines the increasing divorce rate problem in a developing resource-rich country, Azerbaijan. To our knowledge, this is the first study empirically analyzing divorce trends and the impact of leading macroeconomic indicators on marriages and divorces. The topic is noteworthy to study as divorce affects family structures and dynamics, influencing social stability and community cohesion (Amato, 2000). Both partners and children may experience mental health challenges post-divorce, impacting overall social well-being (Amato, 2010). Meanwhile, high divorce rates can alter population growth and demographics, affecting long-term social planning (Cherlin, 2010).

The empirical analysis of the relationship between economic growth, inflation, unemployment, and divorce rate (including the number of marriages and divorces per 1000 individuals) in Azerbaijan from 2000 to 2022 years several significant findings. The analysis indicates a negative relationship between economic growth and the divorce rate. Periods of robust economic growth, such as from 2005 to 2007, are associated with relatively low and stable divorce rates. However, the long-run effect of economic growth over the growth rate is statistically insignificant ( $p > 0.1$ ). This is due to the fact that in the long run, economic growth affects a number of marriages positively ( $p < 0.01$ ) and divorces negatively ( $p < 0.01$ ), compensating each other.

However, inflation emerges as a significant determinant of the divorce rate in Azerbaijan. The study finds that inflation has a direct and notable impact on increasing divorce rates. Empirical results indicate that in the long-run, a one percentage point increase in inflation can lead to a 1.1% increase in the divorce rate, underlining the sensitivity of marital stability to price fluctuations, in Azerbaijan. Inflation-induced financial stress likely creates more pressure on household budgets, leading to increased marital discord and subsequent divorces (Conger et al., 1990). This is consistent with the economic stress model, which suggests that financial instability can undermine marital relationships (Randall & Bodenmann, 2009).

Regarding the impact of unemployment, the study finds that higher unemployment rates are associated with increased divorce rates, albeit with some complexities. While the direct relationship between unemployment and the divorce rate is evident during economic crises such as the global financial crisis and the COVID-19 pandemic (Hellerstein & Morrill, 2011), the overall impact of unemployment appears nuanced. The data suggest that unemployment negatively affects both marriages and divorces but has a more substantial effect on reducing the number of marriages. This discrepancy can be attributed to the socio-economic pressures unemployment places on individuals, discouraging new marriages more significantly than it encourages divorces. A 1 percentage point increase in unemployment is associated with an 18.9% increase in the divorce rate, underscoring the profound impact of unemployment on marital stability.

## Conclusion

The current upward trend in Azerbaijan's divorce rate is a concern from the society's perspective. Meanwhile, the tendency may threaten the demographic stability in the country. In this context, the research provides an empirical contribution to the literature regarding the impact of economic growth, unemployment rate, and inflation over (per thousand) number of marriages and divorces and the divorce rate. The study concludes with no significant impact of economic growth on the divorce rate in the long run. However, the long-run impacts of the unemployment rate and inflation over the country's divorce rate are positive and statistically significant.

The findings of this study have several policy implications. Policymakers in Azerbaijan should consider the broader socio-economic impacts of macroeconomic policies. Stabilizing inflation and fostering economic growth are critical not only for economic development but also for maintaining social cohesion and family stability. Additionally, unemployment mitigation strategies should be prioritized, as job security significantly influences the number of marriages and divorces.

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