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Working Paper

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Thünen-Series of Applied Economic Theory, No. 146

Provided in Cooperation with:
University of Rostock, Institute of Economics

This Version is available at:
http://hdl.handle.net/10419/170488

Thünen-Series of Applied Economic Theory

Thünen-Reihe Angewandter Volkswirtschaftstheorie

Pensions and Housing Wealth - Quantitative Data on Market Conditions for Equity Release Schemes in the EU

by

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Pensions and Housing Wealth:
Market Conditions for Equity Release Schemes in the EU

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10 October, 2017

Abstract

Equity release schemes (ERS) may provide pension insurance by liquidating owner-occupied residential property. This paper examines the available data on market conditions for such products in all EU member states to cluster countries. Need for ERS is measured by demographic pressure, risk of poverty for the elderly and pension adequacy. Feasibility of ERS is measured by property and mortgage market indicators. Comparing overall need and feasibility index values we find that market conditions are very heterogonous in EU member states. For instance, while the Netherlands and the UK exhibit favourable ERS conditions, the opposite applies for Germany and Ireland. Hungary and Italy lie in between.

Keywords: Ageing, equity release, pensions, homeownership, housing, reverse mortgage

JEL classifications: D1, G1, J1, R2, R3

Acknowledgements

Co-funded by

the European Union

1. Introduction

Population ageing and the low interest rate environment have put Europe's pension systems under pressure. Although current pensioners' living standards in the EU have largely been maintained over the crisis, old-age poverty risk persists in some countries (European Commission 2015). The problems of the traditional pay-as-you-go systems have increased the need for private savings for old-age. However, the returns from savings for retirement are subdued due to low interest rates on capital markets, which may also result from rising capital intensity in ageing economies. This conflict may be mitigated by investing abroad, endogenous human capital formation, and increasing the retirement age (Vogel et al. 2017). Another way to close the pension gap is to release the wealth accumulated in homeownership by so-called Equity Release Schemes (ERS).

ERS transform illiquid assets in the form of owner-occupied residential property (housing equity) into liquid assets for private pensions. A homeowner may thus access the wealth accumulated in the form of his or her home, while being able to continue to live in it. ERS provide liquidity for the future either in the form of a lump sum or regular payments, entitle the homeowner to remain in occupation of the property and rely solely on the sale of the property to retrieve the funds released. This may be achieved through a loan model or a sales model. In loan model ERS, also called lifetime mortgages, homeowners borrow money against the value of their property, which is recovered through the sale proceeds of the house after their death. In sale model ERS, also referred to as home reversion schemes, homeowners immediately sell their house to the ERS provider, while retaining their rights to live in the house (Reifner et al. 2009a). Alternative forms of liquidating housing equity – selling one's home and renting, or moving to a smaller dwelling (downsizing) - are likely to involve high financial and psychological costs. ERS seek to avoid these and prevent or at least mitigate a drop in consumption when retired. They can thus provide pension insurance by increasing income security in old age and smoothing the standard of living throughout the lifetime, and at the same time alleviate the burden of an ageing population on public budgets (Fornero et al. 2016).

While reverse mortgage loans have gained importance in the US at least up to the 2008 financial crisis (Shan 2011), a study carried out in 2007 showed that ERS played only a small role in Europe, however with large differences across countries regarding volumes and product types (Reifner et al. 2009a, 2009b). A more recent analysis of ERS market conditions in the EU is missing.

The present paper aims to close this gap by examining the available data on market conditions for ERS in all EU member states with a focus on a group of six countries (Germany, Hungary, Ireland, Italy, Netherlands, UK). The aim is to cluster Member States according to market conditions, identifying the need for complementary private pensions provided by ERS, the feasibility of ERS given the current market situation, and whether or not both match. The analysis is limited to those indicators of ERS need and feasibility for which quantitative data across countries are available. The term 'need' is used to describe a potential demand due to demographic pressure, risk of poverty for the elderly and pension adequacy. The actual demand depends among others on cultural factors and personal attitudes, which are not within the scope of the present paper. Feasibility of ERS is measured by property and mortgage market indicators which are favourable for the accumulation and liquidation of owner-occupied housing equity. Countries with a high overlap of need and feasibility have favourable conditions for ERS.

The rest of the paper is organized as follows. Section 2 provides a brief overview of the literature, Section 3 examines the need for ERS across countries, Section 4 its feasibility, and Section 5 whether both match. Section 6 concludes.

2. Literature Overview

Consumers who are likely to benefit most from ERS are retired homeowners with low income but relatively high housing equity, the so-called house rich and cash poor elderly homeowners that also have no bequest motive. Studies on the market potential of ERS in individual countries usually identify the number of elderly households with low income and debt-free homeownership. Further factors that have been taken into account are indicators of property markets (e.g. homeownership wealth, development of house prices, number of home transactions), demographics (e.g. age, dependency ratio, life expectancy, family status, number of children, gender), pension provision (e.g. replacement rate, private pensions) and cultural or personal attitudes (e.g. appreciation of the individual home situation, willingness to move, duration of housing, bequest motive).[1]

Based on statistics of property markets, mortgage markets, demographics and pension provision as well as on survey results about ERS use, products, attitudes towards ERS and market barriers, Reifner et al. (2009b) grouped all EU Member States into four categories: significant ERS markets (UK, Ireland, Spain), less developed loan model markets (Austria, Finland, France, Hungary, Italy, Sweden), less developed sale model markets (Bulgaria, Germany, Romania) and no ERS markets (Belgium, Cyprus, Czech Republic, Denmark, Estonia, Greece, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Slovakia and Slovenia).

Moscarola et al. (2015) estimated the potential gain that could be obtained from ERS by reducing old-age poverty in the EU. Using data from the Survey of Health, Ageing and Retirement in Europe (SHARE) they show how conversion of home wealth into an income stream could take older households (65+) out of the lowest tail of income distribution. The reduction of economic vulnerability would be remarkable in Spain, Belgium, Italy and France, medium in Denmark and Germany, but low in the Netherlands, Austria and Sweden.

Megyeri (2017) examined the conditions of ERS to reduce old-age poverty in the EU using EU-SILC 2014 data. She clustered countries according to poverty risk and homeownership rate of the age group 65+, using an aggregated poverty index which includes both monetary and non-monetary poverty indicators. She identified five groups: Cluster 1 (the Netherlands, Austria, Germany, Cyprus) with both homeownership rates and old-age poverty below EU average has unfavourable conditions. Cluster 2, which comprises mostly Western and Northern European countries (Denmark, France, Sweden, the Czech Republic, Finland, Belgium, the UK, Malta) has better, but still unfavourable conditions. The mostly Southern and Eastern European countries in cluster 3 (Hungary, Ireland, Italy, Slovenia, Poland, Greece, Portugal, Estonia) have (medium) favourable conditions with homeownership rates and old-age poverty slightly above average. Cluster 4 (Luxemburg, Spain, Slovakia) has above average homeownership rates, but below average old-age poverty, and thus comparatively high ERS feasibility, but low need for ERS to reduce old-age poverty. Countries in cluster 5 (Lithuania, Croatia, Bulgaria, Romania, Latvia) with both above average old-age poverty and homeownership rates among the elderly can be considered as target markets for ERS products.

While these studies focus on the market conditions for ERS in Europe, the fiscal incentives and other public policy options for private pensions and homeownership have been examined by Eckardt et al. (2017). They find a very diverse situation in the six EU

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[1] For Germany see Wiegard et al. (2015), Maier and Johansen (1012), Maier (2011), Reifner et al. (2009a, 2009b), Wesierski (2009), Conrad (2007), Tiffe (2007); for Italy see Fornero et al. (2016), for the UK see Oxford Economics (2013), The Actuarial Profession (2005); for the US see Caplin (2001), Rasmussen et al. (1995), Venti and Wise (1991).

member states (Germany, Hungary, Ireland, Italy, Netherlands, UK) which will also be considered below.

3. Need for ERS

3.1. Demographic pressure

The demographic features of the European population inform us on the possible size of the subpopulation that could represent the target of the ERS market. Three indicators are of particular interest here to understand the need for ERS market from a pure demographic perspective: two of them concern the age structure of the actual and future European population; the last one concerns life expectancy of the same reference population.

To be more specific, the first indicator is represented by the percentage of people aged 65 or older. In the EU28 context, on average 18.5% of the current population, amounting to about 506.86 million individuals, is represented by individuals aged 65 or older. The value taken by this indicator is in most of the countries in line with the EU28 average. When we focus on the group of the six countries, however, we observe that they are quite heterogeneous with respect to this indicator. Two of them, namely, Italy and Germany have the highest percentage of elderly, as compared to the total population. This is about 21.4 in Italy and 20.8 in Germany. By contrast, one of the countries, Ireland, has the lowest percentage of elderly, that is about 12.6. The other three countries - Netherlands, UK, and Hungary – have a percentage of individuals aged 65 or older that is quite close to the EU28 average: 17.5 in Hungary, 17.5 in UK, and 17.3 in Netherlands. It is interesting to notice that Italy and Germany, in which ERS markets are less developed, are the countries providing the highest share of potential beneficiaries from ERS (in relative terms). Whereas, Ireland is a country providing the smallest share of elderly and, at the same time, a significantly developed ERS market. Given the demographic trend that Europe is experiencing and the increase in life expectancy, our third indicator of interest, reported in Figure 3 below, it is reasonable to expect that the percentage of older people will increase as well. Using the latest population projections by Eurostat performed in 2013, and ignoring the effects of the clear phenomenon of people entering institutionalised homes at a later and later age, which would have a direct impact on the number of elderly people occupying their principal residence, a similar simple calculation would mean that for the EU, in 2040, of the total population of 525,5 million of which about 28% will be made by elderly. This age structure transformation will clearly imply an additional pressure of the old age over the working age population, as it is explained below.

Figure 1: Population aged 65 or older by country in 2014 (% of total population)
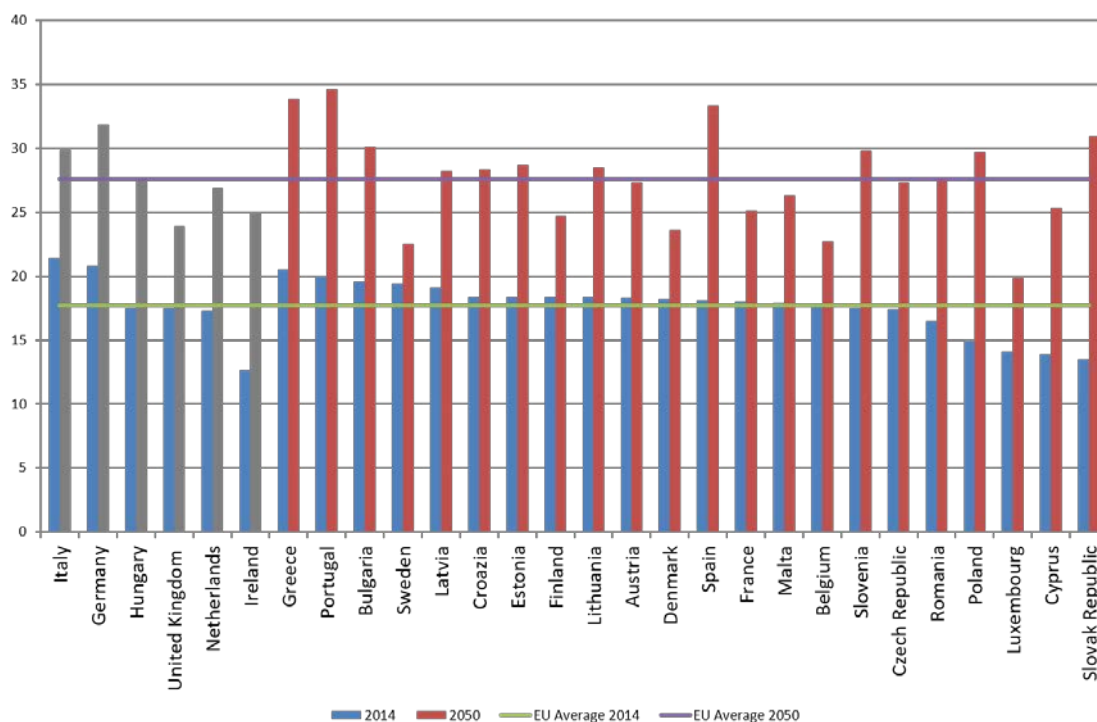
Source: Eurostat (2014 population and population change statistics), own figure and calculations.

Figure 2: Age dependency ratios in 2014 and 2050 by country
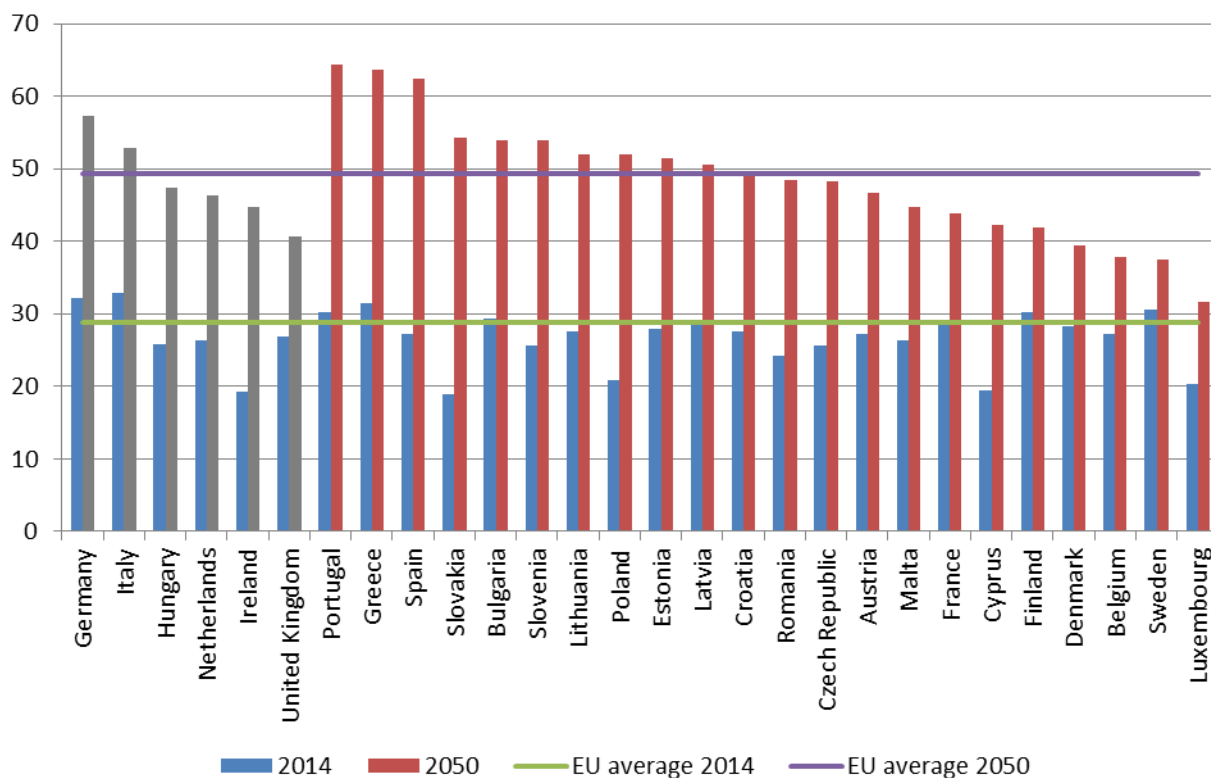
Note: Persons over 65 in percent of working age population (15-64).
Source: Eurostat (2013 population projection, main scenario), own figure and calculations.

The demographic change will greatly challenge public pension systems in EU countries, in particular pay-as-you-go ones. Currently the pensions of about 29 % of EU citizens over 65 need to be financed by the working age population (age dependency ratio). According to Eurostat projections (main scenario, 2013 projection) in 2050, that ratio will increase to almost 50 percent (Figure 2), a number that is unsustainable under the current replacement rates and pensionable ages. The six countries are no exception to that. In particular Germany and Italy are projected to be hit hard by the demographic changes with age dependency ratios of well above 50 % in 2050. In Ireland, the age dependency will more than double, however starting from a currently low level. As a consequence, replacement rates will likely decline while people are probably required to work longer and pay higher contributions to the pension systems in all EU countries. While longer working lives seem to be less of a problem as life expectancy is forecasted to increase significantly by an average of nearly four years (Figure 3), lower replacement rates call for additional political and private measures to insure pension adequacy. ERS could be one element of that, in particular in countries where homeownership rates (see section 4.1) are high not only among high-income households but also among lower income households which are more vulnerable to old-age poverty.

Figure 3: Life expectancy at age 65 by country
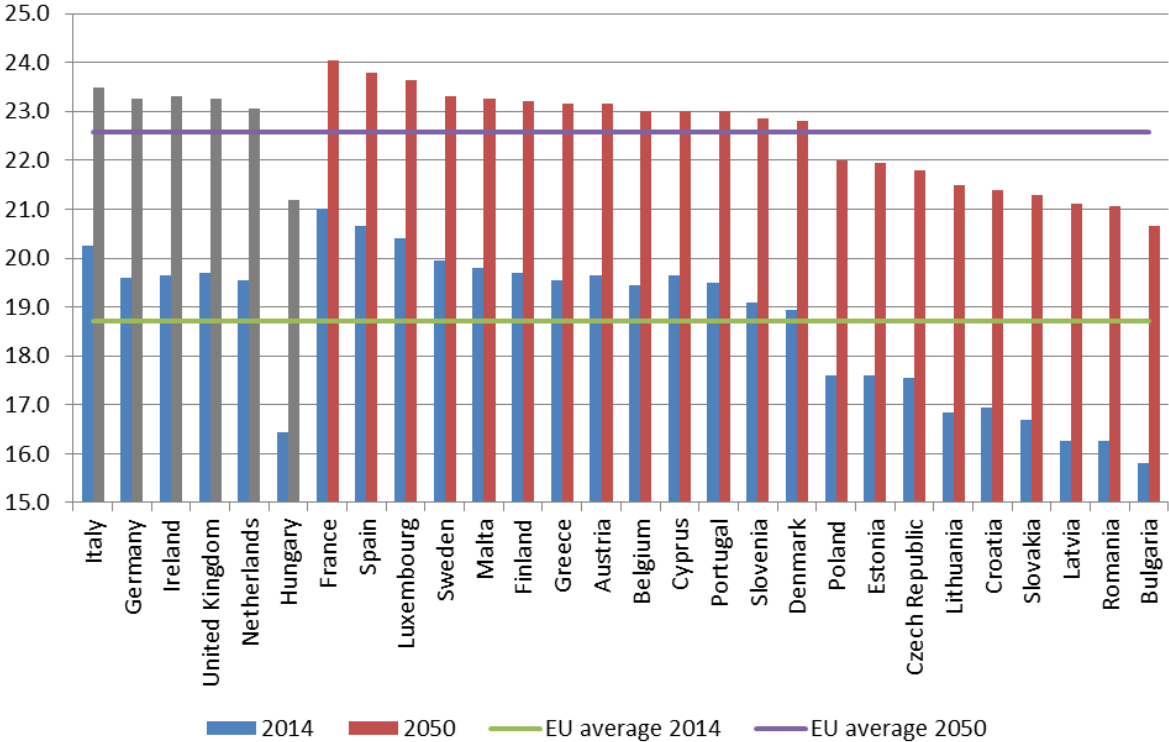
Note: Life expectancy in remaining years (male and female average) at age 65.
Source: Eurostat (2013 population projection, main scenario), own figure and calculations.

3.2. At-risk-of-poverty for the elderly

A short investigation on the distributional features of the European population helps to put further light on the quantification of the needs for an ERS market, as these financial tools could help to avoid that individuals fall into poverty during retirement because of the low level of pensions. In particular, we consider here the at-risk-of-poverty-rate for the population of individuals aged 65 or older. Overall, the rate is not stable across countries (see Figure 4). For instance, Bulgaria has the highest rate (47.7), which is more than double the EU28 average (about 20); whereas, Netherlands shows the lowest

rate (6.9), which is lower than one third of the EU28 average. Therefore, in most of the countries the percentage of old people falling below the poverty threshold is considerable, bearing witness to the inability of many pension systems to fully grant a decent standard of living during retirement. It is reasonable to argue that this situation could get worse in the next future because of the sustainability problems that many countries will be facing with respect to their pension system. A positive note arises from the quantification of this index in the six countries, which seem to perform better than most of other countries. The at-risk-of-poverty rate for the elderly is lower than the EU28 average in all six cases. However, only Ireland and Netherland show significantly lower values for this indicator. The remaining four countries are not far away from the EU28 average.

Figure 4: At-risk-of-poverty rate for the elderly by country in 2014 (% of the reference distribution)
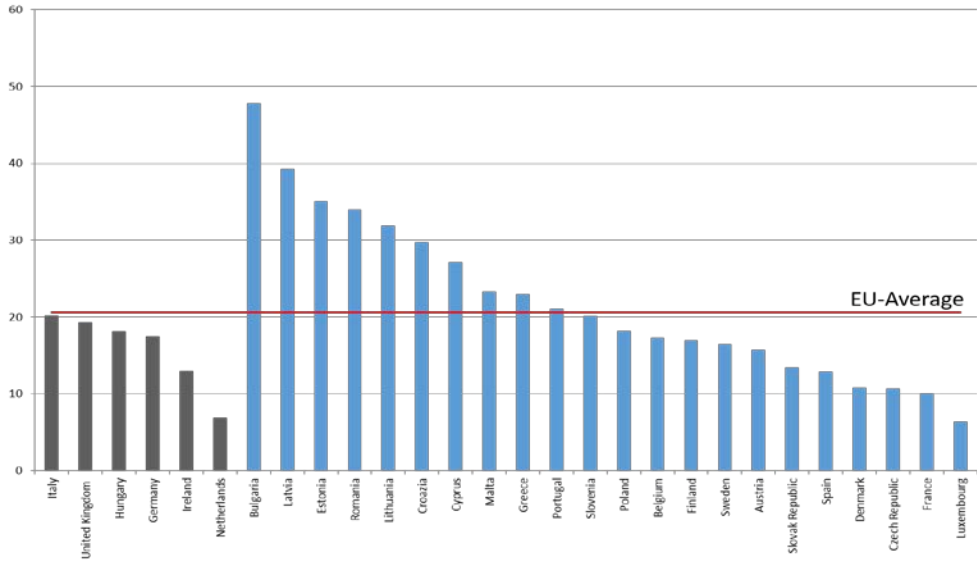
Note: The at-risk-of-poverty rate is the share of people with an equivalised disposable income (after social transfer) below the at-risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income after social transfers.
*Source: Eurostat (2014 population and population change statistics), own figure and calculations.*

3.3. Pension adequacy

In order to assess the need to further integrate the actual (mandatory and private) pension with alternative schemes such as ERS, it is important to account for the adequacy of the current pension system, an information generally captured by the net replacement rate. This indicator is defined as the individual net pension entitlement for mandatory pension programs divided by net pre-retirement earnings, taking into account personal income taxes and social security contributions paid by workers and pensioners. This indicator is measured in percentage of pre-retirement earnings for men. Overall, the net replacement rate across the EU28 averages 68.15%. Net replacement rates are quite heterogeneous across countries (see Figure 5). This index varies from 38.3% in UK - less than half of the EU28 average - to 95.7% in Netherlands - almost one half higher than the EU28 average. Although the average net replacement rate in Europe has grown by 6 percentage points between 2008 and 2014, its values indicate that in most of the countries the average retirement income will be very low. For instance, in Italy 42.5% of retired get an income lower than 1,000 euro per month, the 23.5% receive a pension between 1,000 and 1,499 euro per month, and the 34% receive a pension above 1,500 euro per month. Also with respect to this indicator, the group of the six countries is very heterogeneous, encompassing countries with the highest and the lowest replacement rates. Netherlands, as seen before, is characterized by the highest rate in Europe. This is

probably the reason why in this country no ERS have been introduced. The second and third ranked are Hungary, with a net replacement rate of 89.6%, and Italy, with a rate of 79.7%. By contrast, UK has the lowest net replacement rate in Europe. This country, in fact, is characterized by the presence of a significant ERS market. It is followed by Ireland, with a rate of 42.2%, which is as well compensated by a significant ERS market in the country. Last, Germany has a net replacement rate of 50%. However, differently from the others, it is characterized by a less developed ERS market.

*Figure 5: Net replacement rate by country in 2014*
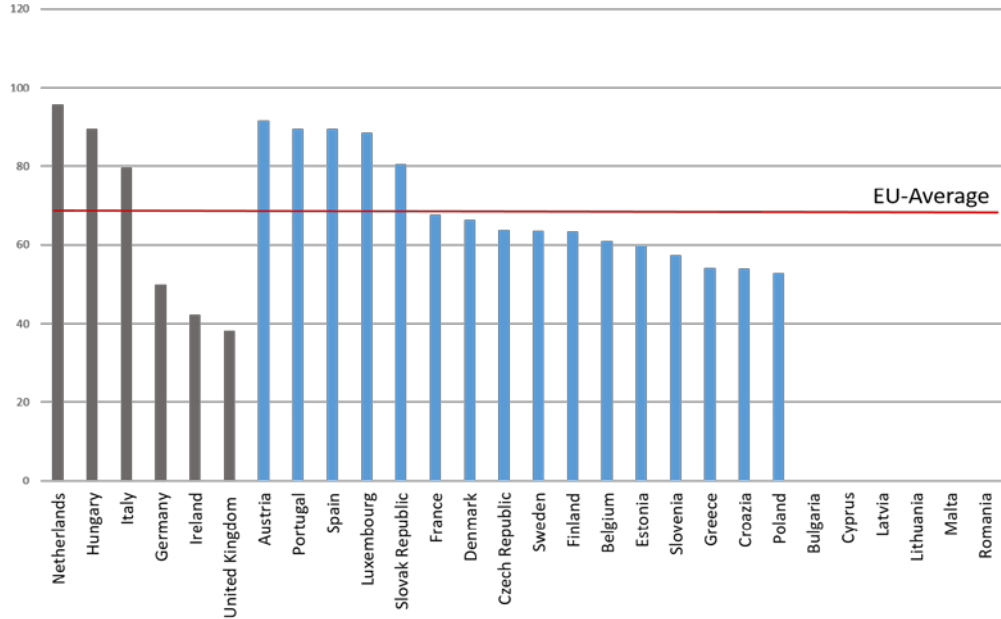
Note: The net replacement rate is defined as the individual net pension entitlement for mandatory pension programs divided by net pre-retirement earnings, taking into account personal income taxes and social security contributions paid by workers and pensioners. This indicator is measured in percentage of pre-retirement earnings for men.
Source: OECD (2015, Pension at a Glance), own figure and calculations.

The amount of private pension assets per capita gives us information on how much individuals do really benefit from the existing integrative schemes to the public pension. Private pension assets are defined as all forms of private investment with a value associated to a pension plan over which ownership rights are enforced by institutional units, individually or collectively and expressed in per capita terms. The average amount in the overall European context is about 13,000 per capita. However, this value is very spread across the countries considered and 21 of them are characterized by values below the EU28 average (see Figure 6). In particular, in most of the countries the amount of private pension assets is close to zero, emphasizing that in many countries the private pension sector is far from being developed. The countries where, instead, individuals benefit from a per capita amount considerably above the EU28 average are Denmark, Finland, Ireland, Netherland, UK, and Sweden. In particular, Denmark has the highest amount of per capita pension assets, which is about 111,131 euro. Focusing on the group of the six countries, we can distinguish two subgroups. The first group encompasses Ireland, Netherlands, and UK, countries with considerably high amounts of per capita private pension assets as compared to the EU28 average. The second group encompasses Germany, Italy, and Hungary that have, instead, considerably low level of per capita private pension assets. Therefore, this last group of countries seems to be the one more in need of ERS interventions. In fact, they do not merely have low developed ERS markets, but they also have low developed private pension systems.

Figure 6: Private pension assets by country in 2014 (euro per capita)
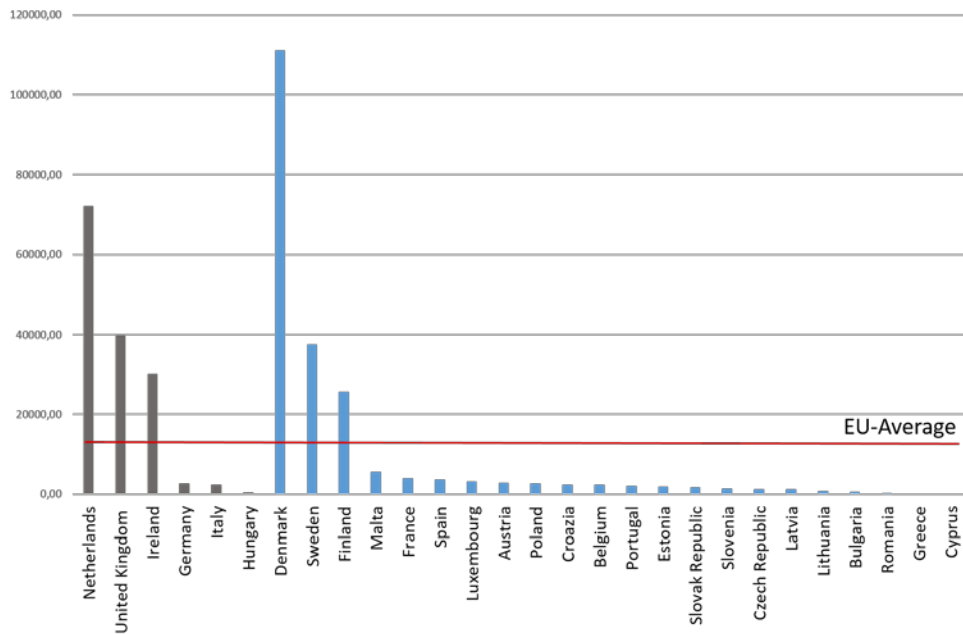
Note: Private pension assets are defined as all forms of private investment with a value associated to a pension plan over which ownership rights are enforced by institutional units, individually or collectively and expressed in per capita terms.
Source: OECD (2015, Pension at a Glance), own figure and calculations.

4. Feasibility of ERS

4.1. Property market indicators

For ERS to make a meaningful contribution to pension adaquacy homeownership needs to be sufficiently high. Figure 7 depicts the homeownership rate, i.e. the percentage of population owning their residence, of EU member states. On average, 70.1% of EU residents own their residence. However, there is considerable heterogeneity between member states. In general, there seems to be a divide between Estern and Southern European countries with well above average homeownership rates and Northern and Western countries with a significantly lower share of people owning their homes. That divide is also present in the group of the six countries. In particular Germany exhibits a very low homeownership rate of merely 52.6%, while nearly 90% of residents in Hungary live in their own house. Taken by itself, that means that ERS could make a much more meaningful contribution in Hungary than in Germany. The other countries are somewhere in between.

Figure 7: Home ownership (% of population) by country
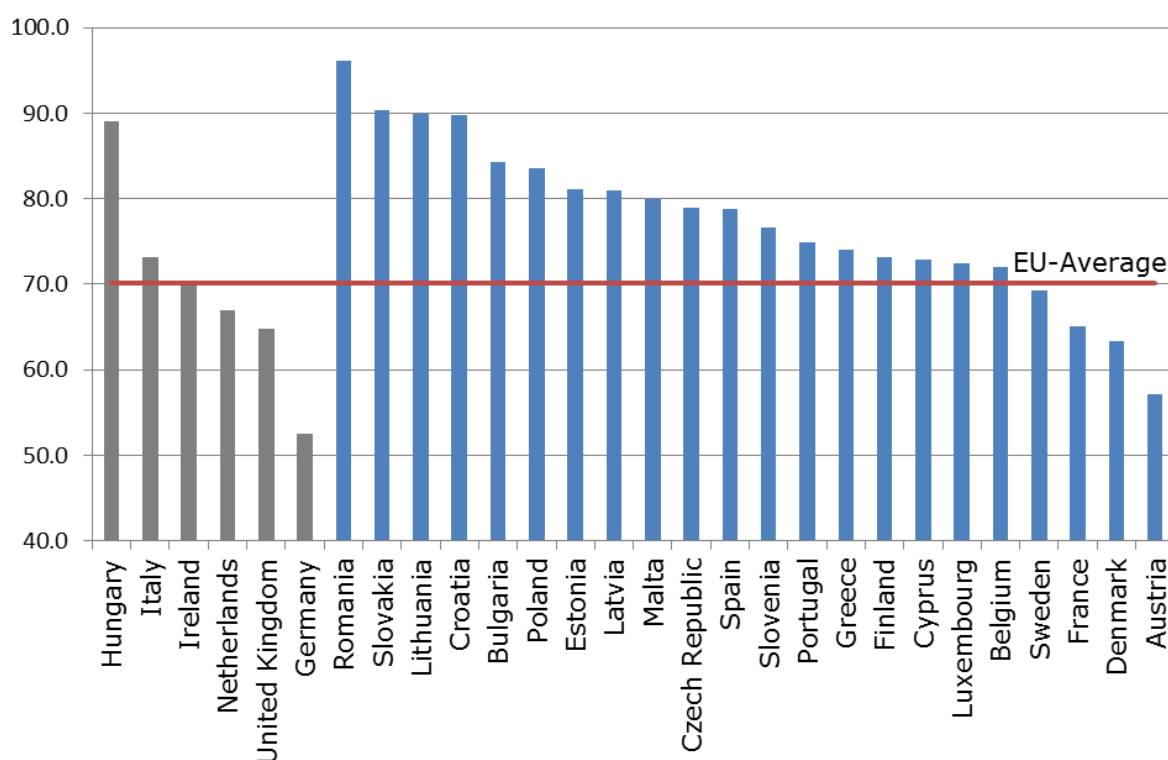
Note: Percentage of population owning their residence.
Source: Eurostat (2014 values), own figure and calculations.

However, one has to keep in mind that those households owning a house are not necessarily those in the most dire need of additional liquidity in their retirement phase. Looking at the homeownership rates of low income households below the poverty line gives a better indication whether ERS is an instrument to supplement old age income (Figure 8).[2] The data show that households with less than 60% of median income usually exhibit considerably lower homeownership rates. There is also an even more pronounced divide between Europe's north-west and south-east. Looking at the Netherlands, Germany and the UK demonstrates that only less than 30% of low income households may be able to make use of ERS compared to about two thirds of low income households in Hungary.

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[2] In the EU, people falling below 60% of median income are considered to be "at-risk-of monetary poverty".

Figure 8: Home ownership rate of low income households by country
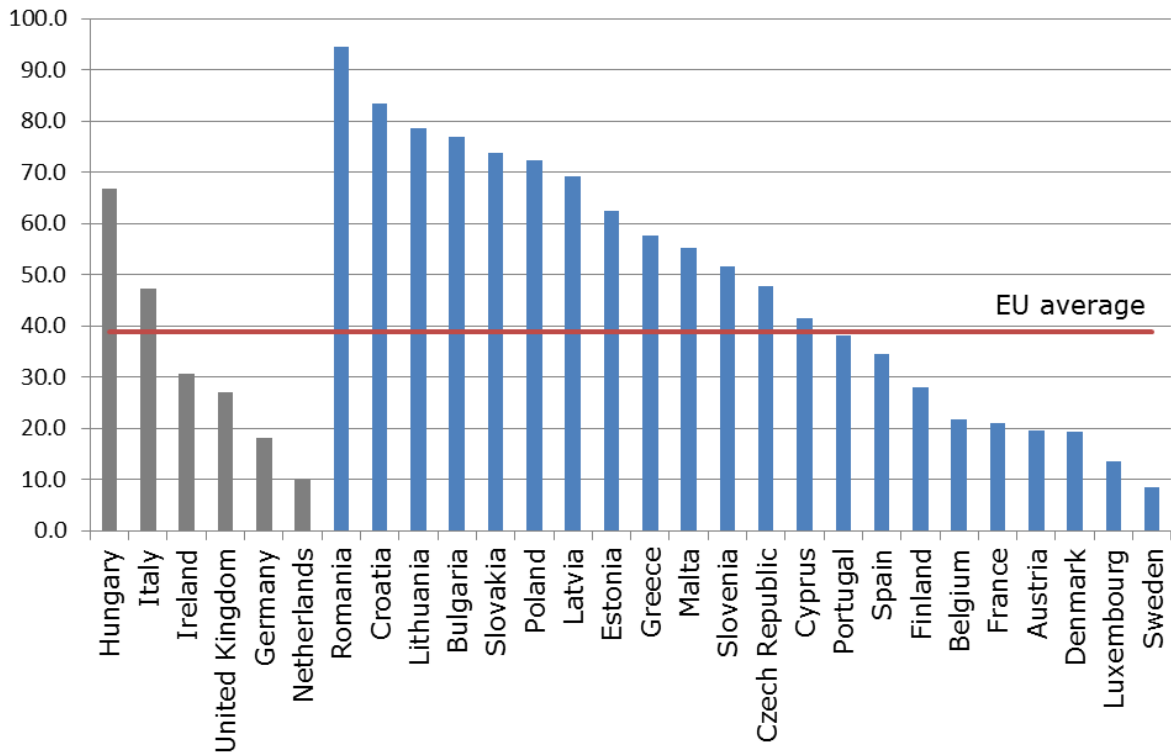
Note: Percentage of households with an income below 60 % of median income owning their residence.
Source: Eurostat (2014 values), own figure and calculations.

Another important factor for ERS feasibility is whether or not households entering retirement are still having a mortgage as outstanding mortgages probably limit the access to ERS markets. Looking at the data (Figure 9) shows that the great majority of old age households have paid off their mortgage debt entirely. Hence, with the notable exception of the nordic countries and the Netherlands, outstanding mortgage or housing debt seems not to be a considerable limiting factor for the access to ERS markets for old age households.

Figure 9: Indebted home owners over 65
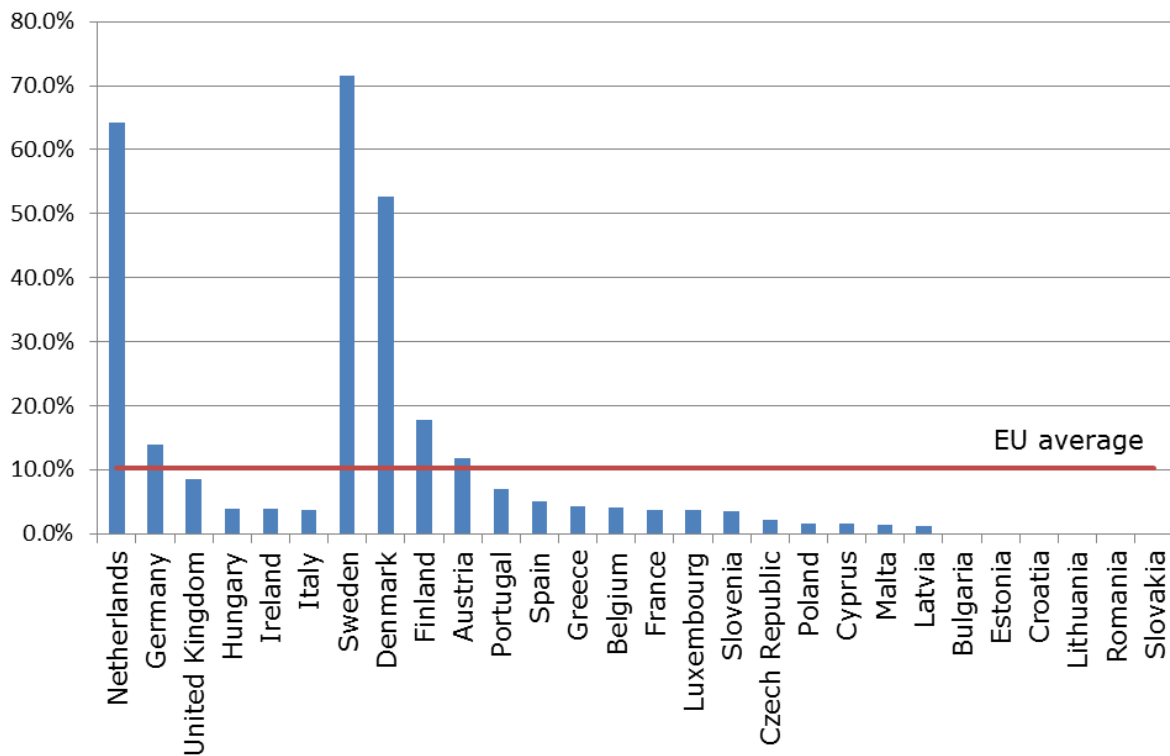
Note: Percentage of households with two adults, at least one aged 65 years or over, with mortgage or housing debt.
Source: Eurostat (2014 values), own figure and calculations.

For ERS providers it is imparative that they are able to sell the objects timely and at predictable prices when they take them over (ERS through reverse mortgage). That requires liquid and stable real estate markets and prices. Looking at the residence turnover rate (Figure 10), i.e. the percentage of homeowners that sold their residence in a given year, gives an indication of how fast ERS providers are able to sell their new property. Here a North-West and South-East divide also exists. In general, in eastern and southern European countries houses far less often change their owner than in northern and western European states. However, it cannot be identified whether that is due to the demand or supply side of the real estate markets. Maybe it is because it is hard for willing homeowners to sell because of low demand or it is hard for potential buyers to find suitable objects for sale or to aquire the necessary finance.

Cultural differences might also play a role as in some countries it is more common to live in larger and inter-generational households and rather pass on the property to the next generation instead of selling it. Looking at the differences in household sizes (Figure 11) suggests that this generally might be more often the case in southern and eastern European countries.

Figure 10: Residence turnover rate by country
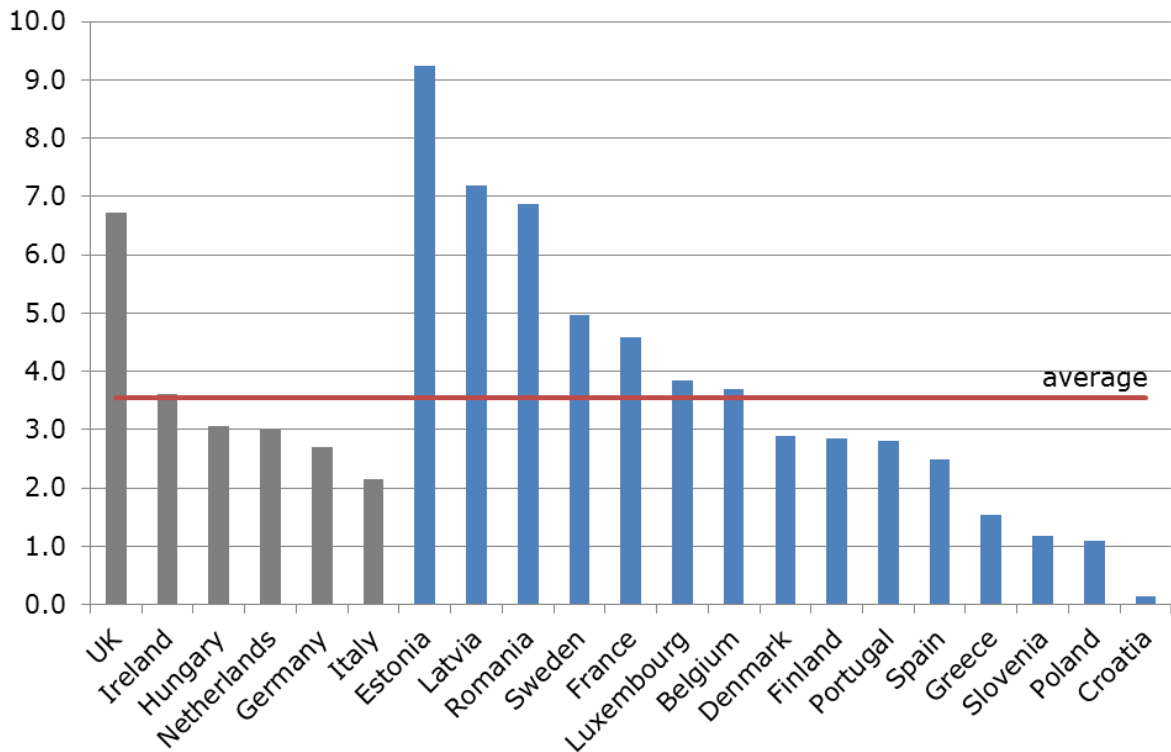
Note: Percentage of homeowners that sold their residence calculated as the number of transactions divided by the number of homeowner households. No data available for missing EU cuntries. Source: Eurostat, European Mortgage Federation (2014 values), own figure and calculations.

Figure 11: Household size by country
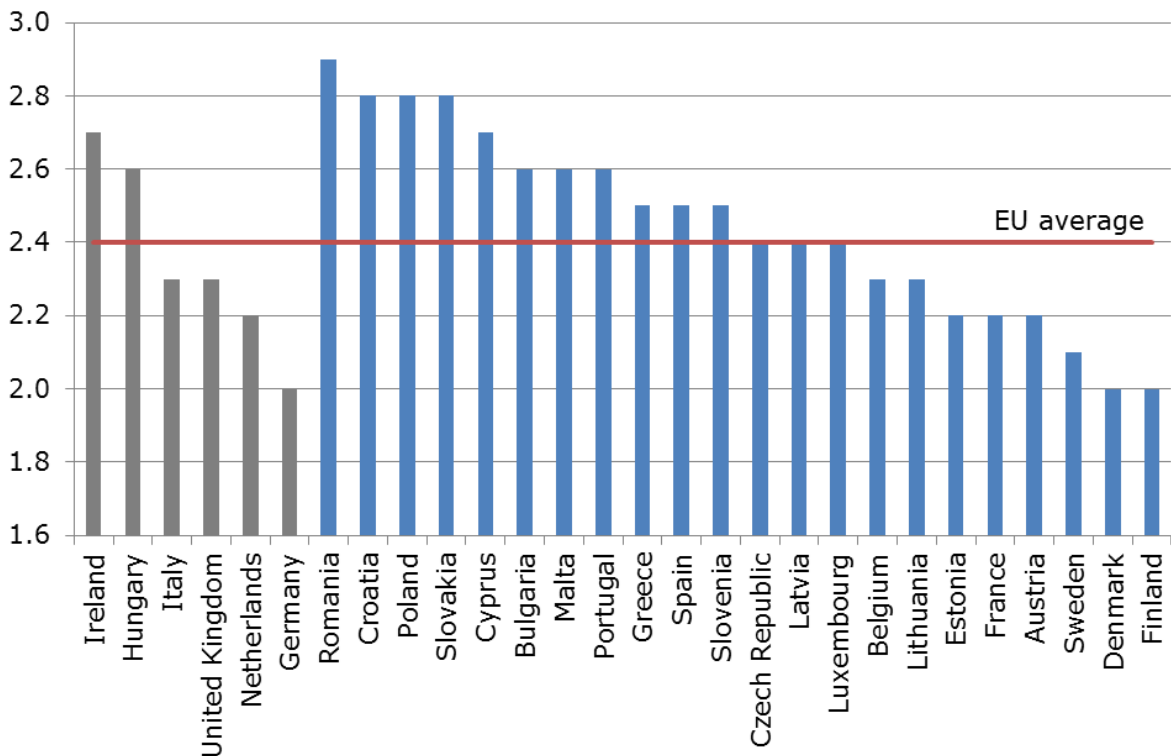
Note: Persons per household.
Source: Eurostat, European Mortgage Federation (2014 values), own figure and calculations.

Regarding the development of house prices, and hence the market value of releasable equity, OECD data (Table 1) demonstrate that the situation is very heterogeneous in EU member states. While in some countries, nominal house prices grew considerably between 2004 and 2014 others suffered from price declines. After adjusting for inflation, prices grew in merely half the countries while in the other half houses lost market value and thus the possible contribution of ERS to pension adequacy declined. Moreover, prices were very volatile in a number of countries making it harder for ERS providers and users to calculate and predict the realisable equity. When looking at the volatility of the price to income ratio index demonstrates that in Ireland, Estonia, Latvia and Estonia the possible equity released in comparison to income usually varied (standard deviation) about 25 index points, which makes ERS a very unpredictable element of retirement planning for potential users of ERS. However, the data are possibly distorted by the effects of national house price bubbles as well as the effects of the financial crisis. Nonetheless, they reveal a general problem of capital stock based pension provision, its dependence on the market value of the capital at the time when it is cashed in. As ERS has only one asset, the own house and therefore no diversification, it is particularly vulnerable to changes in market values.

Table 1: House prices: growth and volatility

	nominal			**real**			**price to income ratio**		
	growth rate		index volatility	growth rate		index volatility	growth rate		index volatility
	2004-2014	2014		2004-2014	2014		2004-2014	2014	
Germany	2.4	5.1	10.4	1.1	4.1	6.4	0.5	3.1	5.3
Ireland	-0.5	12.9	25.7	-1.3	11.1	23.2	-2.3	10.0	23.2
Italy	1.3	-4.4	6.1	-0.6	-4.6	7.8	0.6	-4.0	4.0
Hungary	-1.5	4.2	6.1	-5.1	3.1	14.6	-4.7	-0.3	12.8
Netherlands	0.0	0.8	6.6	-1.6	-0.5	9.1	-1.3	-1.5	7.9
United Kingdom	4.3	10.0	8.8	1.6	8.3	5.9	1.4	9.9	6.6
Belgium	5.5	0.6	13.4	3.4	-0.1	8.2	3.5	0.2	8.3
Czech Republic	-0.7	2.4	2.6	-1.8	1.9	4.5	-1.7	0.3	3.8
Denmark	4.0	3.8	10.8	2.1	3.1	12.4	1.6	4.6	13.3
Estonia	7.9	13.8	25.5	3.3	12.7	30.6	-0.6	10.3	28.7
Greece	-1.0	-8.0	13.4	-2.9	-6.0	16.3	-0.3	-5.3	6.7
Spain	1.4	0.3	14.0	-0.8	0.4	16.5	-0.1	-0.9	13.3
France	4.5	-1.8	9.5	3.1	-1.8	6.8	2.6	-2.4	5.9
Latvia	2.2	6.1	28.3	-1.8	5.7	32.4	-3.9	-1.2	24.1
Lithuania	1.6	6.4	17.9	-2.2	6.3	26.6	-4.0	3.3	25.5
Luxembourg	3.6	4.4	8.8	2.1	3.7	5.3	0.9	2.9	3.5
Austria	4.4	3.5	16.0	2.3	1.5	9.7	1.8	1.3	9.7
Portugal	-0.8	4.3	6.4	-2.6	3.6	11.0	-2.4	2.0	9.8
Slovenia	-2.6	-6.6	7.7	-4.3	-6.5	10.4	-3.5	-7.8	7.7
Slovakia	5.1	1.4	13.9	2.6	1.5	12.6	-0.1	-1.6	11.4
Finland	3.9	-0.6	9.9	2.0	-2.1	4.7	0.8	-0.2	3.0
Sweden	6.7	9.4	16.1	5.3	8.5	12.2	3.1	7.3	6.5

Note: Quarterly data. Annual average year-over-year growth rates in percent. Index volatility defined as the standard deviation of the respective index in index points. Sample begins later for Czech Republic (2009), Estonia (2006), Hungary (2008), Luxemburg (2008), Slovakia (2006), Slovenia (2008), Latvia (2007), Lithuania (2007).
Source: OECD Analytical House Price database, own table and calculations.

4.2.   Mortgage market indicators

Figure 12: Per capita residential debt
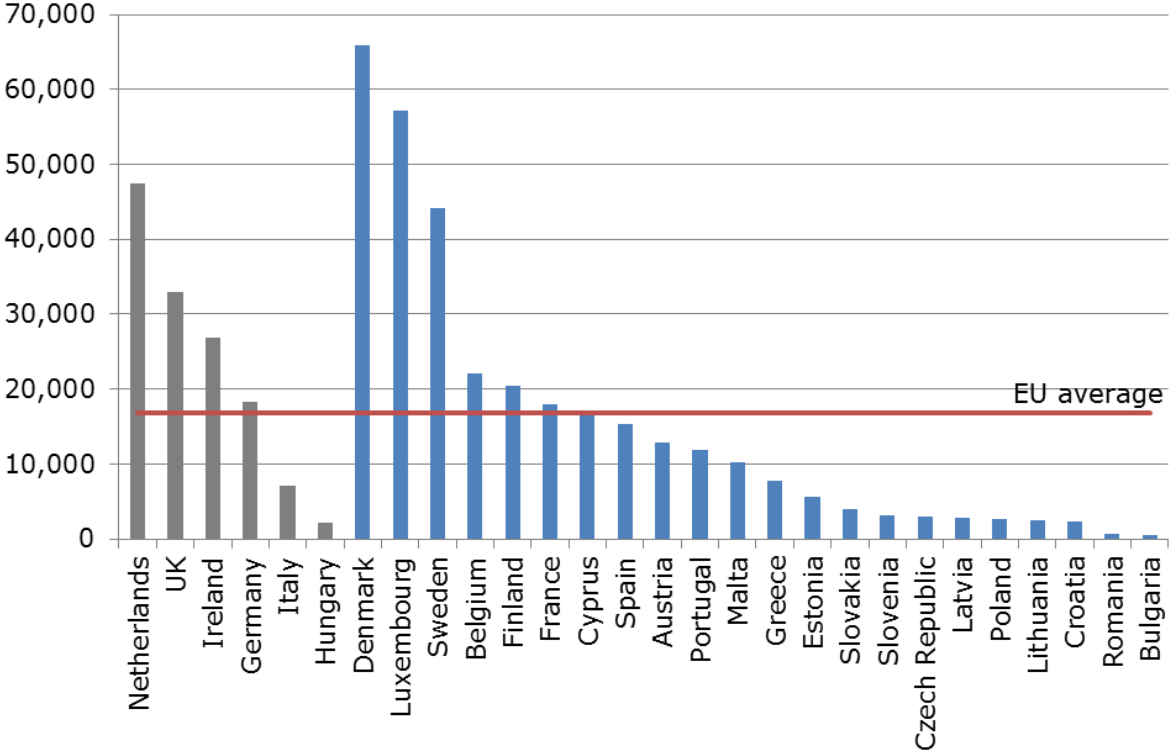
Note: Total outstanding residential loans per capita (population over 18) in Euro (2014 values).
Source: European Mortgage Federation: Hypostat 2015

In order for ERS markets to function properly it is indispensible that financial markets provide the necessary finance for ERS providers, ERS users to lend against their property and for buyers of the residential properties ultimatly taken over by ERS providers (ERS through reverse mortgage). Looking at per capita residential debt (Figure 12) suggest that mortgage markets in southern and estern European countries are considerably less developed than in northern and western European states. Even after adjusting for different income levels (Figure 13) does not fundamentally change that picture, however the differences are somewhat less pronounced.

Figure 13: Residential debt in % of disposable income
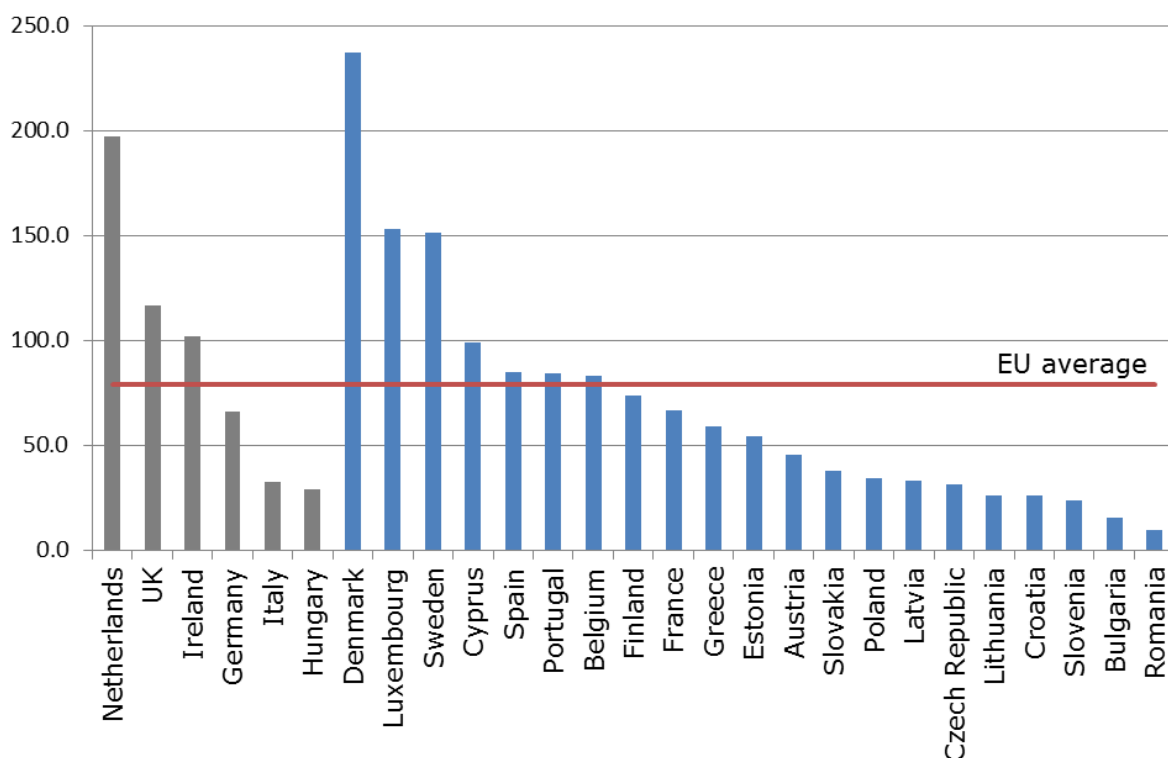
Note: Total outstanding residential loans in % of disposable income of households (2014 values). Source: European Mortgage Federation: Hypostat 2015

5. Need and feasibility compared

To compare need and feasibility, we rated every indicator based on its deviation from EU average, assigning score 1, if it is more than one standard deviation below EU average, score 3, if it is within a range of +/- one standard deviation of EU average, and score 5, if it is more than one standard deviation above EU average. Missing values were set to 3. In the second step, we aggregated these scores to overall indexes for need and feasibility, using equal weights for all indicators. We then evaluate every country based on its deviation from a medium value of 3. If a country's overall index value deviates more than one standard deviation of the overall index from 3, it is considered to have high or low ERS conditions. If it stays within the range of one standard deviation, it is considered to exhibit medium need or feasibility (see Table 3 in the Annex).

Figure 14 illustrates the results. When countries exhibit index values that put them above and close to the diagonal line, the conditions for ERS in these countries can be interpreted as favourable as the feasibility appears higher or equal to the need. In countries considerably below the line, conditions are less favourable as the need for ERS (or other means to complement public pensions) is higher than its feasibility. While the Netherlands and the United Kingdom belong to the first category, need and feasibility approximately match in Italy and Hungary while Germany and Ireland exhibit index values that place them in the second category. Table 2 clusters countries according to need and feasibility index values.

Figure 14: Need and feasibility compared (equal weights)
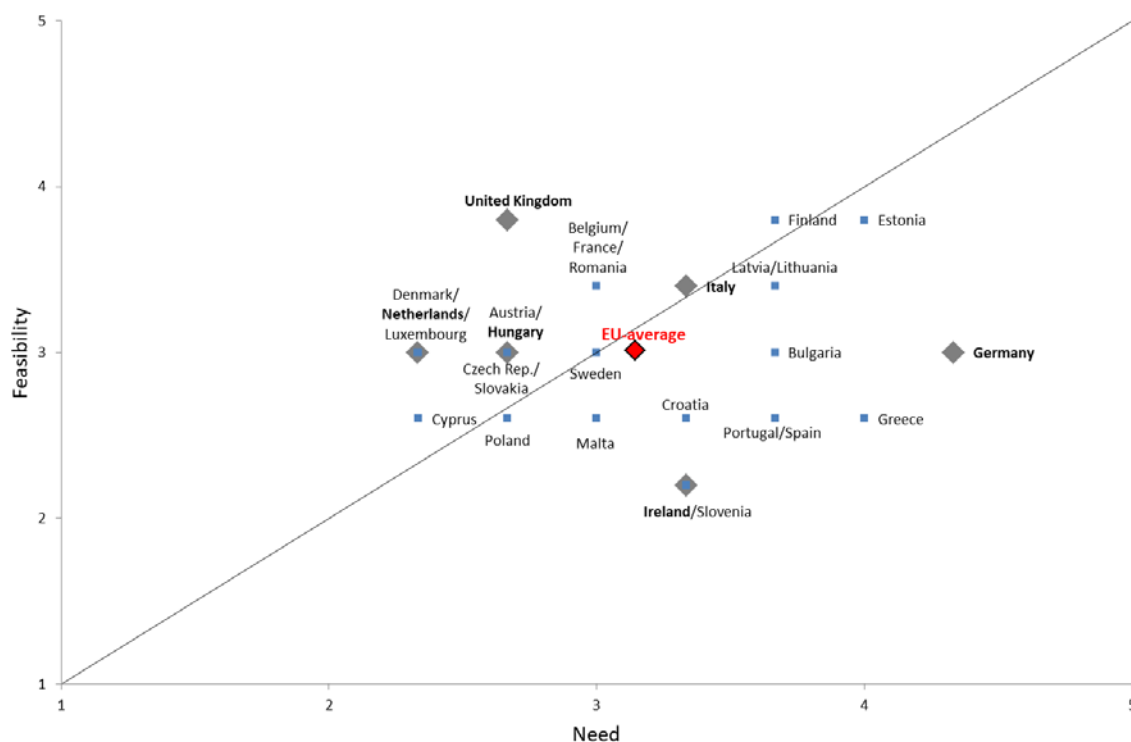
Source: Own figure and calculations.

Table 2: ERS need vs. feasibility: country clusters

		Need		
		low	medium	high
Feasibility	low	-	Ireland, Slovenia	-
	medium	Cyprus, Denmark, Luxemburg, Netherlands	Austria, Belgium, Croatia, Czech Republic, France, Hungary, Italy, Malta, Poland, Romania, Slovakia, Sweden	Bulgaria, Germany, Greece, Latvia, Lithuania, Portugal, Spain
	high	-	United Kingdom	Estonia, Finland

Note: Need is low/medium/high, if overall index for need is below/within/above one standard deviation from EU average. Feasibility is low/medium/high, if overall index for feasibility is below/within/above one standard deviation from EU average.

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The results of favourable or medium conditions in Belgium, France and Italy in contrast to unfavourable conditions in Germany are in line with those of Moscarola et al. (2015), who focused on the potential of ERS to reduce old-age poverty.

The results are also partly in line with those of Megyeri (2017), despite the different data and methods used. Both studies find that Latvia, Lithuania and Estonia have rather favourable market conditions for ERS products, that Hungary and Italy have medium conditions, but that the conditions are unfavourable in Germany. In contrast to the present study, Megyeri (2017) finds that the Netherlands and the UK have unfavourable, respectively medium conditions regarding the potential of using homeownership for reducing old-age poverty. This can be explained by the fact that old-age poverty of the elderly is below average in both countries.

6. Conclusion

The present paper examined market conditions for equity release schemes as a way to reduce the pension gap in Europe. Comparing overall need and feasibility indexes, we find a very diverse situation in the six member states Germany, Hungary, Ireland, Italy, Netherlands and UK as well as the EU as a whole. Among the six member states, Netherlands and UK have favourable ERS conditions, Hungary and Italy have medium ERS conditions, while Germany and Ireland have unfavourable conditions. An extrapolation to the EU as a whole is feasible as our six countries are good proxies for EU wide diversity.

Current feasibility and need are not carved in stone, but could be improved with the right policy measures. For example, low feasibility due to high country-specific volatility of house prices may be compensated by diversification of ERS across EU member states.

These preliminary results should be interpreted with care because of some caveats: (1) The results are based on relative measures, which quantify need and feasibility relative to the EU average and not on absolute measures or thresholds, which might be necessary to achieve a high market penetration. (2) The calculation of the overall scores is based on equal weights for all indicators. Some indicators, such as homeownership may be more important or more reliable than others, such as house prices, which are more likely to change over time. (3) The available data only show average values at the country level. Regional differences, e.g. between urban and rural regions or agglomerated and peripheral regions are not taken into account. (4) Qualitative factors, such as cultural or personal attitudes for which cross-country data are unavailable have been neglected, although they may be important determinants of need for ERS. Therefore, the quantitative results of the present paper provide only a framework for further research.

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Annex

Table 3: Need and feasibility scorings by country

	NEED								FEASIBILITY						
	Demographic pressure			Distributive info	Pension adequacy										
100.0%	16.7%	16.7%	16.7%	16.7%	16.7%	16.7%	overall index	overall evaluation	20.0%	20.0%	20.0%	20.0%	20.0%	overall index	overall evaluation
	Dependency ratio	Life expectancy	65 older	At risk of poverty rate for elderly	Replacement rate	Per capita private pension assets			Homeowner-ship	Mortgage debt at pension age	Residence turnover rate	Household size	Volatility of house price to income ratio		
Germany	5	3	5	3	5	5	4.3	high	1	3	3	5	3	3.0	medium
Ireland	1	3	3	3	5	5	3.3	medium	3	3	3	1	1	2.2	low
Italy	5	3	1	3	3	5	3.3	medium	3	3	3	5	3	3.4	medium
Hungary	1	1	5	3	1	5	2.7	medium	5	3	3	1	3	3.0	medium
Netherlands	5	3	3	1	1	1	2.3	low	3	1	3	5	3	3.0	medium
United Kingdom	1	3	3	3	5	1	2.7	medium	3	3	5	5	3	3.8	high
Austria	1	3	3	3	1	5	2.7	medium	1	3	3	5	3	3.0	medium
Belgium	1	3	3	3	3	5	3.0	medium	3	3	3	5	3	3.4	medium
Bulgaria	5	1	3	5	3	5	3.7	high	5	3	3	1	3	3.0	medium
Croatia	5	1	3	3	3	5	3.3	medium	5	3	1	1	3	2.6	medium
Cyprus	1	3	1	3	3	3	2.3	low	3	3	3	1	3	2.6	medium
Czech Republic	1	3	3	1	3	5	2.7	medium	3	3	3	3	3	3.0	medium
Denmark	1	3	3	3	3	1	2.3	low	3	1	3	5	3	3.0	medium
Estonia	5	3	3	5	3	5	4.0	high	5	3	5	5	1	3.8	high
Finland	5	3	3	3	3	5	3.7	high	3	3	3	5	5	3.8	high
France	1	5	3	1	3	5	3.0	medium	3	3	3	5	3	3.4	medium
Greece	5	3	5	3	3	5	4.0	high	3	3	3	1	3	2.6	medium
Latvia	5	1	3	5	3	5	3.7	high	5	3	5	3	1	3.4	medium
Lithuania	5	1	3	5	3	5	3.7	high	5	3	3	5	1	3.4	medium
Luxembourg	1	5	1	1	1	5	2.3	low	3	3	3	3	3	3.0	medium
Malta	1	3	3	3	3	5	3.0	medium	3	3	3	1	3	2.6	medium
Poland	1	3	1	3	3	5	2.7	medium	5	3	1	1	3	2.6	medium
Portugal	5	3	5	3	1	5	3.7	high	3	3	3	1	3	2.6	medium
Romania	1	1	3	5	3	5	3.0	medium	5	3	5	1	3	3.4	medium
Slovenia	5	3	1	3	3	5	3.3	medium	3	3	1	1	3	2.2	low
Slovakia	1	1	3	3	3	5	2.7	medium	5	3	3	1	3	3.0	medium
Spain	5	5	3	3	1	5	3.7	high	3	3	3	1	3	2.6	medium
Sweden	1	3	3	3	3	5	3.0	medium	3	1	3	5	3	3.0	medium

Note: Scoring 1: more than one standard deviation below EU average (except for mortgage debt at pension age and per capita private pension assets); 3: within a range of +/- one standard deviation of EU average; 5: more than one standard deviation above EU average (except for mortgage debt at pension age and per capita private pension assets); missing values (red) set to 3. Overall index: equally weighted average of individual scorings. Overall evaluation: below/within/above one standard deviation of index.

Source: Own table and calculations.