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Housing Prices and Marriage Rates Across OECD Countries

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Abstract. In recent years, housing affordability has become an urgent concern for many OECD economies, raising questions about its impact on family formation and marriage behaviour. This study examined the relationship between real residential property prices and crude marriage rates using an unbalanced panel dataset (N = 749) from 37 countries during the period from 2000 to 2022. House price data are from the OECD Analytical House Prices Indicators database, and marriage rate data are from Our World in Data. Four increasingly strict regression norms are estimated: aggregated OLS, OLS with macroeconomic control, national fixed effects, and bidirectional fixed effect models including national and annual effects. If there is no fixed effect, there is a significant negative correlation between house prices and the marriage rate, which is consistent with the assumption of affordability constraints. Once the national fixed effect is introduced, the negative correlation becomes insignificant, which shows that transnational structural differences promote set correlation to a large extent. The bidirectional fixed effect model produces a significantly positive coefficient, which may reflect the procyclical common movement between house prices and marriage rates in the country. In all norms, the unemployment rate is closely related to and negatively related to the marriage rate. These findings highlight the importance of controlling unobserved national heterogeneity when analysing housing-population links.

Keywords: housing affordability, marriage rate, OECD, panel data, fixed effects

1. Introduction

In recent years, housing affordability has become a major problem in many countries, because many families spend a large part of their income on housing costs [1]. The rapid rise in house prices has put economic pressure on young people, especially in urban areas where the housing market is fiercely competitive.

Housing conditions are closely related to individuals' economic situations and life decisions. A body of work has documented the close connection between housing access and family formation processes [2]. For young adults, housing affordability may influence important choices such as leaving the parental home, forming independent households, and getting married. High housing costs may delay financial independence and increase uncertainty about future economic stability. As a result, housing affordability may play a key role in shaping long-term life planning and family formation decisions.

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For a long time, the economic situation has been regarded as an important determinant of relationship formation and family outcome. Financial stability and income level are closely related to marriage decisions and family formation. Empirical studies document that changes in wealth and financial resources can influence marriage formation and family outcomes [3]. Housing affordability has also been identified as a factor affecting the outcome of the relationship. Krapf and Wagner report that affordability and housing retention are related to the possibility of union dissolution, indicating that there may be a link between housing conditions and relationship stability [4]. When the pressure on affordability becomes serious, rising house prices may also inhibit the formation of marriage [5]. Compared with income, high housing costs will put financial pressure on couples and have a potential chain reaction on the quality of relationships and the stability of long-term partnerships.

More and more work emphasises the role of the housing market in shaping broader population behaviour. Affordability restrictions may prevent young people from obtaining independent housing, thus delaying the formation of families [6]. These effects are often strongest in areas where housing demand is sustained, and supply is limited [7]. Housing market conditions and population patterns may also vary from country to country, and any empirical analysis needs to address this spatial heterogeneity [8].

Much of the existing evidence is based on single-country research or cross-sectional data. This makes it difficult to distinguish the impact of house prices from other specific national factors affecting the marriage rate. For example, differences in cultural attitudes towards marriage or family policy systems [5, 9]. A few group data studies examine the relationship between countries, but these studies tend to be narrow in scope or have limited time coverage [10]. Therefore, whether the link between housing affordability and marriage rate is more widespread in different national environments remains an unresolved issue.

The present study examines the link between real house prices and crude marriage rates using an unbalanced panel of 37 countries spanning 2000 to 2022. Four regression models of increasing stringency are estimated: pooled OLS, OLS with macroeconomic controls, country fixed effects, and a two-way fixed effects specification that incorporates both country and year effects. GDP per capita and the unemployment rate serve as macroeconomic controls. By comparing estimates across these specifications, the study aims to build systematic empirical evidence on how housing market conditions relate to marriage behaviour in different national contexts, and to assess the degree to which unobserved country heterogeneity drives any observed association.

2. Method

2.1. Data source

This study utilised three publicly available cross-national datasets. The house price data is from the OECD Analytical House Prices Indicators database, which provides quarterly real house price indices for OECD member countries and some non-member countries (base year 2015 = 100) [11]. Quarterly observations were converted to annual averages to be consistent with other variables. The marriage rate data comes from Our World in Data, an organization that compiles and harmonises official national statistics initially reported to the United Nations Statistics Division [12]. The crude marriage rate, defined as the number of marriages per 1,000 people per year, is taken as the dependent variable. Two macroeconomic control variables — per capita GDP (in current US dollars) and unemployment rate (as a percentage of the total labour force) — are obtained from the World Bank World Development Indicators database [13].

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The final dataset was constructed by merging these three sources on country name and year, retaining only observations with complete data on all variables. This resulted in an unbalanced panel of 37 countries observed between 2000 and 2022, comprising 749 country-year observations.

2.2. Variables

Table 1. Variable definitions

Variable	Meaning	Measurement
Real House Price Index	Measures inflation-adjusted residential property prices; higher values indicate reduced housing affordability	Index (2015 = 100), OECD
Crude Marriage Rate	Dependent variable; captures the propensity to marry within a population	Marriages per 1,000 population per year
Log GDP per Capita	Controls for general living standards and economic conditions	Natural log of GDP per capita (current USD), World Bank
Unemployment Rate	Controls for labour market conditions, which independently affect marriage decisions	% of total labour force, World Bank

Table 1 lists the main variables. The key independent variable is the real house price index, which tracks housing affordability over time. The dependent variable is the crude marriage rate. Two control variables are included: GDP per capita and the unemployment rate. These control for broader economic conditions, so that the effect of house prices can be separated.

2.3. Analytical method

This study uses a quantitative method to examine the relationship between actual house prices and marriage rates using transnational group data spanning 37 countries from 2000 to 2022.

First, report the descriptive statistics of all key variables to summarise the distribution and changes of the data. A correlation matrix is also proposed to check the unconditional correlation between variables.

Secondly, four regression models are estimated. This progress allows us to assess how the estimated relationship changes when considering other sources of confusion. The summarised OLS provides a baseline estimate, but there may be deviations due to unobserved transnational differences. Increasing macroeconomic control can reduce the missing variable deviations in the observable factors. The national fixed effect further absorbs the heterogeneity of the time-changing national level, such as cultural attitudes towards marriage and institutional differences. The two-way fixed effect norm also controls common global shocks that affect all countries at the same time, such as the global financial crisis and the COVID-19 epidemic. The baseline pooled OLS model is specified as:

$$MarriageRateit = \alpha + \beta 1 HousePriceit + \varepsilon it \quad (1)$$

The second model adds macroeconomic controls:

$$MarriageRateit = \alpha + \beta 1 HousePriceit + \beta 3 Unemploymentit + \varepsilon it \quad (2)$$

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The third model introduces country fixed effects (α

$$MarriageRateit = \alpha i + \beta 1HousePriceit + \beta 2log(GDPit) + \beta 3Unemploymentit + \varepsilon it \quad (3)$$

The fourth and most demanding specification adds year fixed effects (γ).

$$MarriageRateit = \alpha i + \gamma t + \beta 1HousePriceit + \beta 2log(GDPit) + \beta 3Unemploymentit + \varepsilon it \quad (4)$$

where i denotes the country, and t denotes the year. The coefficient of primary interest is β_1, which captures the association between real house prices and marriage rates after controlling for observable and unobservable time-invariant characteristics. By comparing the estimates of the four models, the analysis and evaluation of how the relationship changes with the control of other mixed sources.

3. Results and discussion

3.1. Descriptive statistics and correlation results

Table 2 shows the descriptive statistics of key variables. In the sample, the average rough marriage rate is 4.68 marriages per 1,000 people, and the standard deviation is 1.16, reflecting the moderate differences between different countries and years. The average real house price index is 103.63 (2015 = 100), with values ranging from 43.41 to 179.94, indicating that housing market conditions vary across borders. The average per capita GDP is $36,843, while the average unemployment rate is 7.31%.

Table 2. Descriptive statistics

Variable	Mean	Std. Dev.	Min	Max
Crude Marriage Rate (per 1,000)	4.68	1.16	0.80	8.20
Real House Price Index (2015=100)	103.63	23.64	43.41	179.94
GDP per Capita (USD)	36,843	23,073	3,900	134,966
Unemployment Rate (%)	7.31	3.84	1.87	27.69

Notes: N = 749. Sample covers 37 countries, 2000–2022.

Table 3 shows the correlation matrix. The Pierson correlation between the real house price index and the rough marriage rate is -0.063, indicating a weak negative relationship. There is a stronger negative correlation between the unemployment rate and the marriage rate (r = −0.200), indicating that the relationship between labour market conditions and marriage behaviour is closer than that with house prices alone. The unconditional correlation between GDP per capita and the marriage rate is close to zero (r = −0.023). In general, a weak unconditional correlation indicates that the relationship between house prices and marriage rates may be confused by other factors, so a properly controlled regression analysis is required.

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Table 3. Correlation matrix

Variable	(1)	(2)	(3)	(4)
(1) Crude Marriage Rate	1.000			
(2) Real House Price Index	−0.063	1.000		
(3) GDP per Capita	−0.023	0.000	1.000	
(4) Unemployment Rate	−0.200	−0.057	−0.336	1.000

Notes: Pearson correlation coefficients reported.

3.2. Regression results

Table 4 presents the regression results of all four model specifications. The following sections discuss each model in sequence.

Table 4. Regression results

Variable	M1 OLS	M2 OLS+Controls	M3 Country FE	M4 Two-way FE
Real House Price Index	−0.0031*	−0.0037**	−0.0022	+0.0044***
	(0.0018)	(0.0018)	(0.0015)	(0.0013)
Log GDP per capita	—	−0.0183	−0.8215***	+0.4886***
		(0.0654)	(0.1098)	(0.1632)
Unemployment Rate	—	−0.0630***	−0.0828***	−0.0425***
		(0.0115)	(0.0095)	(0.0091)
Country FE	No	No	Yes	Yes
Year FE	No	No	No	Yes
R^2	0.004	0.046	0.759	0.851
N	749	749	749	749

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10.

3.2.1. Baseline OLS (M1)

The baseline OLS estimate shows that the actual house price index coefficient is negative and slightly ($\beta = -0.0031$, $p < 0.10$), indicating that higher house prices are related to lower marriage rates. This is consistent with the assumption of affordability constraints. However, the model only explains 0.4% of the change in the marriage rate ($R^2 = 0.004$), which shows that the explanatory power of house prices alone is very limited.

3.2.2. OLS with controls (M2)

Increasing macroeconomic control has slightly strengthened the house price estimate ($\beta = -0.0037$, $p < 0.05$). The unemployment rate enters with a negative and highly significant coefficient ($\beta = -0.063$, $p < 0.001$), which confirms that the deterioration of labour market conditions is related to a lower marriage rate. The logarithmic per capita GDP is statistically insignificant. R^2 increased to 0.046, but the explanatory power is still not great.

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3.2.3. Country fixed effects (M3)

After the introduction of the national fixed effect, the house price coefficient decreased significantly and became statistically less significant ($\beta = -0.0022$, $p > 0.10$). This shows that the negative correlation between M1 and M2 reflects the continuous differences between countries, rather than the domestic effect of rising house prices. The unemployment rate is still negative and significant ($\beta = -0.083$, $p < 0.001$). R^2 increased significantly to 0.759, confirming that heterogeneity at the national level accounts for a large proportion of changes in marriage rates.

3.2.4. Two-way fixed effects (M4)

The two-way fixed effect model also controls the annual fixed effect to absorb common global shocks. The inversion symbol of the house price coefficient becomes positive and highly significant ($\beta = +0.0044$, $p < 0.01$). This may reflect the cyclical common movement of domestic house prices and marriage rates: both tend to rise at the same time during domestic economic expansion. The unemployment rate is still negative and significant ($\beta = -0.043$, $p < 0.001$). The model realises 0.851 R^2.

3.3. Discussion

The progress of the estimate from M1 to M4 reveals the sensitivity of the relationship between house prices and marriage rates to model norms.

The negative and significant coefficients of M1 and M2 are roughly consistent with the affordability constraint hypothesis, which indicates that rising house prices may delay marriage by increasing the economic pressure on young people.

When country fixed effects are added in M3, the house price coefficient is no longer significant. This means that the negative link found in the earlier models is mostly due to lasting differences between countries. These differences include things like cultural views on marriage, family policies, and long-term population trends. They are not the result of house prices directly affecting marriage decisions.

The symbol inversion in M4 needs to be explained carefully. After controlling the global annual impact, the positive coefficient of domestic house prices does not necessarily mean that rising house prices will lead to more marriages. On the contrary, it may reflect the cyclical dynamics: during domestic economic expansion, house prices, incomes and marriage rates tend to rise at the same time. The annual fixed effect eliminates changes in the global business cycle, but the cyclical component of specific countries still exists, resulting in a positive correlation between domestic house prices and marriage rates.

In all norms, the unemployment rate is closely related to the marriage rate, emphasising the importance of labour market conditions as a determinant of family formation.

4. Conclusion

This study uses panel data sets covering 37 countries from 2000 to 2022 to check the link between real estate prices and rough marriage rates. From pool OLS to the two-way fixed effect model, four increasingly strict regression specifications are estimated.

The results show that the relationship between house price and marriage rate is very sensitive to the model specifications. In the absence of a fixed effect, there is a significant negative correlation

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between house prices and the marriage rate, which is in line with the assumption of affordability constraints. However, once the national fixed effect is introduced, this negative correlation will disappear, pointing out that transnational structural differences are the main driving force of fixed correlation. Under the two-way fixed effect specification, the coefficient becomes positive and significant. This model may capture the co-cyclical fluctuations between house prices and marriage rates in a country. In all norms, the unemployment rate is still closely related to the marriage rate, which is consistent with the evidence that the instability of the labour market hinders the establishment of trade unions.

In summary, these findings show that a simple cross-border comparison may exaggerate the negative impact of house prices on the marriage rate, which has been noticed in early work. The results emphasised the importance of taking into account the unobserved national heterogeneity when analysing the housing-population link. In the future, the use of personal-level data and local house price changes will provide a more reliable basis for causal reasoning.

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