

# Home-ownership regimes and lowest-low fertility

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**Abstract.** We investigate to what extent there is an association between the level of fertility and the organization of home-ownership in western countries. We distinguish four home-ownership regimes, based on the share of owner-occupied housing and access to mortgages. We argue that one home-ownership regime is particularly associated with problematic housing-market entry and, therefore, unfriendly to family formation: the 'difficult' regime combining a high share of owner-occupation and low access to mortgages. We find that lowest-low fertility is mainly found in countries with this particular home-ownership regime.

## Introduction

During the 1990s, 'lowest-low' fertility levels of fewer than 1.3 children per woman (measured by the period Total Fertility Rate or TFR) emerged in Southern European countries. Not much later, these low fertility levels expanded to Central and Eastern European countries of the former Socialist block as well as to parts of South-Eastern Asia. Countries with these fertility levels also exhibit the highest 'child gap', that is, the average difference between desired and actual number of children (Esping-Andersen, 2002; Van Peer, 2002; Bernardi, 2005).

After an initial wait-and-see period, the expansion of low and lowest-low fertility has become a key concern for governments (Demeny, 2003; McDonald, 2006). A survey by the United Nations documents that all governments of countries with lowest-low fertility perceive these levels as 'too low' (United Nations, 2004). The European Commission published a Green Paper on demographic issues starting from a very skeptical view of current fertility levels (European Commission, 2005). Therefore, contributing to the explanation of lowest-low fertility levels is a key scientific task, including when this refers to the difference between very low (that is, below 1.5 children) and lowest-low levels.

In the literature, the emergence of lowest-low fertility has been associated with the particularly difficult circumstances faced by young adults in those societies (see, for example, Bernardi, 2005; Billari & Kohler, 2004; Dalla Zuanna, 2001; Kohler et al., 2002; Morgan & Taylor, 2006). In this view, economic uncertainty or unfavorable economic circumstances lead young adults to postpone family formation and/or to limit the number of children they have. Some authors have suggested that the difference between

low and very low fertility is particularly related to the institutional determinants of fertility (McNicoll, 1980; Rindfuss et al., 2003). For example, McDonald (1997) points to gender equity: the combination of a conflict or inconsistency between high gender equity in individual-oriented social institutions and sustained gender inequity in family-oriented social institutions. The role of institutional support to the family (for example, public childcare) was stressed by Pinnelli (1995) and Bosveld (1996).

It has also been suggested that difficult housing-market entry, and particularly difficult access to home-ownership, especially in societies with a low share of rented housing, might contribute to delayed family formation and to subsequent fertility choices (Castiglioni & Dalla Zuanna, 1994; Krishnan & Krotki, 1993; Mulder, forthcoming; Mulder & Wagner, 2001; Pinnelli, 1995). Even though it is plausible to think this is the case, to date there has been hardly any empirical research substantiating the links between characteristics of the housing market and fertility choices in developed societies. As Bernardi notes, “While no direct studies on the relationship between housing policies and fertility seem to be available, there is some evidence that the characteristics of the housing market and its related public policies affect the pattern of youth emancipation and reproductive decisions” (2005, p. 133). A small number of studies on homeownership and fertility from the 1970s and 1980s have been carried out for Britain (Ineichen, 1979, 1981; Murphy & Sullivan, 1985). The results of these studies suggest that some couples postpone marriage or parenthood because they are not able to become homeowners. These results are consistent with the finding for West Germany and the Netherlands that homeowners are more likely than renters to have a first child (Mulder & Wagner, 2001).

The idea that difficult access to home-ownership influences fertility can easily be extended to the macro level of countries: family formation might be hampered (and thus fertility levels lowered) in countries with difficult access to home-ownership. In this paper we take up this idea. We investigate to what extent there is an association between the level of fertility and the organization of home-ownership in Northern, Western and Southern Europe and the United States. More specifically, we focus on differences between lowest-low and higher fertility, and we emphasize the centrality of institutions related to the housing market in the explanation of such differences. Despite their centrality in the debate on fertility levels, Central and Eastern European countries are not included in the analysis. This is because the level of home-ownership in many of these countries is still very much influenced by the mass privatization of housing that took place around the transformation from socialist to market economies (see, for example, Kok, 1999; Palacin & Shelburne, 2005).

We follow a methodology that has been used in the categorization of countries in a set of distinct ‘welfare regimes’ (see for example Esping-Andersen, 1999). We distinguish four *home-ownership regimes* based on the share of owner-occupied housing and access to mortgages. We argue there is a connection between home-ownership regimes and low fertility at the macro-level, also taking into account the links at the individual and household level. Results based on country-level indicators of family formation and housing markets show that lowest-low fertility is mainly found in countries with a combination of 1) high levels of home-ownership and 2) difficult access to mortgages.

## **Home-ownership and fertility: the micro level**

Buying a home is frequently the most important financial transaction in the lives of individuals and households. It is not an irreversible housing choice, but it has long-lasting consequences. Similarly, becoming a parent, and subsequent decisions to have more

children, are irreversible commitments with long-lasting consequences, also involving financing the costs of children. As McDonald puts it, “delay of family formation is based not so much on experienced economic outcomes but, like any other investment, on the degree of confidence that potential parents have about their capacity to undertake family formation while not placing themselves at economic risk or at risk of falling short of their individual aspirations” (2006, p. 495). Micro-level evidence documents the relationship between home-ownership and fertility at the micro level of individuals and households in a variety of societies.

In many countries, the quality of owner-occupied housing is on average better than that of rental accommodation (Megbolugbe & Linneman, 1993). In fact, owner-occupied homes tend to be specifically suitable for families – more so than rented homes (Mulder & Wagner, 1998). This is because of their size, layout and location: Owner-occupied homes are generally larger, more frequently of the single-family type, and more frequently situated in attractive, safe and child-friendly neighborhoods. The benefits of home-ownership, therefore, are greater to families or prospective families than for singles and those couples who do not plan to have children. Furthermore, compared with singles and couples without children, families with children have a smaller probability of moving: they will more frequently have reached stability in their work and household situations. So, their probability of being confronted again with the transaction costs of another move soon after the initial move into home-ownership is also smaller. The downsides of making a long-term financial commitment to home-ownership are therefore less severe for families and couples, particularly those who consider their financial and family situation stable and secure enough (Clark, Deurloo & Dieleman, 1994; Mulder & Wagner, 2001).

However, it has also been argued that home-ownership might *decrease* the probability of having a child. According to Courgeau and Lelièvre (1992), the cost of home-ownership might compete with the cost of rearing children. This cost competition might lead home-owning couples to postpone childbirth or to have fewer children. For Britain, it has indeed been found that homeowners had fewer children and had their children later (Hakim, 2003; Murphy & Sullivan, 1985). At the same time, there is also evidence for Britain suggesting that couples postpone parenthood until they have become homeowners (Ineichen, 1979, 1981; Murphy & Sullivan, 1985). Both these findings seem to be in line with the idea that, in Britain, there is a ‘culture’ of home-ownership prescribing that families should own their homes (compare Forrest, Kennett & Leather, 1999). According to Kemeny (1981), the great importance attached to home-ownership is typical of the Anglo-Saxon tradition. The distribution of age at home-ownership is also consistent with that: a micro-level analysis of data from the Luxembourg Income Study (LIS) by Chiuri and Jappelli (2003) shows that the peak of this distribution is found just before retirement in countries such as Italy or Austria, while it takes place ten to fifteen years earlier in the U.S., the U.K., Canada and Australia. Chiuri and Jappelli connect such differences to differences in the availability of credit and in the presence of imperfections in the mortgage market.

It is therefore no surprise that some studies based on micro-level data have found that having a first child leads to a greater likelihood of becoming a homeowner (Deurloo, Clark & Dieleman, 1994, for the United States; Mulder & Wagner, 1998, for West Germany but not for the Netherlands). At the same time, it has been found that couples are more likely to make the transition to parenthood after having become a homeowner (Mulder & Wagner, 2001, for West Germany and the Netherlands).

There is even more evidence for a positive relationship between union formation, and particularly marriage, and the transition to home-ownership (Clark, Deurloo & Dieleman, 1994, and Deurloo, Clark & Dieleman, 1994, for the United States; Clark &

Dieleman, 1996, for the United States and the Netherlands; Kendig, 1984, for Australia; Montgomery, 1992, for France; Feijten & Mulder, 2002, for the Netherlands; Mulder & Wagner, 1998, for West Germany and the Netherlands). In some of these studies, the results suggest that the transition to home-ownership is particularly likely for stable couples – those that have existed for a while and are likely to consider having their first child (Kendig, 1984; Feijten & Mulder, 2002). Furthermore, in many of the studies it has been found that the transition to first-time home-ownership is likely to coincide exactly with union formation – the first home of the couple is frequently owner-occupied. In such cases, it is not possible to determine whether union formation has just led to home-ownership or whether the opportunity to become a homeowner has accelerated union formation. If the latter is true, we might argue that there is also an indirect impact of home-ownership on fertility, because union formation (and especially marriage) accelerates fertility (Baizán, Billari & Aassve, 2003, 2004). More convincing evidence for such an indirect impact would be derived from a positive effect of home-ownership on union formation among those already living away from the parental home. Such a positive effect was indeed found for the United States by Lloyd and South (1996) and Mulder, Clark and Wagner (2006). However, for the Netherlands Mulder, Clark and Wagner (2006) did not find a significant effect and for West Germany the effect was negative rather than positive.

### **Home-ownership and fertility on the country level**

From the above review, some clues emerge about which connection to expect between home-ownership and fertility on the level of countries. The key factor seems to be access to housing. This access seems to be guaranteed best in countries where there is either a sufficiently large affordable rental sector, so that young people are able to make a smooth entry on the housing market in that sector and possibly move on to become homeowners, or where home-ownership is more widespread but easily accessible (that is, where financial markets are less imperfect). In contrast, widespread home-ownership in combination with a strong norm towards home-ownership and/or a low affordability or accessibility of home-ownership might lead couples and prospective couples to be severely restricted in their opportunities to form marital or non-marital unions, have children and even to leave the parental home.

These restrictions, in their turn, might contribute to lowest-low fertility (see also Dalla Zuanna, 2001, for Italy). There are two possible ways in which this may happen. First of all, housing-market restrictions may lead to postponement of couple formation and first parenthood. Postponement will inevitably not only lead to a temporarily lower fertility, but also to a smaller completed family size (Kohler, Billari & Ortega, 2002; Morgan & Taylor, 2006). Some who postpone will experience fecundity problems and some will experience other circumstances hampering having further children, such as divorce or health problems. Secondly, difficult access to home-ownership may be a sign of, and accompanied by, difficult affordability of home-ownership in general. Affordability problems may in turn lead couples to refrain from having second or further children.

### **Home-ownership regimes and fertility**

In several studies, the differences between countries in the process of household and family formation by young adults have been linked to welfare regimes. Some of these

studies use Esping-Andersen's (1999) classification of welfare regimes into Social-Democratic, Continental European, Liberal Market and Southern European regimes (Aassve, Billari, Mazzuco & Ongaro, 2002; Aassve, Mazzuco & Mencarini, 2005; Mulder, Clark & Wagner, 2002, 2006). Vogel (2002) used a classification of European countries according to 'welfare mix', distinguishing between Nordic, Central and Southern clusters. In welfare research, housing is, as Kemeny (2001) puts it, 'strikingly absent'. This is remarkable, because it can be argued that housing is one of the pillars under the welfare state, besides social security, education and health care (Kemeny, 2001; Torgersen, 1987).

Next to the literature on welfare regimes, there is also quite an extended literature on housing systems. Just like comparative welfare research has led to typologies of welfare regimes and welfare systems, comparative housing research has led to a number of typologies of housing systems (for an overview, see Kemeny & Lowe, 1998). Most of these typologies have been developed separately from the welfare regimes typologies. Moreover, they have not been designed to serve as an explanation for the behavior of households in quite a different domain than housing. In fact the research in which these typologies have been developed has been criticized for restricting attention to detecting and describing typologies (Kemeny, 2001).

For the purpose in this paper, we need a categorization of countries according to how well their housing markets, and particularly the organization of home-ownership, allow a smooth first entry of young people, either on their own or as couples, and a smooth first part of their housing careers. As argued above, the categorization should be based on the existence of a sufficiently large rental sector and on the accessibility of owner-occupied housing. We propose to distinguish four *home-ownership regimes*, based on the share of owner-occupied housing and the access to owner-occupied housing, indicated by the access to mortgages. If mortgages are widely accessible, they are apparently a common way of home-ownership finance. If they are not, home-ownership is most likely financed by savings, family help or inheritance. Evidence that inter-vivos intergenerational transfers speed up the transition to home ownership in societies with mortgage market imperfections is provided for Italy by Guiso and Jappelli (2002).

Our classification is based on a set of statistical housing-market indicators. We show such indicators in Table 1 for 18 countries. For the same countries, indicators for family formation and economic circumstances are presented in Table 2.

A problem with housing-market indicators is that they are not routinely available in the international publications of Eurostat or the United Nations. It is therefore difficult to obtain comparable indicators for a great number of countries. For the price of housing, we have not been able to trace satisfactory indicators that were available for a great variety of European countries and the United States. For access to mortgages, we found various sources containing different indicators. Those available for the greatest number of countries were the residential debt to GDP ratio and the per capita mortgage debt in euros for 2004 (both from European Mortgage Federation, 2005). These indicators were available for different sets of countries, so there is always some basis for comparison. It should be noted that low debt per capita is sometimes accompanied by high loan-to-value ratios. This can happen in countries where few people have mortgage loans (for example because many inherit their homes), but if they do, their loans take up a high percentage of the house value. In such situations, we think the average debt is a better indicator than the loan-to-value ratio.

Table 1. Housing indicators for 18 countries (notes: see Appendix 1)

	% home- owners a	Residential Mortgage loans as % GDP b	Residential Mortgage loans per capita, € 000 b
Austria	53.7	20.3	5.9
Belgium	72.9	31.2	8.5
Denmark	65,0	89.7	32.3
France	62.7	26.2	7.2
Germany	43.4	52.4	14,0
Greece	83.6	20.6	3.1
Iceland	78,0	54.2	18.4
Ireland	80,0	52.7	19.1
Italy	75.5	14.5	3.4
Luxembourg	70.8	34.3	19.5
Netherlands	54.4	111.1	31.9
Norway	77,0	56,0	24.7
Portugal	65,0	52.5	6.8
Spain	85.3	45.9	9.1
Sweden	59.9	52.7	16.4
Switzerland	34.6	86.4	33.8
United Kingdom	70.6	72.5	20.8
United States	67.5	64.5 c	25.8 c

Table 2. Family formation and economic indicators for 18 countries (notes: see Appendix 1)

Family formation				Economy			
	Mean age at marriage, women	Mean age of mother at first childbirth	TFR	% Females aged 18- 34 living in the parental home l	GDP per capita	% unemployment under age 25	
Austria	27.2	26.4	1.36		128 d	9.4	o
Belgium	26.3	27.6 h	1.66		116 d	19.8	o
Denmark	29.5	27.7	1.77	12.5	122 d	8.4	o
France	28.0	27.9	1.88 j	22.4	113 d	22,0	o
Germany	27.0	28.2	1.38 k	20.4	110 d	15.1	o
Greece	26.6	27.3 g	1.29 k	29.5	77 d	26.9	o
Iceland	30,3 d	29,3 d	1.93		117 d	8.3	p
Ireland	28,2 e	30,6 d	1.98		134 d	8.3	o
Italy	27.4	29,6 i	1.24 k	55.3	110 m	23.6	o
Luxembourg	27.1	28.4	1.76		211 d	18.1	o
Netherlands	27.8	28.6	1.72	15.9	127 d	8,0	o
Norway	27.3 f	26.9	1.85		148 d	11.4	o
Portugal	25.3	26.5	1.55	47.1	79 d	15.4	o
Spain	27.8	29.1	1.24 j	46.2	96 d	22.1	o
Sweden	30.1	27.9	1.54		114 d	16.3	o
Switzerland	27.9	28.7	1,50		445 n	12.1	q
United Kingdom	27.2	29.1	1.64	12.6	118 d	12.6	
United States	24.8 g	24.9	2.06		155	11.6	r

## The four home-ownership regimes

We develop the idea of home-ownership regimes for the purpose of helping interpret cross-national differences in fertility. We have therefore determined the boundaries between what we denote as 'higher' and 'lower' levels of home-ownership and between 'mortgage finance' and 'savings finance' with an open eye to family formation indicators. We denote levels of home-ownership under 75% as lower levels. A rental sector of 25% ensures that, of the time people spend on the housing market, that is, most of their adult lives, they can spend on average somewhat less than a quarter in rental accommodation. Somewhat less, because time spent in the rental sector will be disproportionately frequently spent in periods of singlehood. We regard a per capita mortgage debt of under € 10,000 as an indicator of difficult access to mortgages.

### *Lower level, mortgage finance: career home-ownership regime*

In this regime, home-ownership is by no means universal. Mortgages are widespread and a major source of home-ownership finance. For many people, home-ownership is not the first housing tenure after leaving the parental home. Rather, the owner-occupied home is a step in the housing career for those with sufficient and stable incomes. Most likely, owning is not considered normative and renting is considered an acceptable alternative, not only for singles and childless couples, but also for families. If, however, there is a strong norm towards home-ownership for families, some couples might postpone parenthood until they have become homeowners or even experience difficulties combining home-ownership with parenthood.

Countries with this home-ownership regime are Denmark, Luxembourg, Germany, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States. These countries range from very low (but not lowest-low; Germany) to relatively high fertility (United States).

### *Lower level, savings finance: elite home-ownership regime*

Like in the career regime, home-ownership is not universal. The difference is that mortgages are not widely available, so housing finance has to come from savings, family help or inheritance. Home-ownership is therefore likely restricted to the better off. Renting is an acceptable alternative to owning. Countries with this home-ownership regime are Austria, Belgium, France and Portugal. Austria is among the countries with the lowest levels of home-ownership (it is the third lowest on the list of countries, after Switzerland and Germany). It has very low fertility, but not lowest low. France has rather high fertility, Portugal somewhat lower. Belgium is on the margin, with a rather high level of home-ownership and low mortgage debt per capita but a high loan-to-value ratio; fertility is rather high (1.66).

### *Higher level, mortgage finance: easy home-ownership regime*

In this regime, a high level of home-ownership goes together with a wide availability of mortgages. Apparently, this combination does not hamper family formation. Ireland, Iceland and Norway are in this regime. These three countries have TFRs that are the highest in Europe.

### *Higher level, savings finance: difficult home-ownership regime*

This home-ownership regime combines a high share of owner-occupation with low access to mortgages. Access to home-ownership is difficult because it depends on personal savings, family help or inheritance. At the same time, the rental sector hardly

forms a suitable alternative for prospective families. Home-ownership is not only the norm, but also almost the only way of obtaining housing for families. This regime is particularly associated with difficult housing-market entry and is, therefore, unfriendly to leaving the parental home and family formation (compare Bernardi, 2005; Dalla Zuanna, 2001). Intergenerational transfers are essential, although not a solution for the imperfection of the mortgage market (Guiso and Jappelli, 2002). Countries with this regime are Italy, Spain and Greece. These countries have lowest-low fertility. They are also among the countries with the highest percentages of young people living in the parental home (see Table 2).

### **A note about Central and Eastern Europe**

As said in the Introduction, despite the prevalence of lowest-low fertility levels in the region, Central and Eastern European countries are not included in our current framework. In these countries, the development of housing markets is still in full swing. In many, homes were confiscated by the state during the socialist period and were restituted to the original owners or sold to the sitting tenants at fictitious prices after the transformation (Kok, 1999; Palacin & Shelburne, 2005). In such countries, the share of home-ownership rose spectacularly in just a few years' time in the 1990s, sometimes up to very high or even extremely high levels around 2000 (84% in Bulgaria, 93% in Estonia; see Henley & Morley, 2000, 83% in Croatia; see Bezovan, 2004, 94% in Lithuania; see Bejakovič & McAuley, 1999). In other Eastern European countries, the level of home-ownership is much more modest (40% in Poland; see Eurostat, 2000, 53% in Slovakia, 67% in Slovenia, 71% in Hungary; see Henley & Morley, 2000, 70% in Latvia; see Tsenkova & Turner, 2004). As far as data are available, these countries all appear to have extremely low per capita mortgage debt: just over € 1000 in Estonia to as low as € 194 in Slovenia. Mortgage markets are underdeveloped in these countries (Palacin & Shelburne, 2005).

Fertility in Central and Eastern European countries ranges from low to lowest-low, but no connection can be discerned with home-ownership levels. Still, difficult entry on the housing market might be a factor hampering household and family formation in these countries. A collapse of residential construction after the transformation and the lack of a well developed rental market (Palacin & Shelburne, 2005) have likely contributed to difficulties for young couples in securing housing suitable for forming families.

### **Discussion: welfare regimes, family systems, home-ownership regimes**

In this paper, we have identified four home-ownership regimes depending on a) the level of home-ownership and b) the access to mortgages. One regime is arguably particularly unfriendly to household formation (including leaving the parental home) and family formation: the difficult home-ownership regime. This regime is characterized by a high level of home-ownership and a limited availability of mortgages, leading to housing finance mainly through savings, inheritance or family help. The countries in this regime are indeed characterized by lowest-low fertility and also by late home-leaving. They also have a moderately high (Greece) to high (Spain, Italy) mean age at first motherhood.

This does not necessarily mean, however, that differences between countries in home-ownership regimes *cause* differences in family formation and fertility. The association might be spurious—in general such causality is difficult to approach when



one wants to explain the relationship between macro-level phenomena, for example policies, and fertility (Castles, 2003). It seems plausible that housing and mortgage markets are important in shaping the transition to parenthood—therefore these markets might affect fertility levels and population dynamics through fertility tempo (Kohler et al., 2002; Lutz & Skirbekk, 2005). Nevertheless, difficult home-ownership, late home-leaving and lowest-low fertility in Southern European countries may all be viewed as parts of one complex system: the Southern European welfare regime (Esping-Andersen, 1999), also denoted the ‘strong family system’ (Reher, 1998) characterized by ‘familism’ (Dalla Zuanna, 2001) and low state support for childcare (Pinnelli, 1995). It has been argued earlier that, in this system, the development of institutions has not kept up with the development of women’s labor-force participation and a growing need for childcare. We may add that in this system, the development of housing markets is also lagging behind changing needs. The idea that families should own their homes might be particularly widespread, as might be a practice in which homes are not put on the market frequently but rather are kept within the family. Because of these ideas and practices, there might be a low and only slowly developing demand for rental housing and for mortgage finance. Still, this home-ownership regime leads to inflexibility and this might discourage changes in the behavior of young people with regard to leaving home, couple formation and fertility.

An implication of our framework is that there are two ways in which policy could facilitate an escape from the problems inherent to the difficult home-ownership regime. First of all, policy could be directed towards the development of affordable rental housing, for example by facilitating non-profit housing associations. Secondly, policy could be directed towards encouraging an easier and more widespread mortgage provision, for example through mortgage guarantees. Both of these policies also seem advisable for Central and Eastern European countries. In these countries, the current state of housing markets does not seem to be very favorable to family formation. The level of home-ownership differs, but it is extremely high in some countries while access to mortgages is invariably very low. This unfavorable situation might hamper the recovery of fertility to the levels that young couples seem to prefer.

To date, the attention to housing in fertility research has been limited. One of the purposes of this paper was to advocate an increase in this attention. Our proposal to distinguish home-ownership regimes and investigate their connections with fertility is just one step in this direction. With this proposal, we hope to have contributed to the inclusion of the organization of housing in the research into the institutional determinants of fertility.

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## **Appendix 1. Sources for Tables 1 and 2.**

2000. Source: Eurostat. Except:
- a. Includes co-operative ownership
  - b. 2000-2004 EMF Hypostat 2004 (2005)
  - c. 2004 European mortgage federation
  - d. 2002
  - e. 1996
  - f. 2005, Statistics Norway
  - g. 1995, Median age
  - h. 1997
  - i. 1994, Tomassini & Wolf (2000)
  - j. Provisional figure
  - k. Estimated figure
  - l. 1994, Aassve et al. (2002)
  - m. 2000
  - n. 2004, Bundesamt für Statistik (2005)
  - o. 2004
  - p. 2003, NOSOSCO (2005); age 15-24
  - q. 2005, SECO (2005)
  - r. 2005; age 15-24