

Reverse Mortgage: Making assets a tool against poverty*

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Abstract

Asset accumulation by the elderly has been a major research focus so as to estimate whether old households are well equipped to face their retirement. On the other hand, the reverse question – i.e. on whether the elderly are actually living below their possible standards - has been under-studied. If over-savings should not worry Governments at first sight, it may become a matter of concern whenever the elderly demand that Governments pay for their reluctance to decumulate assets. Furthermore, means tested interventions are generally based on income available to the elderly. Current income, however, is not a comprehensive measure of welfare of individuals. Assets, in addition to current income, should be considered as the best proxy for attainable welfare.

In this paper we run a simulation exercise under different scenarios to understand if and to what extent poverty alleviation could be realized through resorting to annuitization of real and financial wealth by means of reverse mortgages. In order to do so, we have used the first two waves of SHARE. Particularly for countries such as Italy and Spain, which are «poor» in current income but «rich» in wealth, the impact of annuities on poverty rates is impressive.

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Introduction

From a rational and economic standpoint, private wealth does not represent a goal per se, as indeed, people derive their utility from what they can consume, rather than what they have accumulated. It seems, thus, a contradiction finding so many households with a substantial amount of wealth even at old age.

Some could argue this is due to bequest motives. However, to this objection economists would still reply that bequest is very difficult to be proven by the data⁴. People are in fact reluctant to declare a strong motive for bequest.

Whatever the reason people still hold a substantial part of wealth around predicted death, the interest for a policy maker becomes crucial when private wealth could represent a powerful tool to be immunized against poverty.

In Western countries, the unsustainability of PAYG system has shifted towards a defined contribution system, much less generous than in the past, by imposing a replacement rate far lower than 80%. Households face, therefore, a more acute drop in their pension benefit than before. Pension benefit increases are often invoked as necessary for reaching acceptable standards of living of low-pension-benefits retirees. However, little is known on how pension benefit is actually reflecting the true potential standard of living of a household. Ideally, the amount of resources available, weighted by the remaining expected life, is the best measure of potential welfare households can achieve. In other words, assets as well as future pension benefits should be considered in order to really understand the degree of vulnerability of each household. Following this line of reasoning, the elderly may exploit their real and financial wealth in order to increase their living standards without relying on public resources. To do so, they might annualize their assets by means of some instruments such as reverse mortgages.

The rest of this chapter is laid out as follows. Part I explains how poverty rates used in the subsequent simulations has been computed and revises some implications of the compound interest rate. Part II simulates which could be the poverty reduction among the elderly if reverse mortgages were used by all homeowners to annualize their house wealth. Finally, Part III analyses the poverty reduction when both financial assets and real wealth are annualized.

⁴ Cf. Hurd [1986], Venti and Wise [1989].

Part I – Background

Poverty rates among the elderly in selected European countries

The aim of this report is to verify whether financial instruments such as reverse mortgage could be effectively used to reduce poverty among the elderly. With this purpose, it has been necessary, as a first step, to compute a poverty rate within the sample used, namely the first two waves of SHARE⁵.

Table 1 shows three different measures for eleven countries at the time of wave 1 of SHARE, i.e. year 2004. The first one is based on the at-risk-of-poverty thresholds provided by Eurostat in Purchasing Parity Standard (PPS)⁶. The thresholds are set at 60 % of the national median equivalised⁷ disposable income (after social transfers)⁸. It is expressed in PPS in order to take into account differences in the cost of living across EU Member States. On the other hand, Poverty II has been computed taking as threshold the 60% of the national median income per capita within the sample. Finally, the last index is the one provided by Eurostat using the same thresholds of the first one, but applying them to EU-SILC sample.

Poverty rates are usually higher in Southern Europe, i.e. Italy, Spain and Greece, where they are usually above 16%, even more than 30% in certain cases. However, poverty is also widespread in some countries in Northern Europe, such as Belgium or Denmark, albeit with lower incidence rates.

Conclusions about the incidence of poverty in European countries strictly depend on the poverty measure adopted. Poverty rate for Italy, for example, ranges between 30 per cent and 21 per cent. Furthermore, the ranking of countries in a hypothetical scale of poverty is not stable across measures. However, ranking countries on the basis of the poverty rates is out of the scope of our exercise as we simply aim at measuring the relative changes in poverty.

⁵ Survey on Health, Ageing and Retirement in Europe. Cf. the Appendix for a detailed description of the dataset.

⁶ Since data were not available for Germany and the Netherlands in 2004, it has been decided to take for these two countries the data of 2005 and adjust them using the national inflation rates.

⁷ According to Eurostat, the aim of equivalisation of household income is to adjust for the varying size and composition of households. Eurostat uses the “modified OECD scale” for equivalisation as a standard in income and living condition statistics. This scale assigns a weight of 1.0 to the first person, 0.5 to each subsequent person aged 14 or more, and 0.3 to each child aged under 14. The “equivalised size” of a household is the sum of the weights assigned to each person. The household’s total income is divided by its “equivalised size” and the resulting “equivalised income” is assigned to the household and to each of its members.

⁸ According to Eurostat, total income is defined as the total net monetary annual income in the year prior to the survey. It covers the following components: income from work, private income, and social transfers. More precisely, private income consists of: property income, capital income, and private transfers.

Table 2 shows the same indexes with reference to wave 2, i.e. year 2006-2007. It is worth noting that Eurostat has data available for Switzerland only starting from 2008, when the poverty rate among over 65-year-old was 28.3%.

One Euro today is worth more than one Euro tomorrow

Reverse mortgage⁹ does not necessarily have to be converted into an annuity. The subscriber can decide to convert the house value into a lump sum as well. The amount of money that can be converted depends on the age of the subscriber since the current value of the house is discounted by the remaining life expectancy. If common wisdom would be suspicious of such a strong discount on the housing value, we are aware that the effect is pretty much due to the compound (high) interest rate and the remaining life expectancy.

The financial instrument of reverse mortgage has been often accused of being unfair, almost a daylight robbery, since the lump sum that the borrowers receive is much lower than the house value, although the whole house is required as collateral and the amount that has to be returned - usually by the heirs when the borrower dies - is much higher.

Table 3 may be useful to give a clearer vision. Among the eleven countries considered, the housing equity for a 65-year-old between 2004 and 2006 was roughly 146,000€ on average. Taking into account the life expectancy of the average respondent - about 18.8 years - and an annual interest rate of 6%, the actual value of the house would be around 49,250€ on average. Moreover, the latter value would be lower the higher the interest rate, whereas it rises when the borrower is older, corresponding to a shorter life expectancy. For instance, using an interest rate of 8% would bring the house value of average 65-year-old respondent down to 34,843€, while an interest rate of 10% would yield 24,835€ on average. Furthermore, assuming that a 99-year-old customer is expected to live for about 1 year on average, a banker would be happy to grant a reverse mortgage whose value is much closer to the house value. Therefore, the loan amount does not depend - at least in perfect competition - on the fairness of the financial institution, but it is simply the result of a mathematical exercise.

In order to stress upon this point, Chart 1 shows the actual value of 150,000€ from year 0 to 20. If an individual were expected to live for 5 more years, the present value of such amount of money would be around 112,100€ if the interest rate were 6%, around 102,100€ if the interest rate were

⁹ The reverse mortgage is a financial instrument through which homeowners can obtain a loan using their house as collateral (which remains property of the individuals, not of the financial institution). Usually the owners do not repay this loan and, after their death, the heirs can decide whether to repay the mortgage and keep the house, or sell the property to repay the loan. Cf. the Appendix for a detailed description of reverse mortgage in several countries.

8%, and around 93,100€ if the interest rate were 10%. Similarly, under the hypothesis of remaining life expectancy equal to 15 years, the present value would roughly be 62,600€, 47,300€, or 35,900€ if the interest rate were 6%, 8% or 10% respectively.

Put differently, if the borrower chooses to receive an annuity instead of a lump sum, interests are compounded and, since the loan does not have to be paid back until the borrower is passed away, the amount due by the heirs increases exponentially. Indeed, as suggested in Chart 2, an agent borrowing 1,000€ at time 0 without repaying anything back will generate a value of the loan at death which is obviously amplified by the compounded interest rate effect. As an example, after 15 years if the interest rate were 6%, the heirs should reimburse 2,397€, 3,172€ if the interest rate were fixed at 8%, 4,177€ with 10% as interest rate.

Part II – Real Estate

House Value converted into annuities

In this first simulation we supposed that all respondents aged 65 or more decide to convert their housing equity into an annuity by means of reverse mortgages. Table 4 shows the average house value for each country along with the average annuities computed using, respectively, an interest rate of 6%, 8%, or 10%.

If there were perfect competition in financial markets, lenders should compute the annuities taking into account only the house value and the life expectancy¹⁰ of the borrower. However, since real world is far from perfect, and life expectancy does increase over time much more than mortality tables predict, it has been assumed that operators add 5 years when deciding the amount of such annuities in order to increase their profits and reduce their exposure. In fact, another reason which leads operators to increase the life expectancy is that mortality tables computed by Eurostat or other statistical centres usually do not take into account cohort effect. As a consequence, a borrower whose house is worth 100,000€ and with a life expectancy of 12 years would obtain an annuity of 3,544€ instead of 5,928€ if the interest rate were 6%.

It is worth noting that a slightly increase in the interest rate produces a sharp reduction in the annuities. For instance, in France home-owners would receive on average an annuity of 6,422€, 5,401€, 4,541€ if the interest rates applied by the lender were 6%, 8%, or 10% respectively.

Tables 5 to 8 display the effect of such annuities on poverty rates. For some countries the outcome is impressive. For instance, using Poverty I as poverty index and looking at wave 1 with interest rate equal to 6%, in Spain the poverty rate would decrease by almost 12 percentage points (Table 5), from 16.88% to 5.2% (-69.20%); and by almost 18 percentage points using Poverty II (Table 6), from 21.46% to 3.54% (-83.50%). Tables 7 (computed using Poverty I as poverty index) and Table 8 (using Poverty II) shows the same figures for wave 2. Also in this case, in Spain the results would be highly effective, reducing poverty rates by 20 percentage points from 26.50% to 5.30% (-80%), and from 25.35% to 4.15% (-83.63%) using Poverty I and Poverty II respectively.

Furthermore, an increase in the interest rate from 6% to 8% or 10% would reduce the magnitude of poverty reduction, but only slightly. In fact, for most of the country the reduction would be only 1 or 2 percentage points lower. One possible explanation of this result may be that the majority of

¹⁰ Life expectancy has been obtained from the Eurostat Database.

the poor in these countries is just above the poverty line, and then these annuities, although not so high, would boost most of them out of poverty.

One of the main reasons explaining why the elderly are so wary of reverse mortgages is that they are worried not to leave enough inheritance to their heirs, or even to leave them with excessive debt.

First of all, it should be reminded that this type of loans usually have a non negative equity clause which ensures that the amount of the loan will never exceed the house value. Then, it is impossible that heirs receive a negative inheritance because of a house with a mortgage loan bigger than the house value. Second, as Table 9 demonstrates, borrowers would manage on average to leave a more than decent inheritance to their offspring. It is interesting to note that even if the interest rate increases from 6% to 8% or 10%, the inheritance becomes higher since the lower annuities more than offset the heavier interest rates¹¹.

Different Scenarios: partially converting housing equity into annuities

It seems clear from the simulation above that converting all house values into annuities would be the best solution in order to cut sharply the poverty rates among the elderly. However, such outcome is unlikely since not everybody would be happy to provide a mortgage on his or her whole house. Moreover, financial institution would be rather reluctant to accept all these houses as collateral, without any kind of diversification.

Therefore, this second simulation assumes that every homeowner aged 65 or more converts half of his or her house value into annuity. Obviously, the annuities are half of the ones previously computed (see Table 10).

Nevertheless, Tables 11 to 14 prove that poverty rates would still decrease significantly in both waves, in particular among Mediterranean countries.

An advantage of this kind of deal would be an increase in the inheritance compared to a reverse mortgage on the entire house (see Table 15).

Furthermore, as shown in Table 16, even if the homeowners aged over 65 would convert 30% of their house value into annuities with an interest rate of 8%, the effect on poverty rates would still be sizeable. Indeed, in Spain the poverty rate would still be reduced by roughly 8-10 percentage points, while in Italy it would decrease from 23.27% to 16.52% (Poverty II), from 28.17% to 19.17% in Greece (Poverty II).

¹¹ It is important to stress that it has been assumed that house values do not increase neither decrease during the simulation, since the estimation of such growth rates in different cities and countries lies outside the aims of this report.

Finally, in Tables 17-20 we run the same simulation in both waves and with both indicators with an interest rate of 5% and 8%, obtaining similar – astonishing – results.

Part III – Financial wealth

Converting financial wealth into annuities

In this last simulation, it has been decided to convert into annuities the 30%, 50%, and 70% respectively of the household's financial wealth. Also in this case, it has been assumed that financial operators increase life expectancy of each borrower by 5 years. Moreover, it has been taken an interest rate of 2,5% and 5%.

Tables 21 and 22 list the average financial wealth of households aged more than 65 sorted by country along with the average annuities which each individual would have received if they decided to convert 30%, 50%, or 70% of their financial wealth using an interest rate of 2.5%. Tables 23-24 provide the same information obtained with an interest rate of 5%.

It is interesting to note that the average financial wealth varied greatly among the selected European countries. Indeed, in 2004 it was only 10,613€ in Greece (8,107€ in 2006, even lower), whereas it reached a mean of 82,902€ (98,463€ in 2006) in Switzerland. Furthermore, in Spain and Italy citizens strongly preferred - and still prefer - to invest their savings into real estate rather than financial markets: average house value was extremely high in 2004 and 2006, whilst financial assets were relatively thin. Conversely, in Sweden real assets held by households were lower than 100,000€ both in 2004 and 2006, while financial assets were above the sample mean.

Finally, the financial wealth held by the elderly is usually lower than their house value, and then the corresponding annuities are smaller.

Poverty reductions shows in Tables 25-26 are based on Poverty I and they have been computed adding to the income of each individual in the sample the annuities obtained converting the whole house value using an interest rate of 6%, and converting the financial wealth using an interest rate of 2.5%. As expected, in South Europe poverty rates were already been sharply reduced in the previous simulation by converting into annuities only real assets, then the marginal effect of converting into annuities financial wealth would not be relevant. On the other hand, although not reaching a double-digit, poverty reduction in Sweden and the Netherlands would be highly influenced by this last operation: in Sweden Poverty I would have decrease from 11.38% in 2004 to 7.73% converting only 100% of real asset, or to 4.97% converting both 100% of house value and 70% of financial wealth into annuities. In the Netherlands poverty rates would have shift from 14.87% to 7.25% or to 5.39% in the same two cases.

Tables 27-28 show poverty reductions if the interest rates were 8% for reverse mortgage and 5% for financial wealth. Again, the reduction would be lower than in the previous tables, but still sizeable.

Conclusions

Our research has investigated the potential impact of wealth annuitization among older European households. The magnitude of the welfare gains, particularly when homeowners subscribe to a reverse mortgage, is of crucial importance. More specifically, Italy and Spain would see a reduction in their poverty rates by at least 10 percentage points if (part of) household real wealth were converted in an annuity with a reverse mortgage. However, Italian households do not seem to be interested in products as such, possibly because they do not understand the complexity of the financial products. Moreover, the elderly do not show any interest in decumulation, this evidence holding for most of European countries¹².

¹² Cf. Merrill [1984], Venti and Wise [1989, 2002, 2004], Feinstein and McFadden [1989].

Figures

Chart 1. Actual value of 150,000 euros

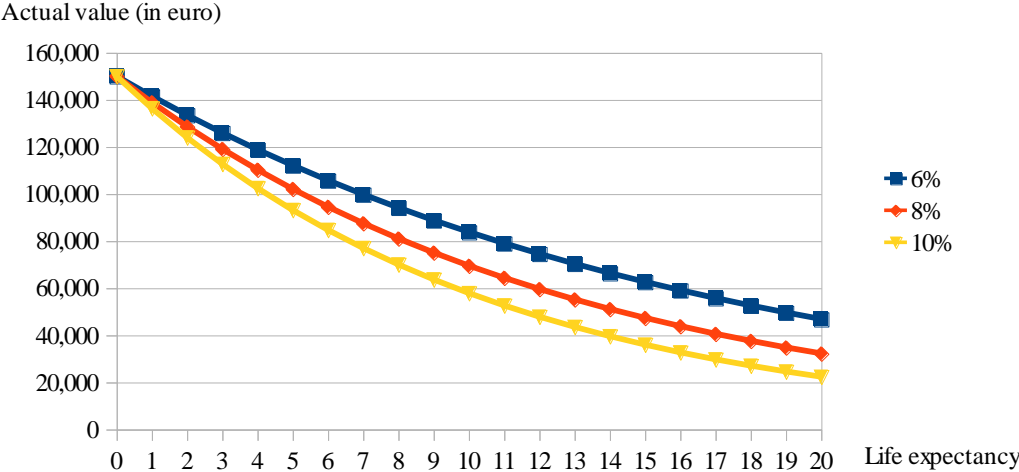
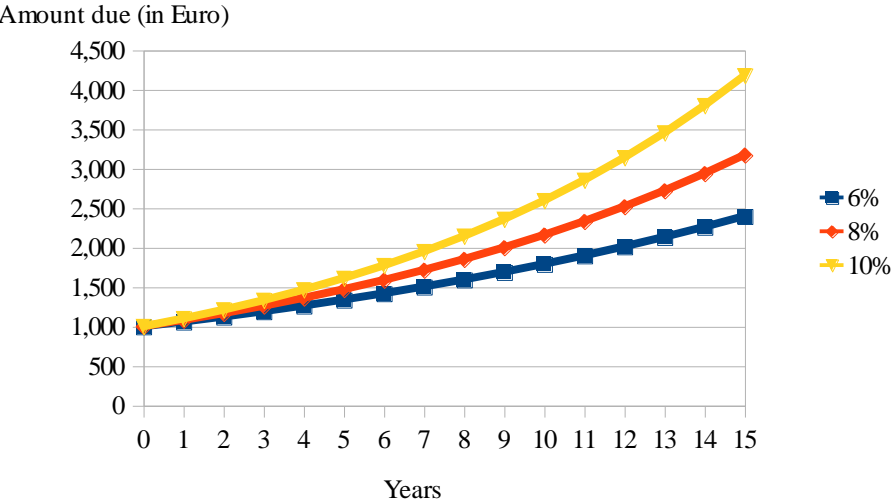


Chart 2. Compound interest rate effect



Tables

**Table 1. Poverty rates (in percentage)
Wave 1 - 2004**

Country	Poverty I	Poverty II	Poverty Eurostat
Austria	11.30	19.02	17.00
Germany	21.35	27.81	
Sweden	11.38	20.77	14.00
Netherlands	14.87	24.35	
Spain	16.88	21.46	29.50
Italy	30.83	23.17	21.00
France	12.09	20.31	15.30
Denmark	24.59	32.86	17.00
Greece	22.00	28.17	28.20
Switzerland		34.59	
Belgium	17.31	19.44	20.90

Sources: SHARE and Eurostat - SILC

**Table 2. Poverty rates (in percentage)
Wave 2 - 2006**

Country	Poverty I	Poverty II	Poverty Eurostat
Austria	14.63	11.22	16.2
Germany	25.42	16.20	12.5
Sweden	17.11	13.18	11.3
Netherlands	17.25	13.33	5.8
Spain	26.50	25.35	30.7
Italy	32.93	16.87	21.7
France	17.54	18.55	16.1
Denmark	46.72	25.26	17.4
Greece	26.28	25.08	25.6
Switzerland		18.82	
Belgium	15.88	14.25	23.2

Sources: SHARE and Eurostat - SILC

Table 3. Actual value of house net worth (in Euro), by age

Age	House value	Interest=6%	Interest=8%	Interest=10%
65	145,997	49,251	34,843	24,835
66	150,878	53,527	38,485	27,869
67	149,906	55,001	39,968	29,246
68	151,166	58,063	42,812	31,776
69	147,695	58,935	43,990	33,046
70	146,563	61,910	47,044	35,957
71	146,194	64,175	49,364	38,184
72	138,398	63,069	49,102	38,434
73	141,607	67,860	53,675	42,667
74	139,639	69,031	55,147	44,267
75	123,217	63,706	51,626	42,024
76	133,162	71,174	58,285	47,931
77	129,702	72,167	59,862	49,851
78	125,837	71,643	59,858	50,201
79	121,570	71,879	60,787	51,588
80	125,188	76,009	64,824	55,471
81	120,956	76,151	65,692	56,841
82	109,551	71,120	61,955	54,124
83	112,368	74,446	65,282	57,403
84	108,645	73,915	65,364	57,948
85	102,685	71,784	64,026	57,240
86	88,133	63,178	56,804	51,184
87	96,732	70,891	64,191	58,241
88	79,228	59,142	53,881	49,186
89	57,087	44,179	40,715	37,590
90	92,652	73,172	67,875	63,065
91	103,572	86,498	81,691	77,255
92	96,060	80,680	76,342	72,334
93	103,013	88,379	84,178	80,265
94	109,576	95,991	92,038	88,334
95	54,080	48,769	47,203	45,726
96	178,642	158,617	152,754	147,241
97	45,729	42,984	42,140	41,326
98	48,071	44,316	43,180	42,095
99	140,647	132,686	130,229	127,861

Sources: SHARE and Eurostat

**Table 4. Reverse Mortgage - 100% House Value
Annuities (in Euro)**

Country	House value	Interest=6%	Interest=8%	Interest=10%
Austria	119,778	4,158	3,492	2,930
Germany	121,436	4,086	3,408	2,837
Sweden	84,317	3,019	2,547	2,148
Netherlands	119,954	4,647	3,957	3,367
Spain	186,104	7,207	6,133	5,214
Italy	176,410	5,906	4,934	4,118
France	184,180	6,422	5,401	4,541
Denmark	97,696	3,955	3,382	2,889
Greece	103,701	4,351	3,745	3,224
Switzerland	126,877	4,646	3,927	3,317
Belgium	147,354	5,680	4,833	4,109

Source: SHARE

**Table 5. Poverty reduction (percentage points)
100% House Value
Wave 1 - 2004
Poverty I**

Country	Interest=6%	Interest=8%	Interest=10%
Austria	4.71	4.52	3.77
Germany	5.95	4.66	3.75
Sweden	3.65	3.20	2.76
Netherlands	7.62	7.43	7.06
Spain	11.67	11.46	10.83
Italy	20.27	17.21	13.80
France	5.93	5.80	4.96
Denmark	11.58	10.40	10.40
Greece	12.83	11.33	10.67
Belgium	8.01	7.26	6.84

Source: SHARE

**Table 6. Poverty reduction (percentage points)
100% House Value
Wave 1 - 2004
Poverty II**

Country	Interest=6%	Interest=8%	Interest=10%
Austria	7.16	6.40	5.84
Germany	9.31	8.54	8.02
Sweden	6.74	6.08	5.52
Netherlands	9.11	8.18	7.62
Spain	17.92	17.50	16.67
Italy	13.12	11.93	10.90
France	11.00	10.40	9.19
Denmark	13.95	13.00	10.87
Greece	19.83	18.00	16.83
Switzerland	13.16	12.78	11.65
Belgium	12.29	11.97	11.32

Source: SHARE

**Table 7. Poverty reduction (percentage points)
100% House Value
Wave 2 - 2006
Poverty I**

Country	Interest=6%	Interest=8%	Interest=10%
Austria	7.21	6.81	6.21
Germany	7.82	6.98	5.73
Sweden	7.63	6.59	6.24
Netherlands	7.45	7.25	7.06
Spain	21.20	20.05	18.43
Italy	22.72	20.54	18.78
France	8.52	7.39	6.52
Denmark	23.21	21.61	19.71
Greece	16.77	15.26	14.65
Belgium	8.00	7.38	6.88

Source: SHARE

Table 8. Poverty reduction (percentage points)
100% House Value
Wave 2 - 2006
Poverty II

Country	Interest=6%	Interest=8%	Interest=10%
Austria	6.81	6.41	6.01
Germany	6.01	5.87	5.17
Sweden	5.55	4.97	4.86
Netherlands	7.84	7.25	7.06
Spain	21.20	20.51	19.82
Italy	12.24	11.70	10.88
France	11.78	11.28	9.65
Denmark	15.62	14.74	14.16
Greece	19.49	18.73	18.13
Switzerland	7.87	7.02	6.18
Belgium	9.88	9.25	9.00

Source: SHARE

Table 9. Reverse Mortgage - Inheritance (in Euro)
100% House Value

Country	House value	Interest=6%	Interest=8%	Interest=10%
Austria	193,981	77,393	84,540	91,524
Germany	216,808	85,524	93,544	101,386
Sweden	117,698	47,500	51,791	55,984
Netherlands	254,994	106,059	115,032	123,794
Spain	204,692	85,127	92,315	99,333
Italy	201,394	79,302	86,818	94,165
France	247,759	99,007	108,145	117,076
Denmark	150,134	63,547	68,708	73,745
Greece	111,475	47,875	51,680	55,394
Switzerland	250,532	101,968	110,988	119,798
Belgium	190,759	79,189	85,911	92,475

Source: SHARE

**Table 10. Reverse Mortgage - 50% House Value
Annuities (in Euro)**

Country	House value	Interest=6%	Interest=8%	Interest=10%
Austria	119,778	2,079	1,746	1,465
Germany	121,436	2,043	1,704	1,418
Sweden	84,317	1,510	1,274	1,074
Netherlands	119,954	2,324	1,978	1,683
Spain	186,104	3,604	3,066	2,607
Italy	176,410	2,953	2,467	2,059
France	184,180	3,211	2,700	2,270
Denmark	97,696	1,977	1,691	1,445
Greece	103,701	2,175	1,872	1,612
Switzerland	126,877	2,323	1,964	1,658
Belgium	147,354	2,840	2,416	2,054

Source: SHARE

**Table 11. Poverty reduction (percentage points)
50% House Value
Wave 1 - 2004
Poverty I**

Country	Interest=6%	Interest=8%	Interest=10%
Austria	2.82	2.64	2.26
Germany	2.98	2.59	1.81
Sweden	2.32	1.88	1.88
Netherlands	6.69	6.32	5.20
Spain	10.42	9.79	8.96
Italy	11.58	10.39	8.35
France	4.47	4.35	3.75
Denmark	8.27	7.09	6.38
Greece	7.83	6.83	6.33
Belgium	5.56	5.13	4.59

Source: SHARE

**Table 12. Poverty reduction (percentage points)
50% House Value
Wave 1 - 2004
Poverty II**

Country	Interest=6%	Interest=8%	Interest=10%
Austria	5.27	4.71	4.33
Germany	6.34	5.56	4.92
Sweden	4.42	4.09	3.65
Netherlands	6.69	6.13	5.20
Spain	14.58	13.75	13.33
Italy	9.37	8.69	7.67
France	8.34	7.38	6.17
Denmark	8.51	6.62	5.91
Greece	13.00	11.50	10.83
Switzerland	9.77	9.02	7.89
Belgium	10.04	9.62	7.26

Source: SHARE

**Table 13. Poverty reduction (percentage points)
50% House Value
Wave 2 - 2006
Poverty I**

Country	Interest=6%	Interest=8%	Interest=10%
Austria	5.21	4.61	3.81
Germany	3.91	3.21	2.65
Sweden	4.74	4.62	4.28
Netherlands	6.67	6.27	5.88
Spain	16.36	14.75	14.29
Italy	15.78	13.47	10.34
France	5.64	5.39	4.76
Denmark	15.91	14.16	12.26
Greece	10.42	9.67	8.61
Belgium	5.38	4.88	4.38

Source: SHARE

Table 14. Poverty reduction (percentage points)
50% House Value
Wave 2 - 2006
Poverty II

Country	Interest=6%	Interest=8%	Interest=10%
Austria	5.21	4.61	4.21
Germany	4.05	3.77	3.49
Sweden	4.28	4.05	3.82
Netherlands	6.47	5.88	5.69
Spain	18.43	17.28	15.67
Italy	9.80	8.57	7.48
France	8.52	7.39	6.14
Denmark	12.41	11.53	10.36
Greece	14.35	13.14	12.24
Switzerland	5.90	5.90	5.34
Belgium	8.75	8.13	7.25

Source: SHARE

Table 15. Reverse Mortgage - Inheritance (in Euro)
50% House Value

Country	House value	Interest=6%	Interest=8%	Interest=10%
Austria	193,981	135,687	139,260	142,753
Germany	216,808	151,166	155,176	159,097
Sweden	117,698	82,599	84,744	86,841
Netherlands	254,994	180,527	185,013	189,394
Spain	204,692	144,910	148,504	152,013
Italy	201,394	140,348	144,106	147,780
France	247,759	173,383	177,952	182,417
Denmark	150,134	106,841	109,421	111,940
Greece	111,475	79,675	81,577	83,434
Switzerland	250,532	176,250	180,760	185,165
Belgium	190,759	134,974	138,335	141,617

Source: SHARE

Table 16
Poverty reduction (percentage points)
30% House Value
Interest rate 8%
Wave 1 - 2004

Country	Poverty I	Poverty II
Austria	1.32	3.39
Germany	0.91	4.01
Sweden	1.33	2.43
Netherlands	4.83	4.46
Spain	8.13	10.63
Italy	5.62	6.64
France	3.39	5.20
Denmark	4.49	4.02
Greece	4.50	9.00
Switzerland		6.39
Belgium	4.49	5.56

Source: SHARE

Table 17. Poverty reduction (percentage points)
50% House Value
Wave 1 - 2004

Country	Poverty I		Poverty II	
	Interest=5%	Interest=8%	Interest=5%	Interest=8%
Austria	3.01	2.64	5.27	4.71
Germany	3.23	2.59	6.34	5.56
Sweden	2.43	1.88	4.42	4.09
Netherlands	7.06	6.32	6.69	6.13
Spain	10.42	9.79	14.58	13.75
Italy	12.78	10.39	9.37	8.69
France	4.59	4.35	8.34	7.38
Denmark	8.51	7.09	8.51	6.62
Greece	8.33	6.83	13.00	11.50
Switzerland			9.77	9.02
Belgium	5.66	5.13	10.04	9.62

Source: SHARE

**Table 18. Poverty reduction (percentage points)
50% House Value
Wave 2 - 2006**

Country	Poverty I		Poverty II	
	Interest=5%	Interest=8%	Interest=5%	Interest=8%
Austria	5.41	4.61	5.21	4.61
Germany	4.47	3.21	4.05	3.77
Sweden	4.86	4.62	4.28	4.05
Netherlands	7.06	6.27	6.47	5.88
Spain	16.82	14.75	18.43	17.28
Italy	16.87	13.47	9.80	8.57
France	5.89	5.39	8.52	7.39
Denmark	16.50	14.16	12.41	11.53
Greece	11.18	9.67	14.35	13.14
Switzerland			5.90	5.90
Belgium	6.00	4.88	8.75	8.13

Source: SHARE

**Table 19. Poverty reduction (percentage points)
30% House Value
Wave 1 - 2004**

Country	Poverty I		Poverty II	
	Interest=5%	Interest=8%	Interest=5%	Interest=8%
Austria	2.26	1.32	4.14	3.39
Germany	1.68	0.91	4.53	4.01
Sweden	1.88	1.33	3.09	2.43
Netherlands	5.58	4.83	5.39	4.46
Spain	8.75	8.13	12.50	10.63
Italy	8.01	5.62	7.84	6.64
France	3.75	3.39	6.41	5.20
Denmark	5.67	4.49	5.44	4.02
Greece	5.67	4.50	10.00	9.00
Switzerland			7.52	6.39
Belgium	4.91	4.49	7.05	5.56

Source: SHARE

Table 20. Poverty reduction (percentage points)
30% House Value
Wave 2 - 2006

Country	Poverty I		Poverty II	
	Interest=5%	Interest=8%	Interest=5%	Interest=8%
Austria	4.01	2.61	3.81	3.21
Germany	2.65	2.37	3.35	2.51
Sweden	3.70	3.24	3.70	3.24
Netherlands	6.08	5.10	5.69	5.29
Spain	13.82	12.67	14.98	13.13
Italy	11.16	8.71	7.48	6.53
France	4.26	3.76	6.14	4.89
Denmark	11.68	9.05	9.49	8.03
Greece	7.70	5.74	11.48	10.57
Switzerland			5.06	5.06
Belgium	4.38	3.75	7.25	5.88

Source: SHARE

Table 21
Financial wealth - Annuities (in Euro)
Interest rate: 2.5%
Wave 1 - 2004

Country	Tot. fin. wealth	Fin. wealth: 30%	Fin. wealth: 50%	Fin. wealth: 70%
Austria	20,956	441	735	1,029
Germany	36,113	769	1,282	1,794
Sweden	40,867	898	1,496	2,095
Netherlands	45,011	1,029	1,715	2,401
Spain	13,461	302	504	706
Italy	15,594	322	537	752
France	34,964	788	1,313	1,838
Denmark	35,911	845	1,409	1,973
Greece	10,613	241	402	563
Switzerland	82,902	1,840	3,067	4,293
Belgium	55,421	1,267	2,111	2,956

Source: SHARE

Table 22
Financial wealth - Annuities (in Euro)
Interest rate: 2.5%
Wave 2 - 2006

Country	Tot. fin. wealth	Fin. wealth: 30%	Fin. wealth: 50%	Fin. wealth: 70%
Austria	21,938	455	759	1,062
Germany	36,003	751	1,251	1,751
Sweden	53,909	1,174	1,957	2,739
Netherlands	49,858	1,143	1,905	2,666
Spain	19,106	410	683	956
Italy	18,760	386	643	900
France	35,605	762	1,270	1,778
Denmark	50,964	1,125	1,874	2,624
Greece	8,107	178	297	415
Switzerland	98,463	2,123	3,539	4,955
Belgium	55,971	1,238	2,063	2,888

Source: SHARE

Table 23
Financial wealth - Annuities (in Euro)
Interest rate: 5%
Wave 1 - 2004

Country	Tot. fin. wealth	Fin. wealth: 30%	Fin. wealth: 50%	Fin. wealth: 70%
Austria	20,956	526	876	1,227
Germany	36,113	915	1,525	2,134
Sweden	40,867	1,062	1,770	2,478
Netherlands	45,011	1,207	2,012	2,817
Spain	13,461	356	593	831
Italy	15,594	386	643	900
France	34,964	927	1,546	2,164
Denmark	35,911	987	1,644	2,302
Greece	10,613	283	472	661
Switzerland	82,902	2,172	3,621	5,069
Belgium	55,421	1,487	2,478	3,469

Source: SHARE

Table 24
Financial wealth - Annuities (in Euro)
Interest rate: 5%
Wave 2 - 2006

Country	Tot. fin. wealth	Fin. wealth: 30%	Fin. wealth: 50%	Fin. wealth: 70%
Austria	21,938	545	908	1,271
Germany	36,003	897	1,495	2,092
Sweden	53,909	1,391	2,319	3,246
Netherlands	49,858	1,341	2,235	3,129
Spain	19,106	487	811	1,136
Italy	18,760	462	770	1,078
France	35,605	907	1,511	2,115
Denmark	50,964	1,329	2,215	3,100
Greece	8,107	211	351	491
Switzerland	98,463	2,520	4,200	5,881
Belgium	55,971	1,462	2,436	3,411

Source: SHARE

Table 25
Poverty reduction (percentage points)
100% House Value
Interest rate reverse mortgage: 6%
Interest rate financial wealth: 2.5%
Wave 1 - 2004
Poverty I

Country	Fin. wealth: 30%	Fin. wealth: 50%	Fin. wealth: 70%
Austria	4.71	5.08	5.08
Germany	6.99	7.37	7.89
Sweden	5.30	6.08	6.41
Netherlands	9.11	9.11	9.48
Spain	12.08	12.29	12.29
Italy	20.78	20.95	21.12
France	6.17	6.65	7.01
Denmark	14.42	15.84	15.84
Greece	13.00	13.17	13.67
Belgium	9.29	9.94	10.58

Source: SHARE

Table 26
Poverty reduction (percentage points)
100% House Value
Interest rate reverse mortgage: 6%
Interest rate financial wealth: 2.5%
Wave 2 - 2006
Poverty I

Country	Fin. wealth: 30%	Fin. wealth: 50%	Fin. wealth: 70%
Austria	7.62	7.82	7.62
Germany	9.64	10.89	11.59
Sweden	9.71	10.52	11.33
Netherlands	9.02	9.61	10.00
Spain	21.89	22.35	22.35
Italy	23.27	23.40	23.95
France	9.52	9.90	10.28
Denmark	28.76	30.95	31.24
Greece	17.22	17.22	17.22
Belgium	9.25	9.50	9.88

Source: SHARE

Table 27
Poverty reduction (percentage points)
100% House Value
Interest rate reverse mortgage: 8%
Interest rate financial wealth: 5%
Wave 1 - 2004
Poverty I

Country	Fin. wealth: 30%	Fin. wealth: 50%	Fin. wealth: 70%
Austria	4.52	4.90	5.08
Germany	5.95	6.86	7.12
Sweden	5.30	5.97	6.30
Netherlands	8.92	9.11	9.85
Spain	11.88	12.08	12.08
Italy	18.74	19.08	19.42
France	6.17	6.41	6.89
Denmark	13.71	15.37	15.84
Greece	11.67	11.67	11.83
Belgium	8.87	9.62	10.26

Source: SHARE

Table 28
Poverty reduction (percentage points)
100% House Value
Interest rate reverse mortgage: 8%
Interest rate financial wealth: 5%
Wave 2 - 2006
Poverty I

Country	Fin. wealth: 30%	Fin. wealth: 50%	Fin. wealth: 70%
Austria	7.01	7.21	7.21
Germany	9.36	11.03	11.73
Sweden	9.71	10.17	11.10
Netherlands	9.22	9.61	10.20
Spain	20.51	21.43	21.89
Italy	21.22	21.63	21.90
France	8.77	9.40	9.90
Denmark	28.32	30.07	30.80
Greece	15.56	15.86	15.86
Belgium	8.50	9.13	9.25

Source: SHARE

Appendix

SHARE data

For our empirical analysis we have used the Survey on Health, Ageing and Retirement in Europe (SHARE) dataset, a survey which in 2004 started collecting data on the individual life circumstances of persons aged 50 and over in 12 European countries: Austria, Belgium, Denmark, France, Germany, Greece, Israel, Italy, the Netherlands, Spain, Sweden, and Switzerland. In addition, three new countries joined the survey in wave 2 which was released between 2006 and 2007: the Czech Republic, Poland, and Ireland. The survey covered 19,286 households and 32,022 individuals and its main purpose was to collect comparable information about health status, income, wealth and household characteristics of elderly people for different European countries, following the example initiated by the US Health and Retirement Study (HRS) and the English Longitudinal Survey on Ageing (ELSA).

Since we want to exploit the longitudinal dimension of the survey, we have restricted the analysis to the 11 countries which were present in both waves of the surveys, thus excluding Israel, the Czech Republic, Poland, and Ireland. As a result, we were left with the following 11 countries: Austria, Belgium, Denmark, France, Germany, Greece, Italy, Netherlands, Spain, Sweden, and Switzerland.

The use of reverse mortgages around the world

Reverse mortgage in the US

The most common - and usually the least expensive - type of reverse mortgage in the US¹³ is the FHA¹⁴'s Home Equity Conversion Mortgage (HECM) program, which is designed for homeowners (also couples) aged 62 or older. It has been authorized since 1987. People who are interested in obtaining a reverse mortgage are obliged to participate in a consumer information session given by a HUD¹⁵ approved HECM counsellor. This ensures that borrowers are fully informed about the financial implications of this kind of mortgage and about its alternatives.

There are five different payment plans:

- **Tenure:** equal monthly payments as long as at least one borrower lives and continues to occupy the property as a principal residence.
- **Term:** equal monthly payments for a fixed period of months selected by the borrower. At the end of the term, the borrower does not have to repay immediately the loan, but he does not receive any other payment.
- **Line of Credit:** it is possible to have unscheduled payments or instalments, at times and in an amount selected by the borrower until the line of credit is exhausted. An attractive feature of this method is that the amount of cash available and not withdrawn usually grows over time at the same interest rate applied to the reverse mortgage plus 0.5%. For instance, suppose the borrower has a credit-line of \$120,000, the interest rate is 5.5%, and he immediately withdraws \$20,000, leaving \$100,000. After one year, the available credit-line would be \$106,000, i.e. \$100,000 plus $(5.5\%+0.5\%)$ times \$100,000.
- **Modified Tenure:** combination of line of credit and scheduled monthly payments for as long as the borrower remain in the home.
- **Modified Term:** combination of line of credit plus monthly payments for a fixed period of months selected by the borrower.

¹³ Other reverse mortgages are: Deferred Payment Loans (DPLs) offered by several local and state government agencies, Property Tax Deferral (PTD) offered by the public sector only to pay borrowers' property taxes, and Proprietary Reverse Mortgages developed by private companies mainly for homeowners whose house worth more than the HECM limit

¹⁴ Federal Housing Administration.

¹⁵ U.S. Department of Housing and Urban Development.

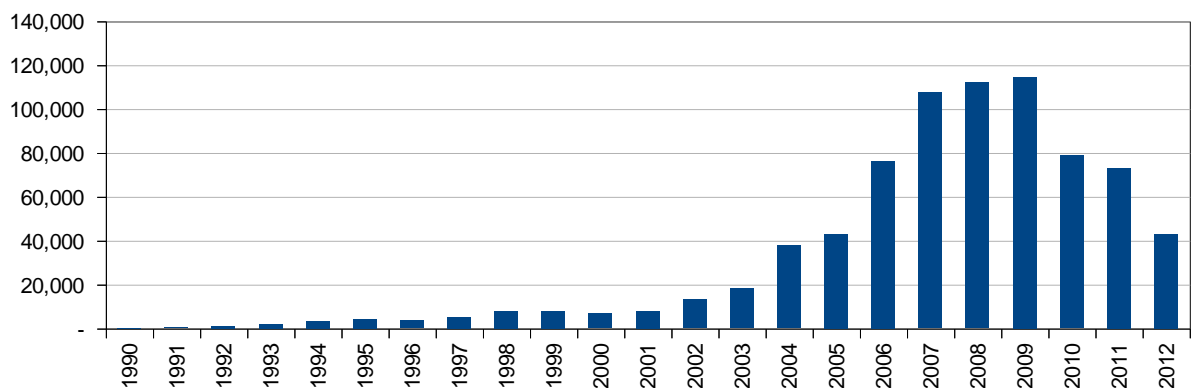
The FHA is responsible for paying the lender for any difference between the total loan amount and the amount for which the mortgaged property is actually sold. FHA insurance also ensures payments to the borrower in the event the lender is unable or unwilling to make payments, and regardless of what happens to the property's value. For this reason, there is an initial Mortgage Insurance Premium (MIP). In case of HECM Standard it is 2% of the lesser of the appraised value of the home, the FHA HECM mortgage limit of \$625,500 or the sales price. On the other end, the HECM Saver - introduced on October 4, 2010 - only charges 0.01%. However, in the latter case it is possible to borrow a lower amount of money. Moreover, in both cases it is applied an annual MIP of 1.25% of the mortgage balance¹⁶.

Other costs include interests, third party charges, servicing fees, and origination fees. The latter is equal to \$2500 if the value of the house is less than \$125,000, otherwise it is equal to 2% of the first \$200,000 of the home's value plus 1% of the amount over \$200,000. The cap for this fee is \$6,000.

It is possible to easily find several tables - like for instance the one in AARP (2010) - which show how much a homeowner can get from a HECM at different ages and using different interest rates.

As shown in Table A1 the number of reverse mortgages has increased exponentially in the last decade, although it has dropped sharply after 2009. However, this could be interpreted as a short-lived reaction to the sub-prime crisis, rather than a change in the long-term trend.

Table A1: Number of HECM in the US, 1990-2012

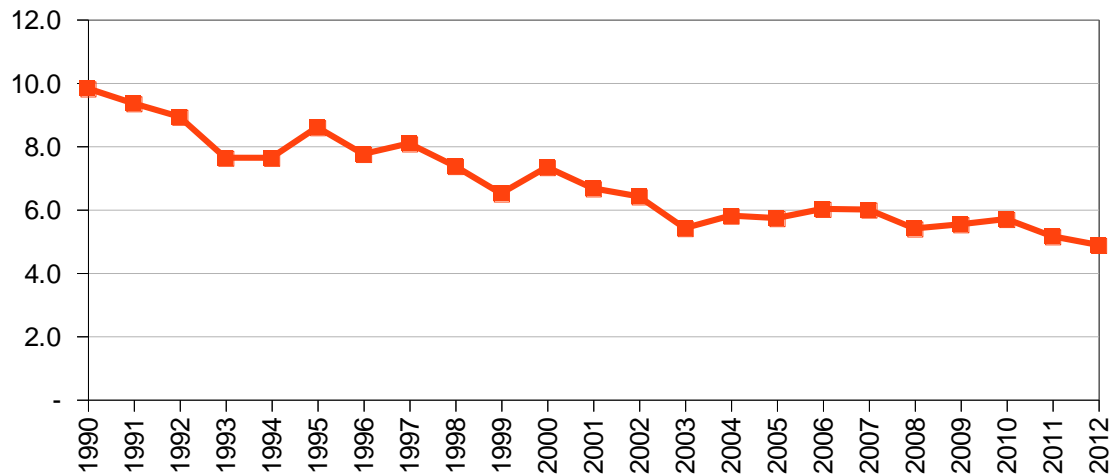


Source: HUD, June 2012

¹⁶ A mortgage balance is the full amount owed at any period of time during the duration of the mortgage.

Furthermore, Table A2A2 shows the gradual decrease in HECM average interest rates. More precisely, it represents the expected interest rate for HECM, i.e. the 10-Yr constant maturity treasury rate at closing plus lender margin.

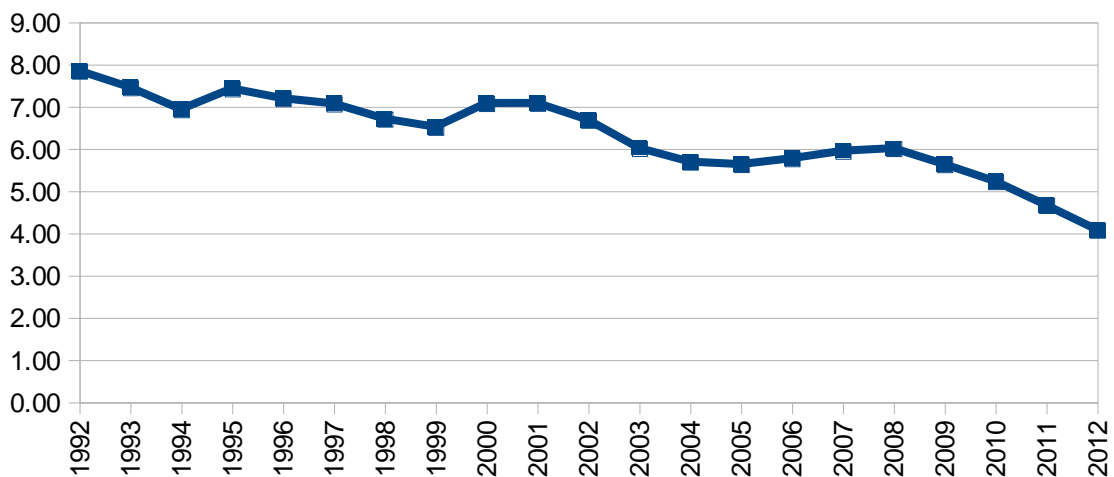
Table A2: Average expected interest rate for HECM in the US, 1990-2012



Source: HUD, June 2012

It is interesting to compare it with the historical pattern of the average interest rates for FHA-Insured 30-yr fixed rate one living unit home mortgages¹⁷ displayed in Table A3.

Table A3: Average expected interest rate home mortgage in the US, 1990-2012



Source: HUD, May 2012

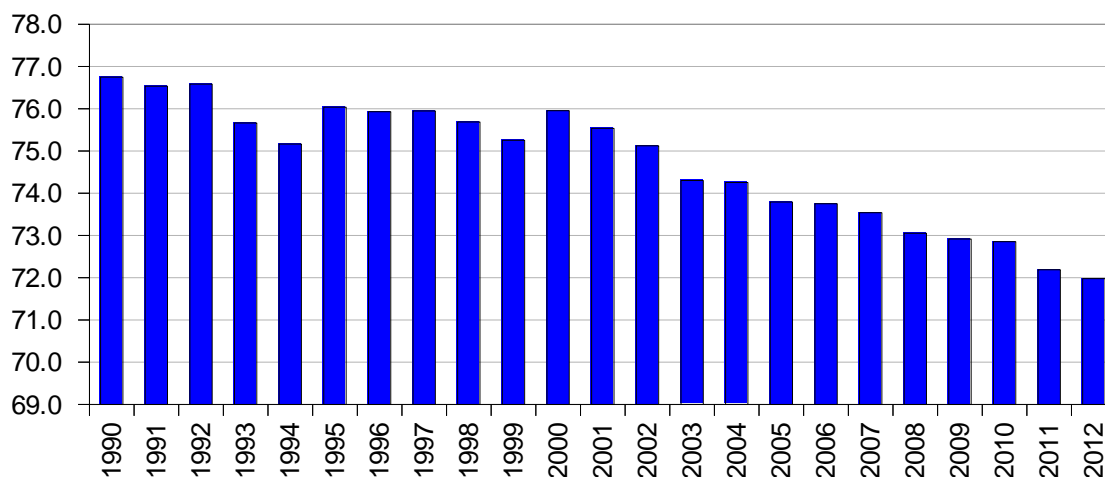
¹⁷ These interest rates are computed without considering the HECM loans

In addition to this, according to the FED, in June 2012 the average 30-year fixed-rate conventional mortgage rate was 3.68%.

Table A4 shows the average age of those who have applied for the HECM programme. Starting from 2000, there has been a constant decrease in the average age. This could be interpreted as a signal in favour of the life-cycle model, showing that people are starting to decumulate at early stage, as it would be expected.

On the other hand, since reverse mortgages are often used as an extreme solution to liquidity constraints, this decrease could indicate an increase in poverty among the elderly¹⁸.

Table A4: Average borrower age in the US, 1990-2012

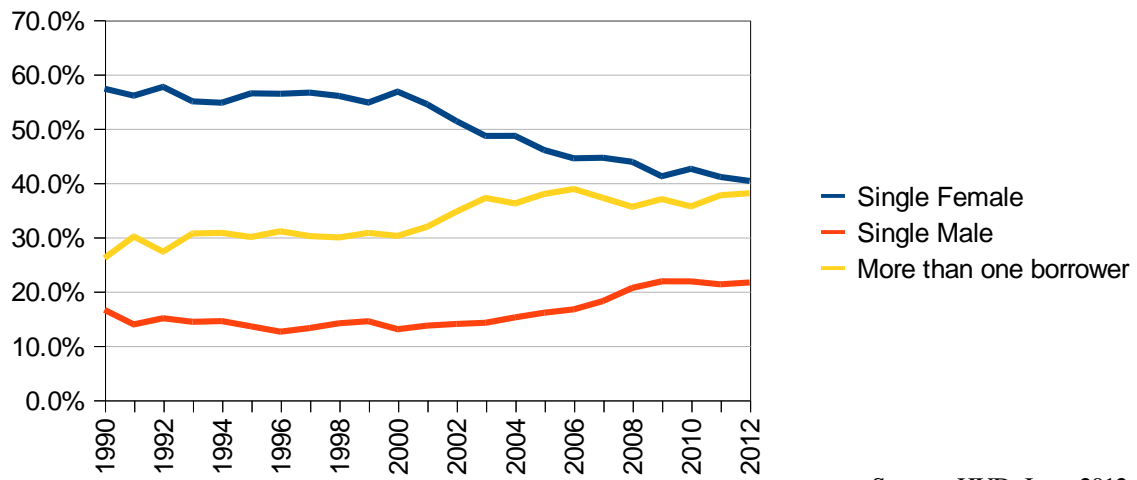


Source: HUD, June 2012

It is possible to verify from Table A5 how the type of HECM borrower has evolved over time in the US. The proportion of single female has decreased over time, although remaining the highest one.

¹⁸ Cf. Banerjee [2012].

Table A5: Type of borrower in the US, 1990-2012



Source: HUD, June 2012

Finally, according to Shan [2009], the average reverse mortgage originations as a percentage of owner-occupied units with householders aged 60 or above in 1989-2007 are high in the West Coast, while they remain relatively low in the central states.

Reverse mortgage in the UK

There are two types of equity release available to individuals aged 55 and over in UK: Lifetime Mortgages and Home Reversion plans.

In the past decades reverse mortgages have been criticized in the United Kingdom because of their unexpected impact on some consumers. Indeed, in the late 1980s thousands of retired people took out variable rate reverse mortgages and put the money thereby obtained into stock market-related investment bonds. The income from these bonds was expected to be sufficient to pay the interest on the mortgage and provide additional regular income. However, the market produced poor returns on the bonds, and at the same time interest rates rose and property values fell. Many consumers' debts exceeded the value of their properties, so that lenders evicted them and a significant number are still involved in court actions with providers¹⁹.

For this reason, in 1991 Safe Home Income Plans (SHIP) was established as a self-regulatory body for equity release products. From October 2004, the United Kingdom's Financial Services Authority (FSA) has regulated mortgages, including reverse mortgages and home reversion schemes. In particular, in the new regime reverse mortgages are considered to be higher risk and, accordingly, the FSA provides extensive guidance relating to the sale of these products to protect vulnerable older consumers²⁰.

Types of equity release available²¹:

- **Roll-up lifetime mortgage:** elderly people receive an agreed sum against the value of their property and interest payments are added each year to the loan. The total amount repaid to the provider when the property is eventually sold is the initial loan amount plus any accumulated interest. For most plans the interest rate is fixed and does not change during their lifetime.
- **Drawdown lifetime mortgage:** Works the same as a roll-up lifetime mortgage except people can choose to release the money flexibly, as and when they need it. They can choose to have money in a reserve account, ready to withdraw. Interests will not accrue on the money held in reserve until borrowers released it. It allows to reduce the interest charge and have the safety of a cash reserve.
- **Interest only lifetime mortgage:** As with the Roll-up and Drawdown lifetime mortgages, borrowers receive a cash lump-sum and maintain 100% home ownership. Unlike the others,

¹⁹ Cf. McCrone [2004].

²⁰ Despite all these regulations, international researches show that advice given to borrowers is often inadequate. Cf. ASIC (2005).

²¹ Source: Responsible Equity Release at <http://www.responsibleequityrelease.co.uk/equityreleasemortgages.php>

though, borrowers can choose to pay the interest on a monthly basis. In fact, they can choose to pay anything from £25 per month up to the full amount of interest due. Any interest not paid will accrue as with the Roll-up lifetime mortgage. It is possible to decide how long they want to pay interest for (for example, 1 year, 5 years or even up to the lifetime of the loan). If they decide they don't want to make monthly payments any more, they can stop and the plan will change to a regular Roll-up lifetime mortgage.

- **Home reversion plan:** A home reversion scheme involves the elderly selling part or all of the value of their property to the equity release provider in exchange for a lump sum. The cash lump sum that they would receive is the actual value of the full market value of the property.

SHIP [2009] and SHIP [2012] provides information on the growth of equity release products over the last years in the UK. Lifetime mortgages are by far the most important product and they increased significantly between the late '90s and early '00s. Subsequently, as in the case of the US, there has been an absolute reduction in the number of reverse mortgage after the sub-prime crisis. Nevertheless, from a relative point of view things change. Indeed, according to FSA [2011], there was a slight increase in the sales of lifetime mortgages between the second quarter of 2010 and the first quarter of 2011. The proportion of lifetime mortgages over total mortgages increased slightly - by 0.1 percentage points - up to 2.2% during this period; however, the biggest rise took place between the first quarter of 2008 and the second quarter of 2009 (from 1.1% to 2.4%), at the height of the crisis. In fact, in that period total sales of mortgages contracted by 52%, whilst lifetime mortgages expanded by 0.3%. The most likely reason behind this trend is that for elderly people reverse mortgage might have been the only source of income, particularly if their pensions were below or around subsistence level.

There is a common perception that the interest rates applied to lifetime mortgages are significantly higher than the interest rates associated with standard mortgages. In fact, as emerges from an Ernst and Young analysis [June 2009], the differential should not be overstated. Between April 1999 and April 2009, the lifetime mortgage interest rate was on average 1.3% higher than the average five year fixed mortgage interest rate; 1.1% above the average 10 year fixed mortgage interest rate; and just 0.5% above the standard variable rate²². These spreads narrowed sharply after 2006.

²² The Standard Variable Interest Rate (SPV) is based on Bank of England's base lending rate.

It is worth noting that the higher lifetime mortgage interest rate is due to a number of factors. Firstly, the NNEG²³ and other guarantees need to be financially sustained. Secondly, the fact that the average duration of a lifetime mortgage is longer than that of a standard mortgage introduces additional interest rate risk for the provider. Last but not least, the investor perspective is important here. Indeed, reverse mortgages have been introduced relatively recently, and its market is still thin and not liquid. Moreover, lifetime mortgage assets tend to be viewed as longer-term and somewhat less certain. Therefore, markets impose a premium price for risk when they do not feel familiar with a product. These factors combine to increase the required interest rates on these products. However, if the equity release market becomes more mainstream, it may be likely to see a decline in the interest rates on lifetime mortgages.

Overall, borrowers surveys²⁴ suggest there are two distinct (and somewhat opposing) trends: an increase in people using released equity for lifestyle purposes (holidays, leisure time, etc.), while several people use reverse mortgages to pay back their debts. This latter trend might be a result of increased indebtedness of the UK population over the last ten years, combined with the recent economic crisis which has left many pensioners without an adequate income from their savings. On the other hand, the former trend is likely to be the result of overall higher house prices - at least before the recent economic crisis, a shift in attitudes towards using housing equity in retirement, and the higher expectations of retiring baby boomers looking to maintain their standards of living in later life.

²³ Borrowers have a no negative equity guarantee (NNEG), which means that they will never owe more than the value of their home.

²⁴ Cf. SHIP [2012]

Reverse mortgage in Australia

Starting from 2004, Australia has seen a rapid development in the range of equity release products²⁵. The three types of products available in Australia are²⁶:

- **Reverse mortgages:** the consumer's house is used as collateral for a loan, which is provided to the consumer in the form of a lump sum, a regular stream of payments or both.
- **Home reversion schemes:** borrowers sell part or all of their homes to a reversion company. The homes are sold for less than their market prices - namely, the actual prices of their market value - but borrowers can remain in the property until they die or voluntarily leave the homes.
- **Shared appreciation mortgages (SAMs):** borrowers give up the rights to some of the capital gains on the properties in return for paying reduced or no interest on those parts of their borrowings.

These products are usually available for homeowners aged 60 or over, also without an income. The sector is monitored by the Australian Securities&Investments Commission (ASIC).

To better understand the product, it can be useful to have a look at the simulation provided by ASF²⁷. Suppose that Mr and Mrs Smith are both aged 73 and own their home. Their property is valued at \$350,000. They apply for \$30,000. Then, after five years, they apply for a further advance of \$20,000. Five years later, they decide to and apply for a further advance of \$20,000.

Assuming that Establishment fee is \$995, variable interest rate is 8.30% per annum, Mortgage Discharge fee is \$395, and Variation fee is \$295, it is possible to verify that the amount of capital remaining for Mr and Mrs Smith, or their beneficiaries, after the loan is repaid would decrease as they get older if the annual property growth rate were 2%, while it would increase slightly over time with a rate of 5%, and it would raise exponentially if the rate were 8%.

²⁵ Between the first quarter of 2004 and the first quarter of 2005, the number of new loans provided was 8,899, going in actual terms from \$468 million to \$770 million. This growth was mainly due to ageing population and rising housing prices.

²⁶ Source: ASIC [2005]

²⁷ Australian Seniors Finance (ASF) is an Australian company specialized in home equity release

Reverse mortgage in New Zealand

Equity release schemes have been introduced only recently in New Zealand. The Housing Corporation of New Zealand began a pilot scheme *Helping Hand Loans* in November 1990. So far, reverse mortgages have been almost synonymous with home equity release in New Zealand and are the most common form of scheme currently available, provided by the main players in the market as well as by smaller providers (at least before the recent financial crisis).

In general, firms have offered this kind of products to people aged at least 60. Usually, if a couple apply for a reverse mortgage, the youngest partner is the one who has to be 60-year-old or more, although Sentinel may consider applications where the younger spouse is aged 55-59. In practice, people tend to enter the schemes at an older age.

Reverse mortgages can take the form of lump sums - by far the most common - annuities, and line-of-credit schemes. In this latter case, there is usually an inflation clause, which means that the amounts not drawn will increase at 5% annually. Moreover, most schemes guarantee that the borrower's liability will never exceed the market value of the home ("no negative equity guarantee").

Looking at the market before the 2007-2009 crisis, Trowbridge Deloitte actuaries published a study of the New Zealand reverse mortgage sector in late 2006²⁸. This research found that in 2006 the market doubled over the year. Indeed, more than 4,500 loans were issued with an overall value of \$227 million.

Albeit reverse mortgages do not have a good reputation, as in the US and UK, surveys of equity release clients have found high levels of satisfaction²⁹.

As an example, one of the most important operators in this market, namely Sentinel, allows homeowners aged 60 to borrow up to 15% of their home's value. This percentage increase of 1 percentage point for each year of age, up to 45% for individuals aged 90 or more³⁰. Moreover, the minimum value of the house has to be \$150,000, whereas the maximum loan amount is \$250,000. As far as the interest rate is concern, in 2011 Sentinel did not offer reverse mortgages with fixed interest rate, while the variable rate was 6.7% per annum compound and added to the loans monthly. However, Sentinel aims to maintain the variable rate at approximately 1.5% above the major banks' variable mortgage lending rates.

In a simulation provided by Sentinel [2011], it has been assumed that a couple aged 73 and 74 year takes out a lifetime loan for \$40,000 in the form of lump sum, while their home's value is \$230,000.

²⁸ Hickey and Sorbello [2007].

²⁹ Cf. Davey and Wilton [2006].

³⁰ Cf. Sentinel [2011a-2011b].

Moreover, it is supposed that the average interest rate during a 15 year loan period is 9.95%, while the average property growth rate is assumed to be a modest 5%. After 15 years (note that 15 years is just an example), the value of the home would exceed the loan amount by over \$250,000.

In addition to private cost and benefits, reverse mortgages may be a useful tool in order to increase individual responsibility by making use of capital tied up in homes. Policies may aim at exploiting housing wealth to provide funds for the care of older people, in the community as well as institutional care, to meet health costs and to maintain the housing stock. These could help to ease the strain on the public sector budget in the face of ageing population.

References

- AARP, *Reverse mortgage loans: borrowing against your house*, October 2010 Update
- Australian Security&Investment Commission (ASIC), *Equity release products*, Report 59, November 2005
- [Australian Seniors Finance \(ASF\), Frequently asked question about the Lifetime Loan](#)
- Banerjee, S. (2012), *Time trends in poverty for older Americans between 2001-2009*, Employee Benefit Research Institute, 33(4)
- Davey, J.A. (2007), *Home Equity Release Products in New Zealand: Risks and Opportunities - Report to Retirement Commission*, 2007 Review of Retirement Income Policies
- Davey, J.A. and Wilton, V. (2006), *Home Equity Release Schemes in New Zealand: Consumer Perspectives*, New Zealand Institute for Research on Ageing Victoria University of Wellington, Final Report on Research for the Retirement Commission and the Office for Senior Citizens
- Equity Release Council, SHIP Equity Release, *Facing the Future - Redefining equity release to meet today's social and economic challenges*, Discussion paper, July 2009
- Equity Release Council, SHIP Equity Release, *SHIP 20th anniversary report - December 1991 to December 2011*, Discussion paper, May 2012.
- Feinstein, J.S., and McFadden, D. (1989), *The dynamics of housing demand by the elderly: Wealth, cash flow, and demographic effects*, in Wise, D.A. (Ed.), *The economics of aging*, Chicago: University of Chicago Press: 55-86.
- Financial Services Authority (FSA), *Mortgages Product Sales Data (PSD) - Trend Report: 2005-2011*, August 2011
- Hickey, J. and Sorbello, R. (2007), *Trowbridge Deloitte New Zealand Reverse Mortgage Market Study December 2006*, Press release 26 April.
- Hurd, M. (1986), *Savings and Bequests*, NBER Working Paper No. 1826, January.
- Jappelli T. (2005), *Un reverse mortgage per il consumo degli anziani*, LaVoce.info, 2005 (11)
- McCrone, S. (2004), *Release or just a trap*, Guardian Unlimited, 25 April 2004.
- Merrill, S.R. (1984), *Home equity and the elderly*, Aaron, H.J. and Burtless, G. (eds.), *Retirement and economic behavior*, Washington, D.C.: Brookings Institution: 197-227.
- [Responsible Equity Release, Types of lifetime mortgages](#)
- Shan H. (2009), *Reversing the Trend: the Recent Expansion of the Reverse Mortgage Market*, Finance and Economics Discussion Series 2009-42, Board of Governors of the Federal Reserve System (U.S.)
- [Sentinel \(2011a\), Lifetime Loan Fact Sheet, 12 December 2011](#)

[Sentinel \(2011b\), Discover a new lease on life - The Sentinel lifetime loan in detail](#)

[U.S. Department of Housing and Urban Development \(HUD\), HUD FHA Reverse Mortgage for Seniors \(HECM\), Consumer fact sheet about HECM loans, November 2010](#)

[FED, Board of Governors of the Federal Reserve System, H.15 Selected Interest Rates, Conventional mortgages](#)

[U.S. Department of Housing and Urban Development \(HUD\), HECM Reports, Home Equity Conversion Mortgage Characteristics, June 2012](#)

[U.S. Department of Housing and Urban Development \(HUD\), Interest Rates Report, HUD FHA insured Single Family Interest Rates Historical](#)

Venti S. F. and Wise, D.A. (1989), *Aging, Moving, and Housing Wealth*, In Wise, D.A. (Ed.), *The Economics of Aging*, University of Chicago Press, 9-48.

Venti S.F. and Wise D.A. (2002), *Aging and housing equity*, in Mitchell, O.S. et al., *Innovations in retirement financing*, University of Pennsylvania Press, Philadelphia, 2002.

Venti S.F. and Wise D.A. (2004), *Aging and housing equity: another look*, in Wise, D.A., *Perspectives on the Economics of Aging*, University of Chicago Press.