

Youth Emancipation and the Labour Market in Spain

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Summary

This paper studies the effects of a negative economic shock on short- and long-term youth emancipation in Spain over the period 1995-2017. We use a vector autoregressive (VAR) model with different endogenous and exogenous variables which might have an impact on youth residential emancipation according to the academic literature. The results show how emancipation is impacted negatively by the shock after two quarters on average. Following this, the situation returns to its prior state at an accelerated rate. We also find that, in the short term, the unemployment rate has a greater influence than the temporary employment rate on youth emancipation. In the long term, this trend is reversed. To conclude, we find that emancipation processes do not depend as much on entry into the labour market as they do on the conditions to stay in it.

Keywords: youth emancipation, labour market, VAR, economic crisis.

JEL: J13, J64, R21

1. Introduction

The transition from youth to adulthood is a social process marked by three interrelated dimensions: the family dimension, understood as the formation of a family of one's own; the economic and labour dimension, which occurs at the end of the educational stage and, therefore, when access to the labour market is possible; and the residential dimension, that is, leaving the parental home to develop an independent life in a different dwelling (Gill Jones and Claire Wallace 1992). However, the transition to adulthood has been changing in Europe during recent decades and is adopting new dynamics characterised by the delay in starting the process, the lengthening of the time needed to complete it, and the increase in the formulas under which this transition takes place (Francesco C. Billari and Aart C. Liefbroer 2010).

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In Spain, this transition stage to adulthood is traditionally completed at a higher average age than in neighbouring countries. This characteristic of young Spaniards has been justified in the academic literature owing to cultural aspects rooted in a significant degree of familialism, the particular characteristics of the labour market, institutional factors or the country's housing system (Namkee Ahn and Virginia Sánchez-Marcos 2017).

Moreover, these structural factors are compounded by the critical financial situation that most countries in Europe experienced after the onset of the financial recession in 2008. This pattern is also repeated in the particular case of young people's residential emancipation in Spain. Thus, the percentage of residential emancipated young Spaniards began to increase from 2002 until it reached its highest level in 2008 and is usually attributed to the expansionary phase of the Spanish economy, which led to a fall in the unemployment rate among young people. However, with the bursting of the real estate bubble, the onset of the recession and the general increase in unemployment, the residential emancipation rate of young people began to fall.

The aim of this article is to analyse the impact of the 2008 economic crisis and the resulting increase in the unemployment rate on the residential emancipation rate of young Spaniards. To analyse how the economic crisis has influenced the emancipation of young Spaniards, we use a vector autoregressive (VAR) model, similar to the one used by Jung H. Choi and Gary Painter (2015) in the United States, adding some modifications to shed light on the influence of labour market variables.

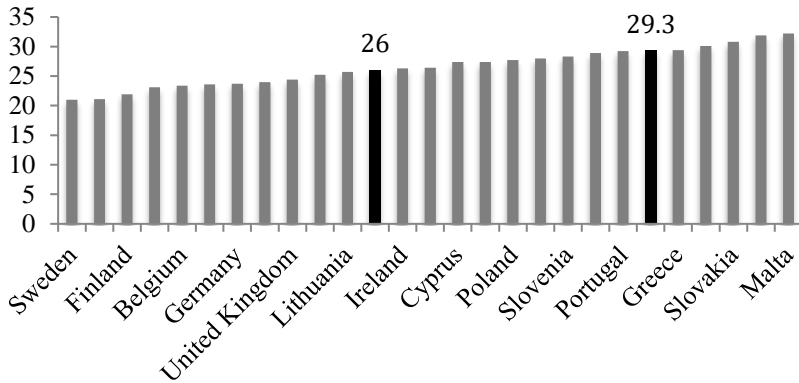
The paper is organized as follows: The second section explores the characteristics of emancipation processes in different European welfare models, in order to differentiate between the variables that affect these processes. The third section reviews relevant academic literature from Europe and the United States. The fourth section describes the evolution of emancipation in Spain between 1995-2017. In addition, we present some features of the Spanish labour market and its impact on young workers. The fifth section describes the data used and the methodology for our estimates. The sixth section presents the main results and the final conclusions of the research.

2. Models of youth welfare and residential emancipation

Residential emancipation in young people shows different patterns amongst European countries. The structural factors which explain those differences include the socioeconomic conditions to access housing and the normative and institutional framework that regulates the housing market, as well as general sociological factors or even individual psychological attitudes (Teresa Jurado 2003).

The age differences in residential emancipation amongst countries can be seen in Figure 1. Young people in Nordic countries are able to leave the parental home at an early age while in southern countries the age is considerably higher. This gap is related to the different welfare state developments in Europe that were systematized by Gosta Esping-Andersen (1990) and then expanded by Stephan Leibfried (1992).

Figure 1. Mean emancipation age in Europe (2017).



Source: Eurostat.

Indeed, different works have analysed the characteristics of the formation of new families in European countries from the welfare state regimes classification (Table 1), as Richard Breen and Marlis Buchmann (2002); Maria Iacovou (2002; 2004); Marlis Buchmann and Irene Kriesi (2011); Bosch (2017).

In this light, the countries that are part of the social-democratic model, such as Sweden, Denmark, or Finland, are characterised by the fact that residential and economic emancipation takes place at an early age, between 19 and 21 years of age, as they enjoy a much more favourable context for emancipation than in other European countries. This has been made possible by a strong and generous welfare state that has provided various social and economic support mechanisms for this purpose and which also recognises and defends this right for young individuals. The specific characteristics of their labour markets and education systems are other factors that facilitate the transition to adult life, as they offer numerous opportunities to the youth sector and, on many occasions, allow for alternating and complementing training in companies with formal education. In addition, their housing stock offers different alternatives that facilitate the incorporation of young people into the housing market, mainly through affordable rental housing (Suzanne Fitzpatrick and Mark Stephens, 2007a, b; Jordi Bosch, 2015).

On the other hand, the countries included in the corporatist model are characterised by the fact that they also recognise and support the right of young people to become residentially independent, although the age at which they leave the family home usually coincides with the completion of higher education studies (Bosch, 2017). Moreover, the weight of rental housing and social housing in the overall housing stock of these countries is lower than in the social democratic ones (Table 1). However, this shortfall is offset by significant public support for labour market integration and a long period of educational training that can facilitate the process of residential emancipation if young people have the financial support of their families. In fact, the emancipation

process of young people in these countries follows its own dynamics known as the "independent trajectory of corporatist youth" (Flora Chanvriil et al. 2009).

Table 1. Welfare systems and Housing

	Ownership	Social Rent	Private Rent
Mediterranean model	74.73%	2.73%	15.20%
Corporatist model	57.3%	19.33%	19.63%
Liberal model	65.35%	13.15%	19.8%
Social democratic model	51%	17.63%	22.27%

*Notes: Percentages represent averages for the following countries: Mediterranean model (Spain, Portugal and Italy); liberal model (United Kingdom and Ireland); corporatist model (France, Holland, Austria); social democratic model (Finland, Denmark, Sweden).

Source: Alice Pittini et al. 2017; Own elaboration.

In the countries that make up the so-called liberal model, residential emancipation occurs at similar ages to those of the corporatist model. Thus, in the case of the United Kingdom, residential emancipation occurs at 24.4 years of age, although, given the lower degree of social benefits for young people, the risk of falling into poverty for emancipated young people is higher than in other models. The lack of benefits is justified as an incentive for young people to accelerate their transition to adulthood and fully integrate into adult economic and social dynamics as soon as possible (Andreas Walther 2006).

This is supported by a labour market that, despite generating precarious jobs for this population sector, does not have major entry barriers. As a result, from an early age and with few qualifications, it is possible to reach a certain degree of economic independence that facilitates the transition towards residential emancipation outside the family home. On the other hand, the structure of the housing stock also enables residential independence, since, although home ownership is important, a large rental and social housing market favours the emancipation of young people (Table 1). Furthermore, young people often have access to public housing programmes that facilitate their residential emancipation (Elsa Laino and Alice Pittini, 2011).

Finally, in the countries that make up the Mediterranean model, young people delay the decision to leave the family home the longest. One of the sociological

explanations for this relative delay in the age of emancipation is that it points to the existence of personal strategies that prioritise achieving certain economic stability before leaving the family home. In contrast, the family plays a decisive role in the residential emancipation of young people by helping them financially during this process (Dimitris Emmanuel 2013). In addition, access to the labour market is usually precarious, and few policies support youth emancipation (Dominique Anxo, Gerhard Bosch, and Jill Rubery 2010). Moreover, there has been a considerable increase in the number of young people studying at university in recent years, which further delays the emancipation process.

On the other hand, it should also be taken into consideration that the structure of the housing stock and the prominence of home ownership, together with scarce rental housing stock, delay the age of residential emancipation until sufficient savings have been accumulated to qualify for housing (Bosch 2017).

3. Review of the academic literature

The approaches used in residential emancipation studies and academic literature differ between Europe and the US due to the differences between the various welfare models in Europe and their differential impact on the residential emancipation of young people, as discussed in the previous section.

In Europe, for example, the studies focus on the differences between countries and between welfare systems (Arnstein Aassve, Francesco C. Billari and Fausta Ongaro 2002; Maria Iacovou 2010). However, as Emily E. Wiemers (2014) points out, U.S.-focused research places greater emphasis on economic elements as the main determinants in explaining the formation of new households.

In both cases, research on how adverse economic conditions affect household decision-making after a financial shock is much scarcer (Choi and Painter 2015). Greg Kaplan (2009; 2010) analysed the adjustments made by young Americans to their living conditions after the labour market crisis, demonstrating that labour market disruptions are an explanatory factor in young people's return to their parental home after a first emancipation attempt. A recent study by Daniel Cooper and María J. Luengo-Parado (2018) concluded that demographic factors, house prices and the economic cycle explain 70% of the household formation rate among young Americans.

Another important U.S.-based study, is that of Wiemers (2014) which showed that job loss during recessions increases the probability of house-sharing to reduce expenses by threefold. This was also investigated by Larissa Mykyta and Suzanne Macartney (2011) in the U.S., who concluded that during recessions the percentage of the population house-sharing is above 6% compared to the usual 2% average.

Moreover, Lee and Painter (2013) found that a 2% increase in the unemployment rate decreased the creation of new homes by 1%. Subsequent work by Choi and Painter (2015) showed that it takes ten quarters for the rate of household growth in the United States to return to its original value. Similarly, Andrew Paciorek (2016) also concluded that as the U.S. labour market recovers, household formation increases.

On the other hand, in the European context, Arnstein Aassve, Elena Cottini, and Agnese Vitali (2013) analysed the economic difficulties of young adults in 24 countries and determined that the rate of young adults living with parents has increased. In contrast, it should be noted that in Ireland the household formation rate increased in the post-crisis years thanks to the fall in rental prices (David Byrne, David Duffy, and John FitzGerald 2018).

The Spanish case has been studied by Maite Martínez-Granado and Javier Ruíz-Castillo (2002), and Jurado (2003), among others. Although there is a limited amount of literature on the effect of the last economic recession on the residential emancipation of young Spaniards, we can highlight the works of Antonio Echaves (2017) or Almudena Moreno (2016; 2017).

Juan A. Módenes and Julián López-Colás (2014) and Juan A. Módenes and Alda Botelho (2017) also studied the formation of households by young people following the reconfiguration of the Spanish residential system after the financial crisis. Furthermore, Ahn and Sánchez-Marcos (2017) investigated the household formation of people under 40 during the last Spanish boom in the economy and subsequent crisis, through a labour market analysis, concluding that during the 2009-2013 period the residential independence of Spaniards under 40 increased by 2%, contrary to expectations.

Another recent study by Cristina Barceló and Ernesto Villanueva (2018) examined how job insecurity influenced the formation of new households in Spain between 2002-2014. They concluded that the 1% increase in permanent employment contracts improves home-formation opportunities by 1.2%, confirming that there is an important relationship between job security and the creation of homes.

However, none of the previous studies, excluding Choi and Painter's American case (2015), explained whether unemployment has lasting effects on the formation of new households over time.

This paper aims to advance research on this subject and, to this end, analyse the dynamic relationship between unemployment and residential emancipation after an economic recession in Spain, a Mediterranean model country.

4. Emancipation of young adults and the labour market in Spain

Spain belongs to the *Mediterranean* model with the age for leaving the parental home averaging 29.3 years in 2017. It is ranked sixth in the European Union in terms of young adult emancipation, which means it is three years above the European Union average. A key factor explaining this delay is that home ownership is not perceived positively by young people, who put off buying a home because of the costs involved and the savings needed before being able to buy (Almudena Moreno 2013; 2017).

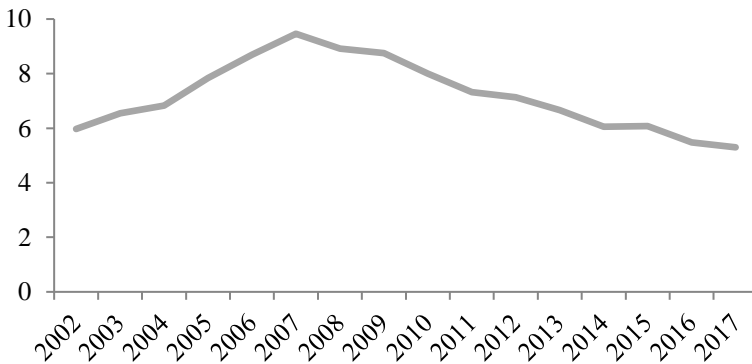
The delay in emancipation which is evident among young people from the 1980s onwards in Spain, has been the subject of previous studies (Jurado 2003). However, the 2008 crisis triggered a great deal of research which attempted to explain the emancipation patterns of young Spaniards and how they may have been affected by the

economic recession (Sascha O. Becker et al. 2010; Almudena Moreno 2012; 2017; Ahn and Sánchez-Marcos 2017; Antonio Echaves 2015; 2017).

The academic literature concurs on the fact that economic conditions shape patterns of new home formation, and that therefore recessions can alter them (Lee and Painter 2013). The increase in academic research might thus be explained by the detrimental effect of the economic crisis on youth emancipation.

Nonetheless, the rate of emancipated young adults began to rise from 2002 onwards, reaching 9.46% in 2008, despite the increase in housing prices. The economic boom the country experienced reduced youth unemployment rates, which thus had an important impact on emancipation.

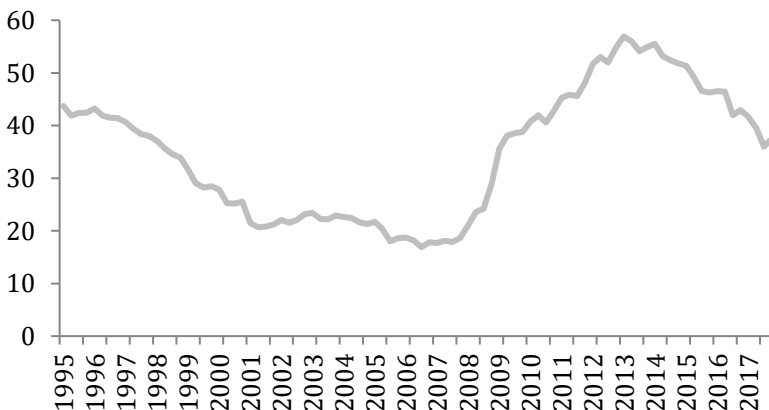
Figure 2. Rate of Emancipated under 25 in Spain (2002-2017)



Source: Spanish National Institute of Statistics (INE).

However, after the housing bubble burst and the dramatic increase in unemployment, the emancipation rate suffered an accumulated fall of 4.17 points after 2008. As a result, only 5.3% of young adults under 25 left the parental home in 2017.

Figure 3. Unemployment rate of young people under 25 (1995-2017).



Source: INE.

As seen in Figure 3, the increase in the residential emancipation rate coincides with a fall in the youth unemployment rate, in other words, the residential emancipation processes were facilitated by the increased number of job opportunities young people had before the bubble burst. The increase in the youth unemployment rate after the crisis runs parallel to the fall in the emancipation rate. These trends show that the characteristics of the Spanish labour market have an important impact on youth emancipation.

Indeed, in recent decades the policies of the Spanish labour market have been characterised by duality and strong segmentation as a result of the development in flexibilisation politics created to decrease unemployment, causing a significant increase of employment sensitivity to economic cycles (Joan M. Verd and Martí López-Andreu 2016). These changes were first introduced in the reform of the *Estatuto de los Trabajadores*⁴ approved in 1984. This reform allowed for temporary contracts for all regular productive activities – contracts that had previously been reserved for seasonal activities – while affording high protection to permanent contracts (Juan J. Dolado et al. 2013).

This has generated a labour market characterised by duality, where some workers have stable jobs with good working conditions, while others lack job security and have low levels of social protection (Javier García de Polavieja 2003; Fabrizio Bernardi and Juan I. Martínez-Pastor 2010).

Moreover, the Spanish labour market is also characterised by a high degree of seasonality, a structural phenomenon that is standardised and disproportionately affects certain social groups, such as young adults (Eduardo Crespo, Carlos Prieto, and Amparo Serrano 2009).

Young Spaniards therefore face a double restriction in their access to the labour market. On one hand, the high rates of youth unemployment, and on the other hand, once they enter the labour market, they do so under precarious conditions, as seasonality must be considered.

These factors, however, do not only affect young Spanish people. As Juan R. García (2014) points out, youth unemployment in Spain, although higher than the European average, is explained by structural dysfunctions inherent to the Spanish labour market which affect all workers, and not by idiosyncratic factors of Spanish young people, since youth labour insertion problems in the rest of the European countries have been similar to those experienced by Spaniards.

Figure 4. Rates of total unemployment and under 25s in Spain, and GDP growth (2003-2017)

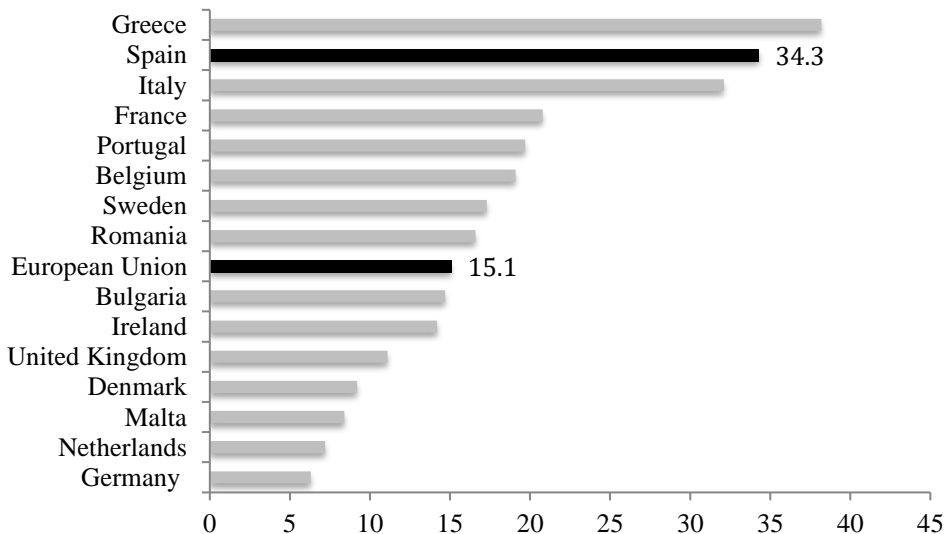
⁴ General labour and employment act.



Source: INE.

Nevertheless, a look at the impact of the economic crisis on the unemployment rate among young Spaniards (Figure 4) shows us their vulnerability to changes in the economic cycle. The post-2008 economic slowdown led to a sharp increase in global and youth unemployment rates, both peaking in 2013 (26.06% and 55.97% respectively). The unemployment rate among young Spaniards rose by more than 30 points in just six years, becoming one of the highest rates in the European Union (Figure 5).

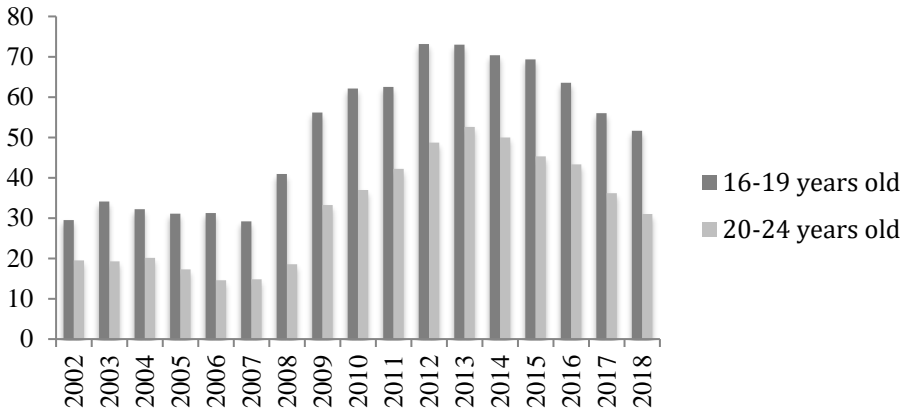
Figure 5. Youth unemployment rate in Europe (2018)



Source: Eurostat.

In 2013, the unemployment rate for young people aged 16-19 rose to 73 per cent, while for the 20-24 age group it reached 52.62 per cent. From 2014 onwards, there is a change in the cycle and the unemployment rate falls, but the values are still higher than in the years before the collapse of the Spanish economy.

Figure 6. Unemployment rates of young people aged 16-19 and 20-24 (2002-2018)



Source: INE.

To address high unemployment rates after the onset of the economic crisis, successive governments implemented new labour reforms in 2010, 2011 and 2012 (Martí López-Andreu and Joan Verd 2017). Thus, although there has been a recovery in employment, as Margarida Barroso (2017) points out, there has been a significant deterioration in working conditions.

In fact, the proportion of young adults with permanent contracts peaked at 46.03% in 2009. From 2009 onwards, the share of temporary contracts grew to its highest level in the last 15 years, reaching 74.16% in 2017. The difficulty for young adults to transition from a temporary contract to a permanent one aggravates this further, as temporary contracts usually lead to inactivity or unemployment (Luis Toharia, María A. Davia and Virginia Hernanz 2001; Inmaculada Cebrián 2008).

With the increase in youth unemployment and temporality rates, the average income of this group also deteriorates, which undoubtedly affects their chances of leaving the parental home (José I. Pérez 2013; Alessandro Gentile and Francesc Valls 2015). From 2009 to 2015, the average annual income of people under the age of 25 fell to 10,961€, the lowest level in the last 10 years. This represents a decrease of 3,000 euros in six years and a return to pre-crisis levels.

Table 2. Average income and percentage of permanent contracts and temporary contracts for workers under 25 in Spain (2002-2017)

	Average income for under 25s	Permanent contracts share	Temporary contracts share
2002	9,245 €	34.79	65.21
2003	9,677 €	36.08	63.92
2004	10,110 €	35.36	64.64
2005	10,290 €	35.16	64.84
2006	10,732 €	33.42	66.58
2007	11,495 €	37.53	62.47
2008	13,085 €	41.88	58.12
2009	14,192 €	46.03	53.97
2010	13,343 €	42.35	57.65
2011	12,583 €	39.60	60.40
2012	11,958 €	39.42	60.58
2013	11,534 €	37.11	62.89
2014	11,127 €	31.53	68.47
2015	10,961 €	31.05	68.95
2016	11,355 €	29.22	70.78
2017	12,538 €	25.84	74.16

Source: INE, Eurostat.

Lastly, young workers usually receive lower wages than their older counterparts, despite their higher levels of education. This can be explained by the high proportion of temporary contracts young adults have, a situation which erodes their bargaining power (Gentile and Valls 2015).

We can conclude that young people's trajectories have worsened as a result of the 2008 economic crisis and the policies implemented in its aftermath, which increased the share of temporary contracts and overqualifications, and lowered wages. These elements heighten the model of precarious employment initiated in the 1990s.

These characteristics of the Spanish labour market are instrumental in explaining youth emancipation, since precarious trajectories in the labour market are central factors which influence expectations for leaving the parental home (Melinda Mills, Hans P. Blossfeld and Erik Klijzing 2005; Andy Furlong and Fred Cartmel 2007).

Despite this fact, there is little academic literature about the impact of labour and housing market conditions on the decision to leave the parental household, especially after the last slowdown (Lee and Painter 2013). The following section will provide an empirical analysis of the impact of the economic crisis on the emancipation rate of young Spaniards due to the deteriorating conditions in the labour market and access to housing.

5. Methodology and data

This study has analysed the residential emancipation rate of young adults under 25 years, which is also the age up to which Eurostat defines the unemployment rate of young people. We have chosen to limit the analysis to this age because the transition from education to the labour market takes place during this period in most cases. Therefore, in principle, the conditions to emancipate from the family home and create another household should be in place at this age. As this process is delayed and the average age of residential emancipation increases, it is confirmed that either access to the labour market is not a sufficient condition to guarantee residential emancipation and that social support to enable this transition does not succeed in facilitating it either.

In fact, in the case of Spain, the average age of emancipation is 29.3 years, almost three years above the average age at which emancipation occurs in the European Union (26 years), although there are numerous countries in which emancipation does occur below the age of 25 (particularly those with more dynamic labour markets and more advanced welfare states, such as Finland). In this sense, and for the purpose of this paper, it is interesting to estimate the impact - for this age group in Spain - of the deterioration of economic conditions and conduct a cross-country comparison. Lastly, other studies that focused on broader age groups, such as Ahn and Sanchez (2017), were not able to extract useful information for this age bracket.

In order to analyse which variables influence youth emancipation in Spain, national data was collected for the period between 1995 and 2017, the main reason being the availability of data for all variables.

For the empirical analysis, and according to the Emancipation Observatory of the Spanish Youth Council (2020), residential emancipation is defined as the percentage of people residing outside their home of origin out of the total number of people of the same age.

Although this paper is focused on determining the impact of the unemployment rate and employment precariousness (measured by temporary contracts rates for young people under 25) on residential emancipation, we also incorporate a set of variables. The choice was made based on potentially relevant effects suggested by the existing literature. Thus, following Choi and Painter (2015), we incorporate the development of real house prices, number of under 25-year-olds, average income for this group - which can be considered another indicator of precariousness - and mortgage interest rates.

Real house price index is given by the ratio of the nominal house price index to the consumers' expenditure deflator in Spain and is adjusted seasonally. The source of the data is the Organisation for Economic Co-operation and Development (OECD). The number of people between 16 (the age at which compulsory education ends and one can theoretically enter the labour market) and 25 has been obtained from the population data published by the Spanish National Institute of Statistics. The average net income in

euros for the 16-25 age group has been extracted from the Eurostat database⁵. Finally, the mortgage interest rate series has been obtained from the Bank of Spain⁶.

We chose four endogenous variables: the change in the number of emancipated young people; the unemployment rate among under 25s; the temporary employment rate among under 25s; and the price of housing.

The change in the number of residential emancipated young people is defined as the annual variation in the number of young people between 16 and 25 years of age who, according to the Labour Force Survey published by the Spanish National Statistics Institute, appear as "reference person", "spouse" or "unrelated person" in the household. The unemployment rate between 16 and 25 years of age is the percentage coefficient between the number of unemployed persons and the number of persons of working age in that age range and is also obtained from the Labour Force Survey. The temporary employment rate is the percentage coefficient between the number of wage earners with a temporary contract and the total number of wage earners between 16 and 25 years of age.

We also chose three exogenous variables: changes in the population aged under 25; mortgage market interest rate and the average income of young people under 25. The main descriptive statistics for all the variables considered, both exogenous and endogenous, are detailed in Table 3.

Table 3. Descriptive statistics for the variables

	Mean	Median	Maximum	Minimum	Std. Dev.
Emancipated<25 years (thousands)	322.72	312.90	500.50	197.90	89.18
Real housing price index	109.36	103.77	166.05	69.22	30.28
Unemployment rate <25	34.82	37.28	56.92	16.90	12.24
Population 16-25 years (thousands)	4,810.26	4,715.40	5,873.60	3,995.40	614.36
Income under 25	10,087.09	10,729.74	14,289.53	5,693.13	2,522.89

⁵ Data for the years 2002 and 2003 were not available in that series and have been calculated by linear interpolation.

⁶ One of the anonymous reviewers has pointed out that tightening the access to credit for certain groups, particularly young people, after the financial recession would better explain the influence that monetary conditions have on access to housing than interest rates. We fully agree with this consideration, and we appreciate it. However, the data from the "Euro area bank lending survey", which includes these restrictions, are only available from 2003, so we could not use them for the whole series.

Mortgage interest rate	3.52	2.75	1.03	1.00	2.22
Temporary employment rate <25	67.04	66.72	78.16	53.51	5.90

Source: Authors' calculations

The choice was made on the assumption that while exogenous variables are likely to affect young people's residential emancipatory decisions, the formation of new households is less likely to have an impact on these variables.

Moreover, the order of endogenous variables within the VAR may affect the result, therefore a theoretic justification is needed in order to explain the way the variables were organised. The variables have been arranged to allow the impact that economic conditions can have on the demand for new housing to be reflected in the VAR, and from there, to analyse how the demand for new housing can influence house prices. Thus, the order of the variables chosen is as follows: unemployment, seasonality, changes in the number of residential emancipated young people and housing prices.

The main problem concerning time series data is their availability and the different frequency with which they are published. Table 3 shows the data sources and their publication frequency. Monthly and annual series have been converted to quarterly data using the European Commission's JDemetra+ program⁷ following the Chow-Lin method.

Table 4. Source and time periodicity of the series (1995-2017)

Data	Publication date	Source
Number of emancipated persons under the age of 25	Annual	INE
Real housing price	Quarterly	OECD
Unemployment rate among under 25s	Quarterly	INE
Population 16-25 years	Annual	INE
Median net income from 16 to 25 years	Annual	Eurostat

⁷ JDemetra+ software is the program recommended by the European Commission for seasonal and calendar adjustments. It can be downloaded from the following website: https://ec.europa.eu/eurostat/cros/content/software-jdemetra_en

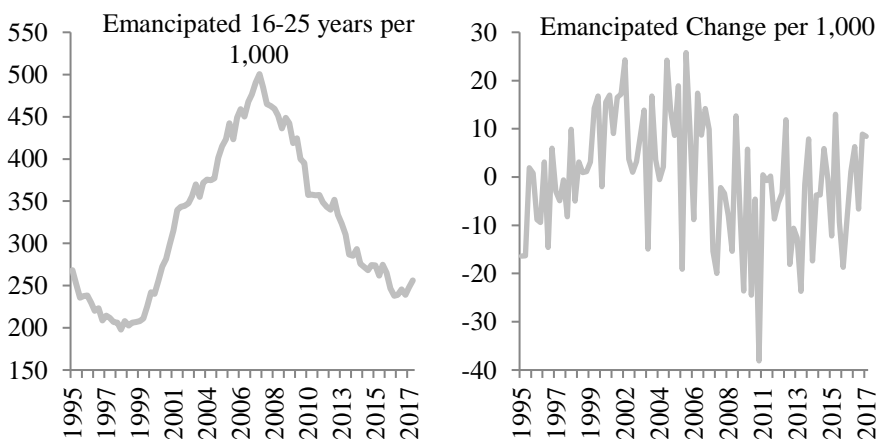
Mortgage interest rate	Monthly	Bank of Spain
Long-term interest rate	Monthly	INE
Temporary employment rate 16-25 years	Quarterly	INE

Source: Own elaboration.

Figure 7 shows the evolution of the number of residential emancipated young people in absolute terms (left panel) and the change in the number of residential emancipated young people over the period (right panel), which is the key variable of the analysis.

As shown, the evolution of youth residential emancipation runs parallel to the evolution of the economic cycle. We see there is an apparent relationship between unemployment and temporary contract rate developments for those under 25, as well as in the number of residential emancipated young people in absolute terms. Both the economic cycle, expressed through unemployment rate developments, and the structural conditions of the labour market, expressed through developments in the temporary employment rate or average income, seem to have a direct relationship with residential emancipation development.

Figure 7. Evolution of the number of emancipated young people in absolute terms

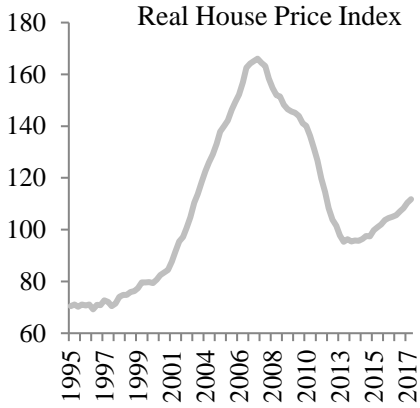


Source: INE.

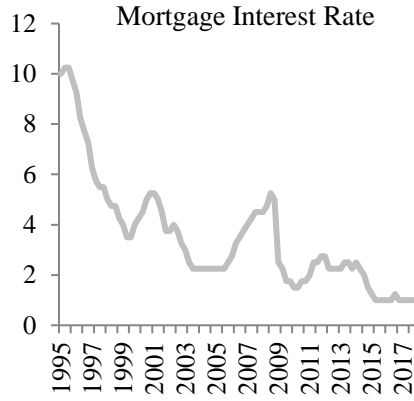
Source: INE.

Figure 8 shows the evolution of the remaining variables used in the model.

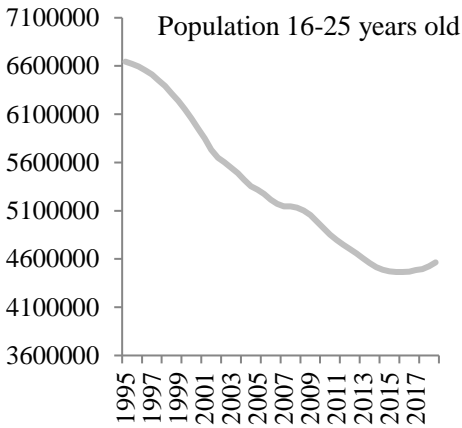
Figure 8. Changes in the variables analysed (1995-2017)



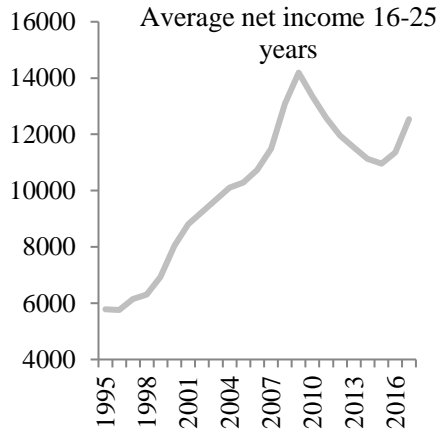
Source: OECD.



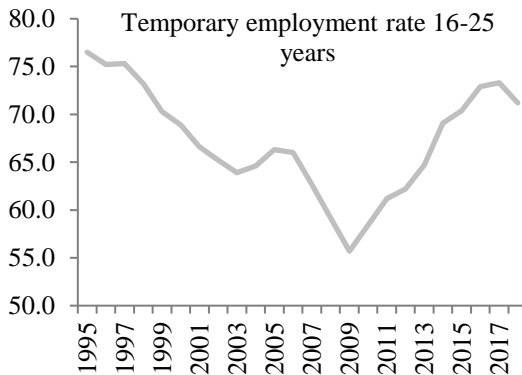
Source: Bank of Spain.



Source: INE.



Source: Eurostat.



Source: Eurostat.

In addition, the economic cycle is also reflected in the development of factors considered to determine the residential emancipation processes in Spain, such as the price of housing or the mortgage interest rate. However, falling house prices and improved financial access conditions have not resulted in an improvement in the conditions for emancipation. This can be explained if we bear in mind that falling house prices occurred as unemployment rose dramatically, and the temporary employment rate among young adults was growing.

Finally, an important demographic trend must be highlighted due to its impact on the phenomenon analysed: the steady decline of the population under 25 years. In little more than 20 years, it has fallen by almost two million people in absolute terms. This shows a crucial change in the population pyramid, with subsequent impacts on social structures and processes, including emancipation.

5.1 The vector autoregressive model

To analyse the relationship between youth residential emancipation and the rest of the endogenous variables, a vector autoregressive model has been estimated.

Vector autoregressive models have a well-defined structure that allows the identification of relationships in a time series of endogenously related variables. In a VAR model, each variable is expressed as a linear function of its past values, as well as all their variables (endogenous and exogenous), with a stochastic error term.

We use the following specification of the VAR model:

$$Y_{it} = \alpha + \Phi_i \sum_1^n Y_{it-1} + \beta_{it} X_{it} + \varepsilon_{it} \quad (1)$$

where Y is the vector that represents the four endogenous variables and X is the vector of exogenous variables and dummy variables that have been used to correct for normality in the initial model.

To estimate the VAR, we used a unit root test in order to analyse the stationarity of time series. For this purpose, we used the extended Dickey-Fuller test. As seen in Table 5, all variables are stationary at levels.

Table 5. Unit root test for individual series

	Unemployment <25	Temporality <25	Δ Emancipated <25	House price
ADF-GLS (levels)	-2.585***	-2.010	-3.273**	-2.371
ADF-GLS (1st dif.)	-1.631	-2.510	-9.614*	-2.863***

ADF-GLS is the increased Dickey-Fuller test statistic with GLS DETRENDING.

*, **, *** indicate significance at 1%, 5% and 10%, respectively.

Source: Authors' calculations.

As shown, the unemployment rate and the increase in the number of emancipated young adults are stationary at 10% and 5%, respectively. However, house price is stationary on first differences at 10% and the temporary employment rate is only stationary on second differences. Following Choi and Painter (2015), the unemployment rate has not been differentiated and has been incorporated in levels⁸. Combining stationary and non-stationary variables improves the accuracy of the VAR estimates as no information is lost, according to Christopher A. Sims, James H. Stock and Mark W. Watson (1990). However, a limitation of this approach is that a vector error-correction model cannot be estimated by combining stationary and non-stationary series in the analysis.

Finally, after sorting the endogenous variables according to the criterion stated above, we proceeded to choose the optimal number of lags for endogenous variables.

Table 6. Selection criteria for the order of the VAR

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1752.588	NA	1.39E+13	41.614	42.074	41.799
1	-1358.315	714.331	1.90E+09	32.713	33.632*	33.083
2	-1334.576	40.775	1.59E+09	32.531	33.911	33.086
3	-1308.980	41.555	1.28E+09	32.305	34.145	33.045
4	-1279.207	45.536	9.44E+08	31.981	34.280	32.906
5	-1256.009	33.296	8.19E+08	31.812	34.571	32.922
6	-1228.539	36.8416*	6.50e+08*	31.542*	34.761	32.836*

* indicates delay order selected by the criterion.

The abbreviations are as follows: LR: Likelihood Ratio; FPE: Final Prediction Error; AIC: Akaike Information Criterion; SC: Schwarz Information Criterion; HQ: Hannan-Quinn Information Criterion.

Source: Authors' calculations.

Table 6 shows the optimal lags for endogenous variables according to the different criteria. These range from six lags, as suggested by Akaike's and Hannan-Quin's selection criteria, to a single lag, as suggested by Schwartz's. Given the coincidence of six lags in two of the information criteria used, this option was chosen.

⁸ Since the variable was constructed as an interannual change, the change in the number of young adults under 25 is expressed in first differences.

6. Youth residential emancipation in Spain: main results

Table 7 shows the main results of the VAR constructed from the selected endogenous and exogenous variables.

As noted above, the model includes four endogenous variables (the unemployment and temporary employment rate for under 25s, the change in the number of emancipated young adults and the housing price index) and three exogenous variables (the change in the population of under 25s, the mortgage market interest rate and the average income of young people under 25).

Table 7. VAR for endogenous variables

	Unemployment <25s	Temporality	Emancipation	Price
Unem. -25s (-1)	0.787* (0.155)	-0.007 (0.147)	452.975 (1625.02)	0.129 (0.192)
Unem. -25s (-2)	-0.133 (0.183)	0.246 (0.174)	-1017.71 (1919.89)	-0.069 (0.227)
Unem. -25s (-3)	0.207 (0.185)	-0.192 (0.176)	-1400.271 (1939.16)	0.259 (0.230)
Unem. -25s (-4)	-0.063 (0.191)	0.350* (0.182)	1245.794 (2007.04)	-0.442*** (0.238)
Unem. -25s (5)	-0.228 (0.196)	-0.216 (0.186)	887.532 (2054.69)	0.684* (0.244)
Unem. -25s (-6)	0.213 (0.133)	-0.026 (0.126)	-951.879 (1394.31)	-0.580* (0.165)
Temporality (-1)	0.026 (0.149)	0.619* (0.142)	-1323.192 (1562.47)	0.089 (0.185)
Temporality (-2)	0.024 (0.151)	-0.030 (0.144)	3059.636** (1582.64)	0.233 (0.187)
Temporality (-3)	-0.027 (0.107)	-0.015 (0.102)	-765.653 (1124.79)	-0.107 (0.133)
Temporality (-4)	-0.460* (0.107)	0.919* (0.102)	1052.465 (1122.68)	0.088 (0.133)
Temporality (-5)	0.046	-0.589*	1807.709	0.228

	(0.155)	(0.148)	(1626.17)	(0.192)
Temporality (-6)	0.026	0.008	-2931.630**	-0.214
	(0.143)	(0.136)	(1495.21)	(0.177)
Emancipation (-1)	-1.56E-05	7.37E-07	-0.117	1.85E-05
	(1.20E-05)	(1.20E-05)	(0.129)	(1.50E-05)
Emancipation (-2)	-1.41E-05	-5.46E-06	-0.011	3.40E-06
	(1.30E-05)	(1.20E-05)	(0.136)	(1.60E-05)
Emancipation (-3)	-1.71E-05	5.00E-06	0.014	1.58E-05
	(1.20E-05)	(1.20E-05)	(0.130)	(1.50E-05)
Emancipation (-4)	-1.75E-05	8.02E-06	0.021	1.20E-05
	(1.20E-05)	(1.20E-05)	(0.130)	(1.50E-05)
Emancipation (-5)	-2.32E-05**	1.32E-05	0.002	3.20E-05**
	(1.30E-05)	(1.20E-05)	(0.131)	(1.60E-05)
Emancipation (-6)	-1.53E-05	3.40E-05*	-0.164	3.03E-05**
	(1.30E-05)	(1.20E-05)	(0.134)	(1.60E-05)
Price (-1)	-0.144	-0.077	399.894	1.402*
	(0.096)	(0.091)	(1010.26)	(0.120)
Price (-2)	0.020	0.259***	1129.455	-0.299
	(0.167)	(0.159)	(1754.25)	(0.208)
Price (-3)	-0.074	-0.031	-3355.594**	0.0267
	(0.165)	(0.157)	(1729.41)	(0.205)
Price (-4)	0.049	-0.218	2004.433	0.011
	-0.168	-0.160	-1759.58	-0.209
Price (-5)	-0.065	0.343**	-834.875	-0.242
	(0.169)	(0.161)	(1770.99)	(0.210)
Price (-6)	0.190***	-0.273*	491.977	0.084
	(0.109)	(0.104)	(1141.47)	(0.135)
C	41.973*	-0.969	-46119.98	-20.924
	(11.433)	(10.871)	(119529.)	(14.176)
Mortg_Rate	-0.113	0.012	198.838	-0.358***
	(0.175)	(0.166)	(1831.93)	(0.217)
Income	-4.25E-04*	3.13E-05	2.578	2.56E-04
	(2.2E-04)	(2.1E-04)	(2.313)	(2.7E-04)
Population 16-25	5.27E-05*	-1.70E-05	-0.102	-1.83E-05
	(1.40E-05)	(1.30E-05)	(0.148)	(1.80E-05)
R-squared	0.995	0.977	0.469	0.998
Adj. R-squared	0.993	0.965	0.217	0.998
Observations	85	85	85	85

*, **, *** indicate significance at 1%, 5% and 10%, respectively.

Source: Authors' calculations.

The inclusion of six lags for endogenous variables eliminates the autocorrelation for residuals in each of the equations and enhances the stability of the VAR, allowing all the roots to be within the unit circle and thus satisfying the stability condition to validate the impulse response function results.

In addition, residuals have been analysed to check the degree of stability of the model to rule out autocorrelation and heteroscedasticity. The model does not present problems of normality in any of the equations or in the joint test model.

The estimated VAR coefficients do not have a relevant economic meaning and therefore cannot be interpreted. Furthermore, the collinearity between the explanatory variables makes it difficult to interpret the t statistics. Notwithstanding, Table 7 shows resulting coefficient estimates for the different equations for each of the endogenous variables. For the purpose of this paper, the most relevant equation relates to the emancipation of young people under the age of 25.

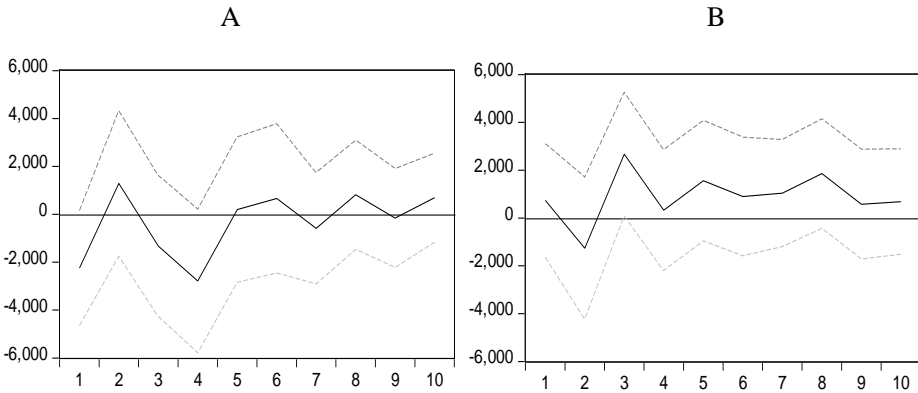
As shown by the results, relevant conclusions cannot be drawn from the variables that are statistically significant, nor from their sign. The relevant information must be extracted from both the impulse response functions and from the decomposition of the variance, therefore the meaning and significance of the estimated VAR coefficients is irrelevant and not a problem in the analysis.

6.1 Impulse response functions

From the impulse response function analysis derived from the VAR model, the speed of the impact a negative economic shock has on changes in the residential emancipation of young people in Spain can be determined. This is one of the fundamental applications of VAR models and the one most relevant to the purposes of this paper.

To this end, it has been estimated that an increase equivalent to a standard deviation of the unemployment rate and the temporary employment rate has an impact on the residential emancipation of young people (Figure 9).

Figure 9 a and b. Impulse functions emancipation responds to a shock in the unemployment rate (a) and in the temporality rate (b) by a standard deviation



Source: Authors' calculations.

As shown, the impact of a negative shock to the unemployment rate on changes in the residential emancipation of young people under 25 does not occur immediately, but its negative effects are felt from the second quarter onwards, and for at least three more quarters. From there, the effect fades and it returns to its initial level, after which it remains practically unchanged for the rest of the periods considered (10 quarters).

With regard to the temporality rate, the evidence is less clear: the number of emancipated young people first decreases, then increases, and then remains around the reference value. An explanation for this behaviour could be that as temporary recruitment increases, attempts to leave the parental home are stimulated by entry into the labour market; however, job insecurity eventually leads to the return of some of these young people to the family home. This result would be in line with the study by Barceló and Villanueva (2018), in which they concluded that a 1% increase in permanent contracts raised the possibilities of forming households by 1.2%, showing that there is an important relationship between job stability and the creation of new households.

6.2 Decomposition of variance

Variance decomposition allows us to provide some more empirical evidence in relation to the variables influencing youth emancipation.

Table 8 shows the variance decomposition of changes in the number of emancipated young people, which is the main variable explaining the aforementioned changes and their developments. Initially, there is a mild impact of housing price and temporality rate, and a somewhat stronger impact of the unemployment rate on residential emancipation.

Table 8. Decomposition of variance for changes in youth emancipation

Period	S.E.	Unemployment -25	Temporality	Emancipation -25	Price
1	11179.87	4.040	0.435	95.524	0
2	11410.46	5.155	1.637	92.999	0.207
3	11994.38	5.891	6.437	84.167	3.504
4	12531.24	10.339	5.966	77.458	6.235
5	12643.25	10.181	7.389	76.094	6.334
10	13311.82	10.286	10.134	72.145	7.433
20	13759.4	9.865	12.466	68.444	9.223
30	14986.36	8.532	19.250	59.531	12.685

Source: Authors' calculations.

If we take into account the long-term evolution of the variables and the impact they have on the emancipation of young people, we obtain the following important findings.

Firstly, the price of housing has almost no short-term effect on emancipation; however, in the medium and long term the impact of house prices increases to levels that far exceed, for example, the effect of unemployment rate. In our opinion, this highlights the relationship that exists between emancipation and home ownership in Spain, a defining characteristic of the Spanish model not present in other European countries. Thus, in Spain we find that over longer timeframes, the price of housing becomes a more important factor for young Spaniards who are deciding whether or not to leave the parental home.

Secondly, the rate of temporary employment is another variable which shows an accumulating effect over time, explaining up to almost 20% of emancipation decisions reached in the thirtieth quarter. This is also significant because it indicates that the persistence of temporality hinders emancipation possibilities by denying young adults the stability and certainty with which to embark on the process of residential emancipation from their parental home. In fact, from the second quarter onwards, the temporary employment rate better explains emancipation decisions than the rate of unemployment. This trend is maintained over time and becomes clearer over the medium and long term. The conclusion is clear: the high rate of temporary employment affecting young adults in Spain is an important obstacle to their residential emancipation.

Thirdly, the unemployment rate has a relatively low impact on residential emancipation decisions, which indicates that the type of employment and contract have a greater influence on emancipation. In other words, unemployment is such a major obstacle that people do not consider leaving the parental home even when they get a job.

7. Conclusions and policy discussion

The age at which a young person leaves the parental home has risen in most European countries over the last few decades. There are different reasons for this: some are structural and related to the differences between European welfare systems, while others are cyclical, highlighting the impact that economic shocks have on the level of unemployment and the characteristics of the employment to which these young people have access.

In the light of this outcome, it is important to understand the impact that a deterioration in economic conditions caused by the recent economic crisis and the consequent increases in unemployment and temporary employment rates may have had on the process of residential emancipation for young Spaniards. These phenomena have repercussions on social variables affecting the lifestyles and living conditions of the population, particularly of young adults.

To this end, we performed an analysis of the impact that certain economic variables can have on the emancipation dynamics of young Spaniards, and which produced the following results.

First, it is necessary to distinguish between the variables that have a greater short-term influence, among which the unemployment rate stands out, and those with a higher influence in the medium and long term, which are mainly the rate of temporary employment among young people and housing prices.

Second, while the rate of unemployment has a greater influence than the rate of temporary employment in the short term, over longer time frames this relative importance switches, with temporary employment rates becoming more influential. This is an indication that emancipation processes depend less on entering the labour market than on the conditions for staying: with high temporary employment rates and job rotation determining the decision to emancipate to a greater extent than access to the labour market.

Lastly, the evidence shows that negative impacts on emancipation resulting from increasing unemployment or temporary employment rates do not occur immediately, taking an average of two quarters to generate effects; after which a return to the previous situation occurs at an accelerated rate, with its effects practically disappearing within a year.

These conclusions allow us to draw some considerations for public policies to facilitate the residential emancipation of young Spaniards.

On the one hand, it is clear that the labour market situation for young people, both in terms of access and working conditions, plays an essential role in their residential emancipation. In this regard, greater integration between education and the labour market, through the development of the so-called dual vocational training, would enable residential emancipation at a younger age in two ways. Firstly, because intermediate studies are not as lengthy as university studies and, therefore, access to the labour market occurs earlier; and, secondly, because this type of studies, with a strong practical component developed in companies, facilitates the transition from the educational sphere to the labour market.

Moreover, to the extent that employment stability is even more relevant for the residential emancipation of young people than the barriers to entry into the labour

market, this indicates that the high temporary nature of employment in the Spanish labour market needs to be reduced and that it is a major anomaly at the European level.

Finally, the fact that the price of housing is a particularly relevant and determining factor in the medium and long term for the level of residential emancipation reinforces the need to develop public policies that encourage renting or, failing that, to promote social rental housing for young people. As long as residential emancipation occurs mainly through access to homeownership, it will be complicated to reduce the age at which young people leave the family home and the dependence of young people on family support for this process.

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