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Housing Wealth in Finland

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1. Introduction

Housing capital has an important role in the economy especially from the point of view of households. Dwellings account for 40 per cent of total capital assets, whereas according to the Finnish Capital stock calculations, dwellings of households comprised most (86 %) of households' capital assets, on average, in 1995-2004. The big share of housing capital is naturally due to the fact that housing services are needed by all households, whether produced by owner-occupied or rented dwellings. In addition, construction requirements for the northern climate conditions and improvements in quality and living space increase the value of housing wealth. Households' housing wealth is greatly dependent on the share of owner-occupied dwellings. In Finland, owner-occupied dwellings represent the prevailing housing form. However, along with the producer role of housing services dwellings are at the same time expected to retain their value, whether realised or not.

Since acquisitions of dwellings are generally the most valuable individual investments of households, significant amounts of loan capital are needed for their financing. Also, changes in demand for dwellings have direct impacts on financial markets, e.g. as a consequence of increased demand and higher prices of dwellings in urban areas. Accordingly, harmonised data on the value of housing wealth are needed nationally as well as internationally. For example the ECB, OECD and EU are interested to obtain those data. Therefore, the value of dwellings by sector will be the only obligatory asset to be reported to Eurostat according to the proposal for the revised data transmission programme of ESA95 in the near future, evidently from 2007 onwards.

At Statistics Finland there are three different sources measuring housing wealth with diverging concepts, methods and results. The scope of national accounting is divided between two units of which the National Accounts unit (NA) deals with non-financial flows and assets, leaving the financial flows and assets accounting to the Financial Accounts unit (FA). These same unit names are used here to distinguish between the macro approaches. The micro perspective is offered by the Household Wealth Survey (HWS).

Section 2 interprets and mirrors housing wealth in the NA, FA and HWS against the ESA95 wealth framework. This serves two tasks. First, it clarifies the overall focus and approach of each set of statistics. Second, the wealth framework offers a logical tool for understanding how the concept 'housing wealth' is understood in the NA, FA and HWS.

Section 3 goes deeper into housing wealth. The aim is to open the used estimation methods, represent the estimates and reveal the possible weaknesses of the estimation processes. The purpose is to illustrate the strengths and weaknesses of the housing wealth estimates of each set of statistics. The Housing wealth estimates, methods and concepts are also compared with each other.

Finally, in section 4, some lessons are drawn on the grounds of the presented material. These concern the definition of the concept 'housing wealth' but underline the obvious benefits of co-operation between the NA, FA and HWS.

In this paper we will concentrate on describing different measures for gross housing wealth. We will not compile the whole set of accounts according to National Accounts as such for the asset of dwellings, nor will we calculate holding gains and losses or other items for other changes in assets accounts and changes in balance sheets.

2. Conceptual framework

2.1. Macro approach: measuring housing wealth in the NA

The interest of the NA in wealth in general concentrates on non-financial assets. In ESA95 there is no such concept as 'housing wealth'. As far as housing wealth is considered to include 'AN.1111 Dwellings' and 'AN.2111 Land underlying buildings and structures' (Neri & Siemerska 2005), housing wealth under ESA95 could be defined as comprising both dwellings and the dwelling-related part of land. According to ESA95 'AN.1111 Dwellings' as fixed asset covers

> "buildings that are used entirely or primary as residences, including any associated structures, such as garages, and all permanent fixtures customarily installed in residences. Houseboats, barges, mobile homes and caravans used as principal residences of households are also included, as are historic monuments identified primarily as dwellings. Costs of site clearance and preparation are also included. (ESA95, annex 7.1)".

while 'AN.2111 Land underlying buildings and structures' is defined in the following way

> "Land on which dwellings, nonresidential buildings and structures are constructed or into which their foundations are dug, including yards and gardens deemed an integral part of farm and non-farm dwellings and access roads to farms (ESA95, annex 7.1)".

According to ESA95 a balance sheet should be drawn up for sectors, the total economy and the rest of the world. For housing wealth the rest of the world sector in not needed (ESA95, 7.02). Furthermore, ESA95 requires the net acquisition (acquisitions less disposals) approach.

According to general valuation principles prices of assets should be prices observable on the market. When this is not possible, an attempt has to be made to estimate what the prices would be if the assets were acquired on the market on the date to which the balance sheet relates. In addition to prices observed on the markets or estimated from the observed prices or costs incurred, current prices may be approximated for balance sheet valuation by either revaluing and accumulating acquisitions less disposals or the present, or discounted, value of future returns (ESA95, 7.26-7.27).

At the moment the NA comprises produced assets as is shown in Table 1. Hence, the NA housing wealth relates to all structures of apartment blocks, detached houses, attached houses and free-time residences.

Table 1. Wealth covered in the NA

Assets			Liabilities and net worth	
AN	Non-financial assets		AF	Liabilities
AN.1	Produced assets		AF.2	Currency and deposits
AN.11	Fixed assets	X	AF.3	Securities other than shares
AN.12	Inventories	X	AF.4	Loans
AN.13	Valuables	X	AF.5	Shares and other equity
AN.2	Non-produced assets		AF.6	Insurance technical reserves
AN.21	Tangible non-produced assets		AF.7	Other accounts payable
AN.22	Intangible non-produced assets			
AF	Financial assets			
AF.1	Monetary gold and SDRs			
AF.2	Currency and deposits			
AF.3	Securities other than shares			
AF.4	Loans			
AF.5	Shares and other equity			
AF.6	Insurance technical reserves			
AF.7	Other accounts receivable			
			B.90	Net worth

The estimate of AN.1111 Dwellings is acquired through the Net capital stock, which is calculated with the Perpetual Inventory Model (PIM) representing the cumulative value of past investments less the cumulated consumption of fixed capital. Given the variety of components which all have their own prices, the Net Capital stock is valued at a mixture of purchasers' and market prices. As required the Net capital stock is drawn up for institutional sectors and the total economy. However, the current model follows the net acquisition approach only partially.

2.2. Macro approach: measuring housing wealth in the FA

The FA, like the NA, is based on ESA95. The focus is different, however, since the FA is dedicated to Financial assets and liabilities as can be seen in Table 2. If anything, interest in housing wealth is only secondary as a check against financial liabilities of households. In this respect, the FA's interest is concentrated on flats or shares in housing companies as Households' financial wealth is for national purposes corrected to include this part of housing wealth as well. The total value of residential dwellings (i.e. non-financial AN components in Table 2) is in this sense merely a by-product, which lies outside the scope the official data of the FA.

What comes to housing wealth, the previously mentioned ESA95 criteria also apply to the FA. Housing wealth should cover structures and land, it should be divided into sectors and be valued at market prices. Housing wealth should also reflect the net acquisition approach.

Table 2. Wealth covered in the FA

Assets			Liabilities and net worth		
AN	Non-financial assets		AF	Liabilities	
AN.1	Produced assets		AF.2	Currency and deposits	X
AN.11	Fixed assets	(X)	AF.3	Securities other than shares	X
AN.12	Inventories		AF.4	Loans	X
AN.13	Valuables		AF.5	Shares and other equity	X
AN.2	Non-produced assets		AF.6	Insurance technical reserves	X
AN.21	Tangible non-produced assets	(X)	AF.7	Other accounts payable	X
AN.22	Intangible non-produced assets				
AF	Financial assets				
AF.1	Monetary gold and SDRs	X			
AF.2	Currency and deposits	X			
AF.3	Securities other than shares	X			
AF.4	Loans	X			
AF.5	Shares and other equity	X			
AF.6	Insurance technical reserves	X			
AF.7	Other accounts receivable	X			
			B.90	Net worth	

The ESA95 requirements are met fairly well. Housing wealth in the FA is estimated with the help of housing area and market prices. As market prices also comprise the land of dwellings, the FA housing wealth covers the structures and land of apartment blocks, detached houses and attached houses. The net acquisition approach can also be followed. The one flaw that the FA approach has is that free-time residences are included only as far as they are classified as permanently occupied. This means that the value of a major part of Finland's 470,000 free-time residences is excluded from the FA housing wealth estimate.

2.3. Micro approach: the Household Wealth Surveys

The Household Wealth Survey (HWS) is a sample survey which describes assets and liabilities of resident private households in Finland. The main interest lies in the structure and distribution of assets and liabilities among different population groups rather than in the estimates of total amounts of household sector wealth. Besides different forms of assets and liabilities, the survey also produces data on other matters that have a bearing on the financial position of households, such as income, inheritances, housing transactions and buying and selling of securities.

Table 3. Wealth covered in the Household Wealth Survey

Assets			Liabilities and net worth		
AN	Non-financial assets		AF	Liabilities	
AN.1	Produced assets		AF.2	Currency and deposits	X
AN.11	Fixed assets	X	AF.3	Securities other than shares	X
AN.12	Inventories	(X)	AF.4	Loans	X
AN.13	Valuables	(X)	AF.5	Shares and other equity	X
AN.2	Non-produced assets		AF.6	Insurance technical reserves	
AN.21	Tangible non-produced assets	(X)	AF.7	Other accounts payable	
AN.22	Intangible non-produced assets				
AF	Financial assets				
AF.1	Monetary gold and SDRs				
AF.2	Currency and deposits	X			
AF.3	Securities other than shares	X			
AF.4	Loans	X			
AF.5	Shares and other equity	X			
AF.6	Insurance technical reserves				
AF.7	Other accounts receivable				
			B.90	Net worth	

In the ESA95 framework, the concept of wealth in the Household Wealth Survey is in principle fairly extensive and covers both non-financial and financial assets. In addition, the concept of wealth covers the value of vehicles which is not included in the wealth concept in National Accounts. Other durable goods and valuables are available as memorandum items in the HWS. The value of forest resources is also available according to tax values in the HWS.

As pointed out by Neri and Sierminska (2005), housing wealth is not a strict concept in micro statistics. The Household Wealth Survey is able to capture two kinds of housing wealth: 1) assets minus liabilities in owner-occupied dwellings and 2) assets in all residential properties. Net housing wealth (assets minus liabilities) would be the preferred outcome. It can be calculated only for owner-occupied principal residences because liabilities are not available separately for properties leased to others for residential purposes.

The Finnish HWS concept of housing wealth covers the value of structures and land of principal residences, free-time residences, and residential property leased to others, when they are owned by private households resident in Finland at the end of the year. In the HWS, a dwelling is part of the stock of housing wealth if a) it is owned by a resident private household and b) it produces housing services to the household living in the dwelling. A dwelling may be used by the owner (owner-occupiers), or by a tenant living in a dwelling which is owned by a private household. As already stated, the value of the land underneath such dwellings is also included.

It is somewhat obvious that dwellings used as residences by households but owned by other sectors are not covered in the HWS housing wealth. The focus is on the value of households' residential property only. An equally trivial notion is that the Household Wealth Survey focuses on households as population subgroups, not on the household sector as an aggregate. The point of view of micro wealth, income and consumption statistics is that of households as separate entities whereas the NA and FA consider the household sector essentially to be an aggregate entity. In other words, from the micro point of view the household sector is comprised of many individual households and the concepts or accounting rules should make sense on this level[1].

[1] As a consequence, macro statistics do not have to take into account transactions within the sector while micro statistics transactions within sector sometimes are of considerable interest. Two examples of such transactions would be inheritances and inter-household transfers (e.g. alimonies) in wealth and income surveys.

2.4. Common areas and differences between macro and micro

The most obvious difference between the statistics is the coverage of 'housing wealth'. Table 4 is a slightly modified version of the previously represented ESA95 wealth framework. Here assets 'AN.1111 Dwellings' and 'AN.2111 Land underlying buildings and structures' are further divided into actual dwellings and free-time residences. This additional division reveals how the coverage of 'housing wealth' varies between the three statistics. On the one hand for the NA housing wealth concerns only the structures of dwellings and free-time residences while on the other hand the HWS housing wealth includes all housing related structures and land into its concept. The FA estimate, for its part, is entirely focused on permanently occupied residential dwellings.

Table 4. Housing wealth in the NA, FA and Household Wealth Survey

		NA	FA	HWS
AN	Non-financial assets			
AN.1	Produced assets			
AN.11	Fixed assets			
AN.111	Tangible fixed assets			
AN.1111	Dwellings			
	Dwellings	X	X	X
	Free-time residences	X		X
AN.1112	Other buildings and structures			
AN.11121	Non-residential buildings			
AN.11122	Other structures			
...				
AN.21	Tangible non-produced assets			
AN.211	Land			
AN.2111	Land underlying buildings and structures			
	Dwellings		X	X
	Free-time residences			X
	Other buildings and structures			
AN.2112	Land under cultivation			
AN.2113	Recreational land and associated surface water			
AN.2119	Other land and associated surface water			
...				

Equally, there are differences in coverage in another dimension as well. The HWS interest lies entirely in households' housing wealth and, what is more, the household for the HWS is not as extensive as is the Household sector in the NA and FA. In contrast to this, for the NA and FA housing wealth comprises all sectors that own dwellings. This fact is naturally linked to the viewpoints of each set of statistics. The NA and FA are based on ESA95 and its philosophy where everything in an economy is divided into institutional sectors and where these institutional sectors are at the centre of focus. On the other hand, the HWS is interested in divisions between household types, for example, and not so much in the absolute magnitude of housing wealth itself.

Different viewpoints also lead to diverse methods. As the NA and FA have until recently been interested only in sector figures at national level, they have been able to use coarser estimation methods. The HWS, on the other hand, as individual registers cover wealth data quite poorly, is forced to collect data for a sample of households through face-to-face -interviews. Nevertheless, the FA and HWS use basically the same market price -approach on housing wealth although they exercise it in a different way. The NA housing wealth estimate rests on a purely theoretical model.

Lastly, the price concept also differs between the statistics. The FA and HWS rely on market price at the end of each year. The NA housing wealth is measured at mid-year prices. Moreover, the NA model leads to the use of replacement costs. As a consequence, the housing wealth in the NA reflects the value at which the existing dwelling stock could be rebuilt to its current quality, whereas the FA and HWS try to gauge how much the existing dwelling stock would cost on the housing market at the end of a given year. This distinction may lead to significant differences in housing wealth estimates.

3. Value of housing wealth

3.1. Housing Wealth in macro statistics

3.1.1. Housing Wealth based on Capital stock model

3.1.1.1. Background

The NA uses the Perpetual Inventory Model (PIM) for calculating the stock of fixed assets. The PIM model requires long investment series, price indices and assumptions of service lives, survival/mortality functions and depreciation patterns. The PIM is supplemented with surveys and administrative data.

What comes to dwellings, the Capital stock model developed into its present form already in the 1970s. From that time the used mortality function and the service life assumption have stayed intact. This is due to the fact that, contrary to other assets, there has been no such new information that would have led to changes in the used model assumptions.

Dwelling investment calculations have an even longer history, dating back to 1948. As the concept of investment or gross fixed capital formation has been evolving in later years, the old series has been reassessed accordingly. For research purposes dwelling investment series are estimated all the way to 1860. These old series were also needed for the Capital stock estimates.

3.1.1.2. Gross fixed capital formation

The ESA95 manual defines investment, i.e. gross fixed capital formation, as follows:

> "Gross fixed capital formation consists of resident producers' acquisitions, less disposals, of fixed assets during a given period plus certain additions to the value of non-produced assets realised by the productive activity of producers or institutional units. Fixed assets are tangible or intangible assets produced as outputs from processes of production that are themselves used repeatedly, or continuously, in processes of production for more than one year." (ESA95, 3.102)

In Finland gross fixed capital formation (GFCF) in dwellings is calculated for the whole economy and institutional sectors and, in the case of households, also for different producer types. The ESA95 instruction on net acquisitions can be fulfilled only in the general government case. Transfers of old dwellings between other institutional sectors and producer types cannot be tracked at the moment.

The estimates of GFCF in dwellings are based on production of new building and extensions, refurbishment and real estate agencies. These are turned into purchasers' price figures by adding taxes (VAT). The share of taxes added is estimated in the supply-demand -table compilation process. Finally, capital transfer tax is added in order to get the whole economy level estimate of GFCF in dwellings.

The most important part of GFCF in dwellings comes from newbuilding and extensions, which covers over 60 per cent of the total estimate. This information is offered by the volume index of newbuilding, which is on the one hand grounded on data on building projects and phases and on the other hand on the cubic prices of corresponding buildings.

The data on building projects and phases offered by the Population Register Centre comprise information on the characteristics of buildings (e.g. type of building, location, first owner). Information on building projects originates from building permits, which are mandatory to all new buildings and extensions. The basic data for building prices per cubic metre are obtained from the Price information of the building construction system that is maintained by Haahtela-Kehitys Ltd, a private consultant. Prices represent the price at which construction contractors are willing to build a certain kind of construction.

The level of dwelling refurbishment, and renovation as a whole, has been scrutinised with survey studies within a few years in co-operation with the Technical Research Centre of Finland (VTT), most recently in 2000 and 2005. In the meantime, the level of renovation is assessed with the help of volume and price changes. The volume change assessment is based on the Labour Force Survey information on hours spent on renovation. The price change is assumed to be the same as in newbuildings and extensions. After gauging the level of renovation as a whole, the share of dwelling refurbishment is then assessed with the help of an inquiry into housing corporations and construction companies. The share of refurbishment of GFCF in dwellings varies around 30 per cent.

The third part, production of real estate agencies, is based on the information of the structural business statistics and the Business Register. The output of industry consists of almost entirely of marginals from property sales. Of this output the share of dwelling sales is assumed to be 95 per cent. The share of real estate agencies of GFCF in dwellings is under 10 per cent.

The fourth and final component of GFCF in dwellings stems from capital transfer tax. This particular part contributes around 1-2 per cent to GFCF in dwellings. Capital transfer tax, as all other GFCF contributors are divided into sectors according to the information offered by the owner type -classification in the volume index of new building.

3.1.1.3. Problems with gross fixed capital formation -calculations

One set of problems is linked to the level of GFCF. In this respect attention is focused on construction components. Especially refurbishment is and remains challenging to pin down. Both the volume and price changes used may not fulfil the standards required. There is little that can be done in this respect in near future but to acknowledge the possible soft spots and their impact on the GFCF estimates.

In addition, there are indications that the volume index of newbuilding also has difficulties in reaching the phenomenon it is targeting as extensively as previously thought. The needs of statistics are not ranked top in the priority lists of municipal authorities and hence there is some friction in delivering the needed information to Statistics Finland. As a result, some of the newbuilding information does not arrive in time to be included in the model. This flaw is understood, however, and the required model adjustments will be included

in a few years' time as the index gets its new base year. Correction in the estimates may be substantial, up to 10 per cent, which contributes accordingly to the GFCF estimates.

Another kind of problems stems from the division of GFCF into institutional sectors. As mentioned previously, existing information does not allow the net acquisition approach to be followed more than in a lesser extent. For Central and Local government net GFCF is used but no method available makes it possible to track asset transfers to each from Housing corporations, Households, Non-profit institutions serving households or Non-financial corporations, for example.

Sector divisions of GFCF in dwellings are also dubious in a way that sector shares in refurbishment, real estate agency and property tax components of GFCF in dwellings are assumed to follow sector shares in newbuilding and extensions. What is more, turning owner classes in newbuilding and extensions into institutional sectors is partly problematic. Housing corporations in the same sense as they exist in new building and extension statistics, do not exist in the NA. In Finland Housing corporations typically own an apartment buildings, in which any sector can own separate flats. In newbuilding and extension statistics as well as in dwelling statistics the owner class is Housing corporation whereas the NA has chosen the owner sector to be the owner of the separate flat. This Housing corporation dilemma is solved in practice in a way that the Household sector gets 90 per cent of the cake, leaving the rest to Non-profit institutions serving households and Non-financial corporations. The solution bases on expert estimate.

3.1.1.4. Capital stock model

The NA has two concepts of capital stocks: Gross capital stock and Net capital stock. Gross capital stock (GCS) is the value of the capital used in production, valued at "as new" prices, i.e. regardless of age and condition. Thus, a decline in the efficiency of fixed assets is not taken into account when calculating GCSs. GCS consists of the accumulated value of past investment less accumulated retirements of fixed assets. In Finland, retirements are assumed to follow a skewed Weibull distribution, thus the survival function of the share of year T's investment still in use at the end of year t is assumed to be (Capital Stock Data 1975-2002):

$$w_{t-T} = \exp\left\{-\left[\frac{\Gamma(1+(1/\alpha))}{E}\tau\right]^{\alpha}\right\},$$

where $\tau = t - T + 0.5$
E = average service life
α = shape parameter

the GCS at the end of year t is:

$$GCS_t = \sum_{T \geq t - J_t + 1} w_{t-T} I_T ,$$

where I_t = GFCF of year T
J_t = $\min\{1.5E, 100\}$ i.e. the maximum service life of a capital asset is assumed to be 1.5 times the average service life, but no more that 100 years. For GFCF in dwellings the average service life is 50 years.

The dwelling wealth aspect is better described with Net capital stock (NCS). NCS represents the cumulative value of past investments less the cumulated consumption of fixed capital (CFC). CFC illustrates the decline in the value of fixed capital due to physical deterioration, foreseeable or accidental damage and ageing during the accounting period. NCSs are calculated using the "straight line" assumptions (Capital Stock Data 1975-2002):

$$NCS_t = \sum_{T \geq t - J_t + 1} w_{t-T} I_T d_{t-T} ,$$

where $d_{t-T} = 0$, when $T \leq t - E + 0.5$ and $d_{t-T} = 1 - (1/E)(t - T + 0.5)$ otherwise.

In Finland both capital stocks are valued at constant replacement costs (using the base year) and at current replacement costs. Both price concepts value stocks at mid-year prices (Capital Stock Data 1975-2002).

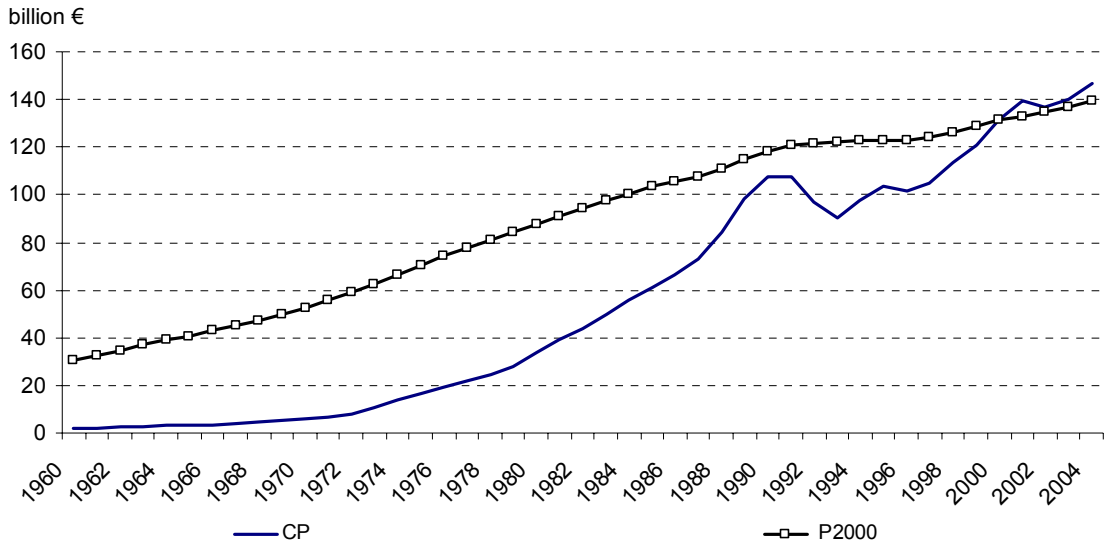

Figure 1. Net capital stock of AN.1111 Dwellings in current and fixed prices in 1960-2004, EUR billion

3.1.1.5. Reliability of Capital stock estimates

Capital stock estimates are of course as good as their assumptions. To begin with, the PIM results are naturally affected by the reliability of the GFCF series. In this respect there is not much else to do than accept some sort of vagueness with the GFCF levels. The same goes for the sector division of the GFCF and hence of the Capital stock estimates.

The GFCF estimates as seeds of the model can lead astray the Capital stock estimates but naturally the actual PIM assumptions also play an essential role. Of these, the bell-shaped mortality function and the straight-line discard patterns fulfil OECD recommendations (OECD 2001a, p. 58-59). On the other hand, the assumption concerning the service life of GFCF is more complicated. A service life of 50 years for dwellings is not particularly long by international comparisons. If prolonged to 75 years, the Net capital stock estimate would increase by almost 30 per cent. The current 50 years service life assumption has been used from the 1970s and thus could be put under scrutiny. In addition, GFCF in dwellings is a homogenous asset in the NA in a sense that the service life of a dwelling investment is not stratified according to house type or building material, for example. So far there has been simply lack of reliable yardsticks for model changes in this respect.

Another kind of question we can ask is if the current Capital stock model is adequate as a model in the first place. The OECD is recommending a so-called Integrated system where Net capital stocks and Productive stocks are estimated through age-efficiency and age-price profiles. This kind of approach means that the needs of both wealth and productivity aspects could be better respected (OECD 2001a, p. 59-62; OECD

2001b, p.51-76). Integrated system is in use at least in Australia and the UK. In Finland a shift to this sort of new system has not been on the agenda.

3.1.1.6. Price of land

What comes to dwellings, only produced assets are currently estimated in the NA. The price of land has been on focus only sporadically. However, a few years ago the value of land was estimated for national wealth purposes. The interest concerned the years 1990-2001 (Niemi & Sandström 2002).

Calculations were based on information from the National Land Survey of Finland. This is a Government institute that keeps a register on real estate transactions which shows all land transactions, whether they come in the form of sale, trades, gifts or partitioning agreements. This Real Estate Market Price Register is based on notifications of real estate transactions submitted by attesting notaries (National Land Survey of Finland).

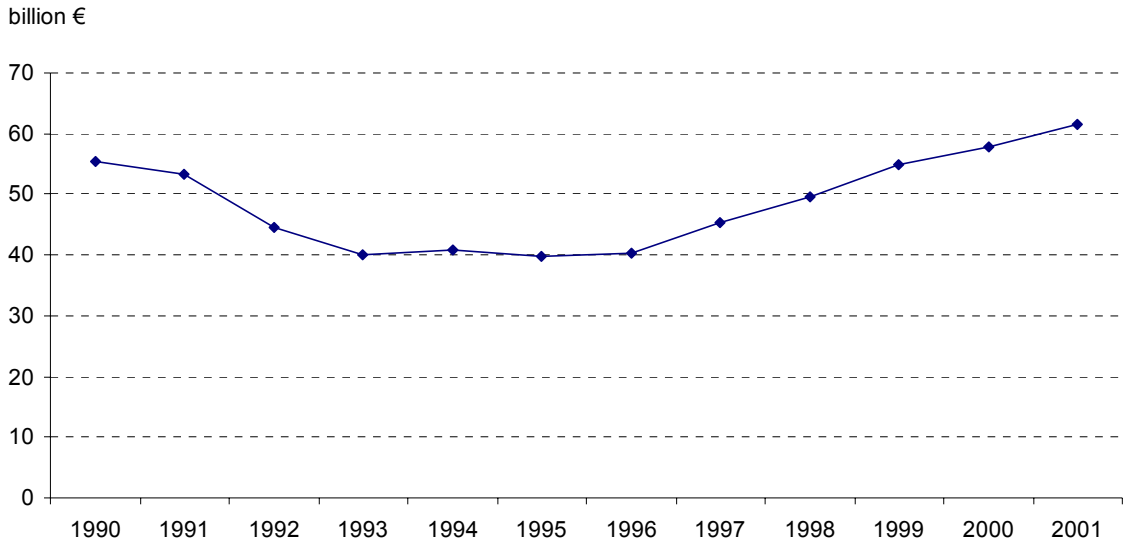

Figure 2. Value of dwellings related land in current prices in 1990-2001, EUR billion

The National Land Survey of Finland also maintains the Cadastre. The Cadastre is one of Finland's basic registers. It contains basic cadastral data on registered units, such as the name, size and usage of real estate/cadastral unit, road rights and other servitudes applying to it, its share of common areas, whether it comes under a detailed land use plan or master plan, and information about other decisions pertaining to it.

In the Cadastre Register each real estate unit has a unique identifier which provides a key to all data about them (National Land Survey of Finland).

As land under dwellings as separate from structures was not directly obtainable from the Cadastre, municipality -level (NUTS5) developed land was used as a gauge instead. The price of land was available on province level (NUTS3). The value of land was then assessed straightforwardly with this price and volume information.

These estimates have the same weakness as the GFCF and Capital stock estimates. Both the level of land wealth and its division into sectors could require a bit of tinkering. First, the level of land wealth was estimated at a fairly crude level. Another problem comes from the division part since there was no sector information available. If land wealth were to be included in the NA housing wealth more accurate information or access to the Cadastre would be needed. Otherwise the sector division of land wealth would also be derived from Net capital stock of AN.1111 Dwellings, which is not problem-free either.

3.1.2. Housing area multiplied by market prices

3.1.2.1. Background

As housing wealth has importance in the FA only indirectly, the methods have also varied somewhat along the way. Nevertheless, the basic method has always been fairly straightforwardly grounded on floor area and market prices. The current system sticks to the bottom-up approach, where both sources are kept as individual as possible. The FA interest in housing wealth started only in 1990s'. The current method offers estimates from 1992 onwards. Officially, as a memorandum item, the housing wealth series start from 1998.

3.1.2.2. Housing area

The dwelling stock describes the existing stock of floor area and number of dwellings on the last day of the year. The statistics on the dwelling stock constitute total data - in theory every dwelling in Finland, be it situated even in a shopping centre, is registered here. At the end of 2004 the dwelling stock covered information on around 2.6 million dwellings and 200 million square metres. The statistics provide data on the dwelling stock by variables connected to the building itself (e.g. type of building, floor area, number of rooms, construction material, heating system, connection to municipal networks), owning of building (e.g. owner class, tenure status), household-dwelling status and housing conditions (e.g. size of household, number of children, housing density) (Buildings, Dwellings and Housing Conditions 2004).

Statistics Finland receives most of the data on dwellings from the Population Information System of the Population Register Centre, into which municipal building inspection authorities report data concerning buildings and dwellings that are subject to building permits. Thus data on new dwellings are the same for the newbuilding and extensions and the dwelling stock. Information is just handled differently. Whereas the volume index of newbuilding is interested in cubic metres and their construction prices, the dwelling stock concentrates on individual dwellings and their characteristics. The dwelling stock has been produced yearly from 1987. Prior to that, corresponding data have been collected in population censuses in 1950, 1960, 1970, 1975, 1980 and 1985.

In the dwelling stock each dwelling has its individual building code, which comprises the building's accurate location. Hence statistics on the dwelling stock can be produced according to all regional divisions based on municipalities and co-ordinates, as well as by postal code area. Hence, for the FA needs dwellings can be grouped in a very flexible way.

3.1.2.3. Prices

Prices of dwellings are compiled from the taxation authority's asset transfer tax statements. Data includes practically all housing transactions but in valuing housing wealth only transactions concerning dwellings older than two years are included (House Prices 2005). This restriction is made in waiting for the forthcoming index for new dwellings. In 2004 this meant that around 77,000 housing transactions were available. From these data average square metre prices are stratified according to certain regional, house type and room

count classifications. For dwellings younger than two years prices are simply assumed to be 15 per cent higher in every stratification category. Stratification for different house types is as follows:

apartment blocks
* number of rooms: ’1’, ’2’ and ’3 or more’
* region: 68-classes

attached houses
* number of rooms: ’2’ and ’3 or more’
* region: 68-classes

detached houses
* number of rooms: ’3 or more’
* region: 44-classes

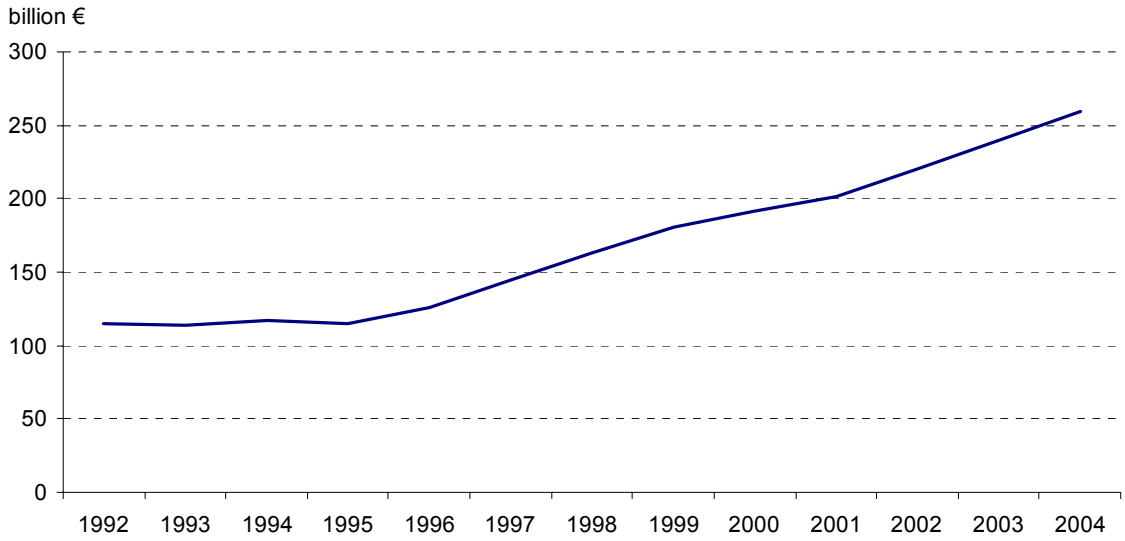

Figure 3. Housing wealth in the FA in current prices in 1992-2004, EUR billion

The geographical division is founded on municipality level (NUTS5). In addition, bigger cities are divided further into smaller sub-regions with the help of postal code areas. On the other hand, province level (NUTS3) averages are applied for the less densely populated rural areas around cities. The age of the dwelling is not included in the stratification framework for the reason that it really is not that important factor in Finland. The chosen stratification framework is applied to the whole dwelling stock.

3.1.2.4. Problems with dwelling stock -calculations

As a whole both sources, the dwelling stock and price data are deemed to be of a very good quality. However, there are some problems especially with the dwelling stock. The primary concern focuses on the concept of housing area, which is used as the quantity yardstick, as it is a narrower concept than the ESA95 definition presented in Section 2.1. Housing area is likely to be the correct measure for dwellings in cases of apartment blocks and attached houses but may be a slightly short measure for detached houses. Indications of this sort of problem come from micro statistics, where the average size of a detached house is 10-15 per cent bigger than that of the dwelling stock. At the moment it is not known how serious this square metre coverage problem actually is.

Other problems with the dwelling stock are linked to the divisions of square metres. One side of this is connected to owner class. As is the case in new building and extension statistics in the NA's Capital stock model, the dwelling stock's owner classes, especially the owner class 'Housing corporations', cannot either be turned into institutional sectors without difficulties. As far as tenure status is connected to owning, covering 50 million square metres, these types of flats are given to households. In case of Housing corporations' rented dwellings, which constitute approximately 20 million square metres, information from Local government, Financial and insurance corporations and Employment pension schemes is also used - still the Household sector is the main beneficiary with its over 90 per cent share.

From the price side one obvious weakness is the price of new dwellings. The current assumption that simply adds 15 per cent to the price of old dwellings most probably understates the price difference. There are indications that a 50 per cent raise would be more suitable. The positive side of this problem is that its effects on total housing wealth are relatively restricted and that this weakness is going to be fixed in near future.

Another, more notable failure of the current model is linked to the possibly bloated prices of rural area detached houses. As mentioned before, rural area square metre prices are estimated at province level. The actual house sales may concern only central areas of these provinces but are nevertheless augmented to concern other houses further away as well. Fortunately this problem is already under development too.

One real problem with the prices is linked to history. Due to register discrepancies price data are not available in the presented extent from the time before 2000. Results in 1992-1999 are derived from old regional broader price indices. On the whole, from 2000 onwards, the FA estimate measures fairly well the phenomenon it is targeting, the value of residential dwellings.

On the quantity side a sizeable understatement of housing wealth stems from the exclusion of free-time residences. In fact, there is a separate register for free-time residences. The main obstacle for not utilising this register is the absence of price information. For the FA the exclusion of free-time residences is a conscious exclusion, as its main focus lies in residential dwellings in general or, to be precise, in shares in housing companies (flats).

3.1.3. Comparison of macro approaches

As presented above, the NA and FA approaches to housing wealth differ in their coverage, methods and price concepts. Nevertheless, competing results could be used for checking purposes. For instance, the NA estimates for 'AN.1111 Dwellings' and dwelling related 'AN.2111 Land underlying buildings and structures' put together should not differ too much from the FA's estimate even though the FA estimate does not include free-time residence structures.

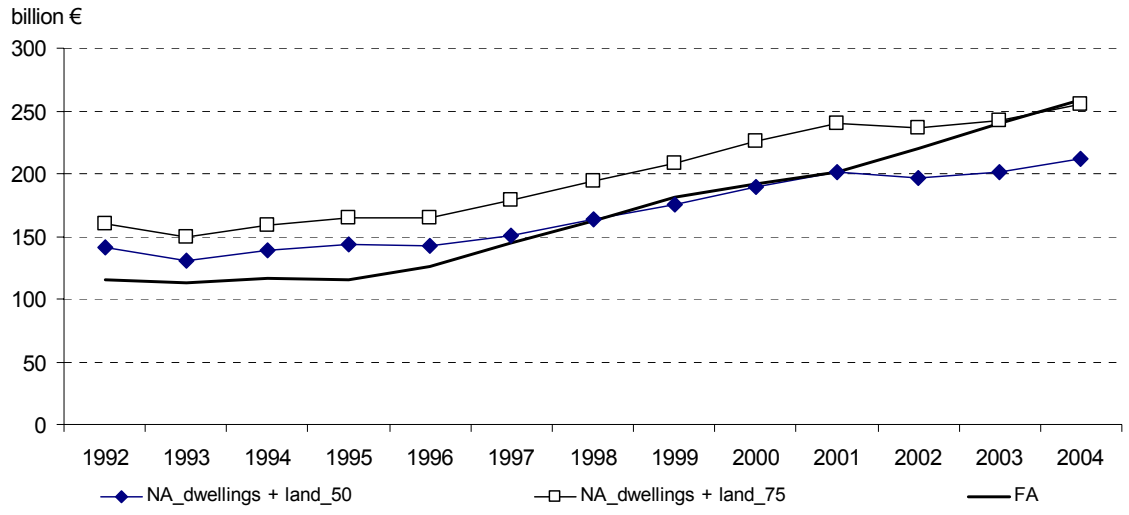

Figure 4. Housing wealth in the NA and FA in 1992-2004 in current prices, EUR billion

This sort of check of the Net capital stock's reliability is shown in Figure 4. Here the NA estimates are revised to include land in a way that for the years 2002-2004 the share of land to the PIM estimate is assumed to be the same as in 2001, 44 per cent of the value of structures. In addition, Figure 4 has another NA estimate from a model where the service life of a dwelling investment is 75 years ("NA_dwellings + land_75").

The message of Figure 4 is twofold. First, what comes to the service life the NA's dwelling investment, the service life of 50 years seems to be more correct. In fact, for the years 1992-2001 the NA's estimate with the 50 year-service life alternative fits surprisingly nicely to the FA housing wealth estimate. The FA estimate does not include free-time residences but then on the other hand, there are reasons to believe that the NA estimate is too low. So one result is that the NA's current Capital stock model with all its assumptions seems to work quite well. This is important information for the sake of the NA's Households' Disposable income as prolonging the service life to 75 years would halve the magnitude of Consumption of fixed capital.

Second, after 2001 the value of the FA estimate has grown substantially faster. The difference between the NA and FA estimates from 2001 onwards may be largely due to the prices used. From 2000 to 2004 the prices of GFCF in dwellings rose by 5.7 per cent while the FA prices jumped by 27.6 per cent. This gap probably stems from the different price concepts. The prices of structures and land may also differ from each other. On the whole, the lesson is that the FA estimate seems a more appropriate gauge for housing wealth. The FA is more reliable what comes to the level of housing wealth and its division to sectors. The FA's exclusion of free-time residences could be solved with the help of the HWS or other benchmark-based approximations.

Choosing the dwelling stock-based wealth concept is also justified in the sense that the dwelling stock is the NA's source of output in industry's "7021 Letting and operation of dwellings". In this sense the dwelling stock constitutes the 'stock of capital', whose profits, that is, rents, are registered in the production account as flows.

What to do with the Capital stock model then? As stated above, the PIM estimates seem to assess the value of dwelling structures satisfactorily, so at least the Capital stock could still serve as a source for Consumption of fixed capital. Surely the Capital stock assumptions may need some rethinking. For instance since dwellings that get demolished are deleted from the data, the dwelling stock could offer direct information on the service lives of different types of dwellings. Similarly, for wealth purposes PIM estimates should be valued at market prices. In any case, as a distinction has to be made between 'AN.1111 Dwellings' and dwellings related 'AN.2111 Land underlying buildings and structures', the PIM estimate could still be thought to give an approximation for the structures part, leaving the rest of the FA estimate for land.

Aside from co-operating between macro statistics at Statistics Finland, wealth accounting would greatly benefit from broader exchange of information with other authorities. For example, the value of realised housing trade transactions between sellers and traders do exist but are so far not available to Statistics Finland. The same tax data could also directly offer information on capital transfer tax by sector.

3.2. The Household Wealth Survey 2004 and former surveys

3.2.1. Background

The Household Wealth Survey has been conducted by Statistics Finland in 1987/1988, 1994, 1998 and 2004. It is first and foremost designed for national purposes although data from 1994 and 1998 surveys have been incorporated to the recently constructed Luxembourg Wealth Study database. The current content of the survey has evolved from the tradition of wealth surveys in the 1970s and 1980s, inputs from the research community and economic literature, and conventions and definitions followed in National Accounts. There are no international recommendations on micro wealth surveys. The work done for the Luxembourg Wealth Survey is improving the situation by increasing the knowledge of the concepts and methods applied in other countries.

The Household Wealth Survey is a sample survey, which combines information from interviews and from administrative and statistical registers. Although administrative and statistical registers are extensively used in Finland, wealth data are not well covered in the registers. The Household Wealth Survey variables are to a large extent based on direct data collection from households, i.e. interviews, or imputations rather than registers. Sometimes wealth data may exist in registers but they cannot be linked to the sample households. As an example, data on savings or loans may be available for producers of macro statistics on the macro or meso level (say, at the level of individual financial institutions), but not on the level of persons or households for micro statistics because of legal restrictions (banking secrecy).

One consequence of the use of different sources of data is that the macro and micro estimates of total housing wealth considered in this paper are independent of each other. The HWS estimates are not utilised in the NA or FA, and the macro estimates are not used in the Household Wealth Survey estimation (e.g. in the calibration of sample weights to marginal distributions).

3.2.2. Coverage and sector delineation

The reference population in sample surveys usually excludes certain population subgroups which are included in the NA estimates of total amounts. The target population of the Household Wealth Survey is resident population in private households at the end of the year. The wealth of households in institutions such as hospitals and prisons is excluded. Around 0.6 per cent of the total population resided in institutionalised households in 2000. In addition, housing wealth in undistributed estates of deceased persons is not included in the HWS. It would be extremely hard to quantify the wealth of such "out of scope" households but the presumption is that it is not very significant.

In some countries, a more serious problem than under-coverage of micro sources due to the exclusion of institutionalised population is the over-coverage of macro sources due to the inclusion of non-profit institutions serving households in the household sector. In Finland, non-profit institutions serving households are treated separately from the household sector and consequently do not pose problems for macro/micro comparisons.

3.2.3. Prices

The price concept of the HWS is essentially the current market price of the residence. The values are subjective estimates of owners. In the questionnaire, respondents give a subjective estimate of the value by answering the question: "Can you estimate how much you would have received from your residence had you sold it at the end of the year XX". In the 2004 HWS, eight per cent of the respondents either could not or were unwilling to provide an estimate. This kind of item non-response was positively correlated with the age of the household head.

The values for these eight per cent were imputed by taking average dwelling prices by municipality, type of dwelling and number of rooms from the Dwelling Price Statistics. In the previous Household Wealth Surveys (1987/1988, 1994, 1998) imputations were implemented with a regression model using several independent variables (type of dwelling, location, floor area, year of construction, construction material).

The subjective method has been retained in the Household Wealth Surveys mainly for the sake of time-series comparability. It would be possible to estimate the value of all residences with the imputation models, i.e. by using prices per square metres from the Dwelling Price Statistics. The same stratification data as used in the FA could perhaps be utilised (see Section 3.1.2.3). The problem is that there has so far not been information on prices of detached houses, only on prices of apartments in block of flats and terraced/attached houses.

Housing area is recorded in the HWS by asking the floor area of the dwelling directly from the households. It would be possible to link register-based floor area data from the total dwelling stock (see Section 3.1.2.2) utilising unique personal identification numbers (PINs) and domicile/building codes. Register-based floor area could then be used at least as auxiliary information in the calibration of sample weights (see Section 3.3).

3.2.4. Sampling and non-sampling errors

As all sample surveys, the Household Wealth Survey contains sampling and non-sampling error. Sampling error refers to the error caused by recording values only for a sample of households instead of total population. The Household Wealth Survey 2004 was constructed by drawing a probability sample of 5,228 households (0.2 per cent of all Finnish households).

Sample survey estimates of total housing wealth always contain error due to variability of the estimates from one (hypothetically drawn) sample to another. Even if all households participated in the survey and the concepts were exactly the same, the point estimates of total housing wealth in practice always would be at least slightly different from the true parameter values, which are unknown (and probably different from the NA and FA estimates). Sampling variation can be controlled by making inference with interval estimates instead. Because of the complex sampling design, appropriate calculations of such estimates are not routinely presented in the publications based on the Household Wealth Survey data.

In reality, after refusals and non-contacts there were only 3,455 accepted interviews in the HWS 2004; the unit non-response rate was 33.9 per cent. Unit non-response was lower in the 1987 and 1994 surveys, and increased strongly in 1998. Fortunately, the non-response rate remained at the 1998 level in the latest survey.

For all the accepted households, relevant assets and liabilities are collected from the interview responses, derived from registers, or imputed. Household sector estimates are then obtained by multiplying the values of individual households by sampling weights and summing these up. The sampling weights of the Household

Wealth Survey are inverses of inclusion probabilities (design weights) which are calibrated to match auxiliary information from statistical registers (demographic variables and total taxable wealth).

Table 5. Unit non-response in the Household Wealth Surveys in 1987, 1994, 1998 and 2004

	1987	1994	1998	2004
Gross sample size (excluding over-coverage)	7,262	6,926	5,937	5,228
Unit non-response, households	1,696	1,716	2,044	1,773
Non-response rate, per cent	23.4	24.8	34.4	33.9
Accepted households	5,566	5,210	3,893	3,455

Non-response may induce non-response error to the estimates if the non-responding households are systematically different from the responding households. To compensate for this error, and to eliminate the sampling error (i.e. to increase the efficiency) of the estimates for the most important variables, sampling weights are calibrated to known marginal distributions. This is facilitated by the abundant availability of auxiliary information from administrative registers that can be linked to the sample households and individuals.

In the calibration, the distribution of individuals by age and sex is set to match the population register figures. Importantly, total wealth subject to tax from the tax register is used to calibrate the weights to match exactly the total sum of taxable wealth. Despite its imperfect coverage, taxable wealth is highly correlated with other wealth components and is thus a good calibration variable. As a result, the sampling error of the estimated total taxable wealth is zero and the result obtained from the HWS is always exactly the same as the true value derived from the tax register.

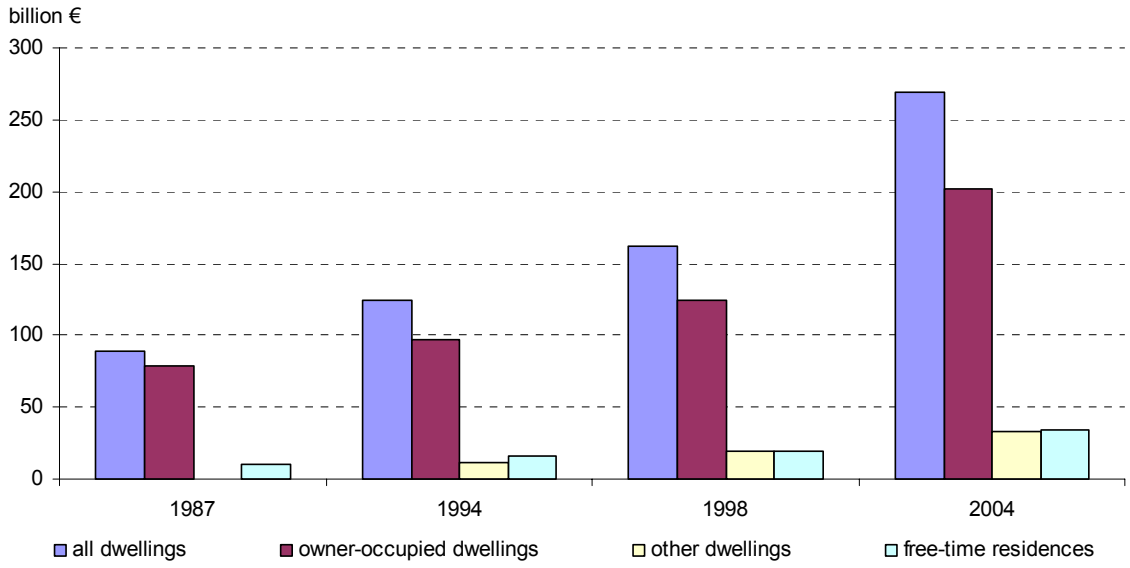

Figure 5. Housing wealth in the HWS in 1987, 1994, 1998 and 2004 in current prices, EUR billion

While the calibration technique is a powerful tool to compensate for sampling and non-response errors, its effectiveness is undermined by lack of register data on wealth. More importantly, the lack of register data on wealth introduces non-sampling errors such as measurement errors and item non-response to the HWS. For example, it is likely that the subjective estimates of dwelling values contain measurement error due to lack of information, which results in mis-reporting and the previously mentioned eight per cent item non-response rate in this variable. In general, the most problematic components with regard to item non-response in the HWS are questions concerning financial wealth and savings in particular. As already explained, regression or mean imputation is used to compensate for item non-response while re-weighting through calibration is used for unit non-response.

3.3. Comparison of households' housing wealth in the NA, FA and Household Wealth Survey

Due to coverage discrepancies comparing the NA, FA and HWS estimates of housing wealth as such may be rather futile. With a positive mindset the results of the different methods could be seen as a possibility to cross-check the reliability of the housing wealth estimates. Earlier, in Section 3.1.3 this was seen to be useful. Figure 6 below represents housing wealth estimates from all three statistics. Estimates are adjusted to comprise only household sector residential dwelling structures and land. The HWS estimates include all resi-

dential dwellings (‘owner-occupied dwellings’ and ‘other dwellings’) but exclude free-time residences. The NA estimates are stripped of free-time residence structures using the HWS information as a guide. Concerning the year 2004, the NA land estimate is assumed to be the same as the share of land to the Net capital stock than in 2001.

In this perspective the only meaningful interpretation is that the FA and HWS speak the same language. In 1994 all three statistics are more or less in line. After that the FA and HWS estimates start to break away from the NA. On the other hand, the relation between the FA and HWS estimates stays similar - the HWS’s estimate is persistently around 10 per cent higher.

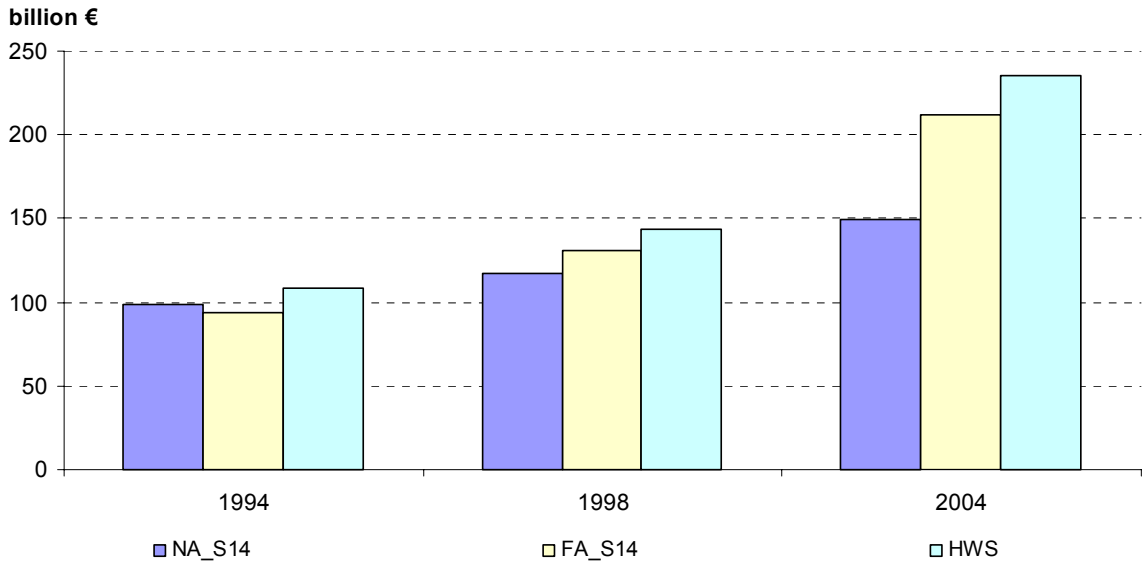

Figure 6. Households' comparable housing wealth in the NA, FA and HWS in 1994, 1998 and 2004 in current prices, EUR billion

Reasons for macro discrepancies are likely to stem from a mixture of different price concepts and estimation assumptions. The NA and FA opinion of the Household sector’s share of all sectors also differ. In the NA Households have 76 per cent of all asset ‘AN.1111 Dwellings’ while the FA’s Household share is 82 per cent of all value of residential dwellings. Nevertheless, the Household sector’s share of the total does not explain the departure from 1998 onwards. The main point in this respect is that the NA’s PIM approach does not seem to capture ‘housing wealth’ as well as the FA does.

Compared with the NA’s theoretical estimation method, the market price approach of the FA and HWS also seems more suitable in capturing the phenomenon “housing wealth”. The FA and HWS methods are alike in the sense that both in principle rely on the same value equals price * floor area approach, although the HWS asks the dwelling values directly from the respondents. The odd thing with the FA and HWS estimates is that

in principle the order of magnitude should be the other way around as the FA's Household concept is broader. The reason for this may lie in the different ways of getting the square metre prices and house sizes rather than in the sampling error associated with the HWS point estimates: in 2004, the HWS estimate was 10.7 per cent higher the FA estimate while the 95 per cent confidence band of the HWS point estimate was +/- 4.4 per cent.

4. Conclusions and recommendations

The most important lesson is that the concept "housing wealth" should also be defined for macro statistics. What does housing wealth include, how should it be valued? From the Finnish perspective both aspects should be clear: housing wealth covers both structures ('AN.1111 Dwellings') and land ('AN.2111 Land underlying buildings and structures') related to dwellings and free-time residences and that the natural valuation method is based on market prices. In Finland this means that methods used by the FA and HWS should be favoured. However, one further step would be differentiating between the concepts of gross and net housing wealth.

Concerning macro statistics holding gains stemming from dwellings also need defining. Relying only on the NA's Capital stock estimates would be insufficient. As the FA method for housing wealth also encompasses the land part of dwellings and is based on market prices, it should be the proper approach.

Another question is how to deliver sensible estimates of housing wealth? In this respect the one obvious starting point lies within Statistics Finland. As stated earlier there are some realistic possibilities to improve the accuracy of the housing wealth estimates both at macro and micro level through enhanced co-operation. In this respect harmonisation of price data would be a natural thing to begin with. The HWS could apply the FA's stratified square metre prices and dwelling stock floor area. This would yield a register-based measure of housing wealth for each sample household. The final step would be the calibration of weights to the total sum of the register source, which covers all dwellings. The result should be close to the FA estimates of household sector housing wealth. In any case, if register-based wealth were used as an auxiliary variable in the calibration, it should improve the precision and maybe also accuracy of the HWS housing wealth estimates which are based on interviewed floor area.

There is some learning to do the other way around too. Micro information could also be helpful in checking possible floor area shortage in the FA. As described in Section 3.1.2, the concept of dwelling stock floor area

may underestimate the size of detached houses. In theory, comparing dwellings in the HWS's sample to the dwelling stock should offer some insight to this. What comes to coverage of housing wealth, the FA's shortage of free-time residence structures and land can be overcome using the HWS's information as a guide. Since free-time residences are almost entirely owned by households, it should not be problematic to supplement the FA housing wealth estimates with the HWS information. This would involve the use of some sort of extrapolation method for years the HWS will not cover.

Inside macro statistics nothing seems to inhibit the use of the GFCF and Net capital stock estimates as yardsticks for dwelling structures, although some of the used assumptions would benefit from overhauling. For example, for wealth purposes the Capital stock estimates should be valued at market prices instead of replacement costs. The Capital stock services life assumption for dwellings could also be tested with the dwelling stock information.

In a longer perspective there are clear advantages to be gained with deeper co-operation between authorities. For instance, at the moment tax authorities have housing trade information that would greatly benefit both macro and micro statistics in wealth accounting in general, not just stocks and flows connected to housing wealth. All this information should be made available to Statistics Finland.

Annex 1. ESA95 classification of assets

AN	**Non-financial assets**
AN.1	Produced assets
AN.11	Fixed assets
AN.111	Tangible fixed assets
AN.1111	Dwellings
AN.1112	Other buildings and structures
AN.11121	Non-residential buildings
AN.11122	Other structures
AN.1113	Machinery and equipment
AN.11131	Transport equipment
AN.11132	Other machinery and equipment
AN.1114	Cultivated assets
AN.11141	Livestock for breeding, dairy, draught, etc.
AN.11142	Vineyards, orchards and other plantations of trees yielding repeat products
AN.112	Intangible fixed assets
AN.1121	Mineral exploration
AN.1122	Computer software
AN.1123	Entertainment, literary or artistic originals
AN.12	Inventories
AN.121	Materials and supplies
AN.122	Work in progress
AN.1221	Work in progress on cultivated assets
AN.1222	Other work in progress
AN.123	Finished goods
AN.124	Goods for resale
AN.13	Valuables
AN.131	Precious metals and stones
AN.132	Antiques and other art objects
AN.139	Other valuables
AN.2	Non-produced assets
AN.21	Tangible non-produced assets
AN.211	Land
AN.2111	Land underlying buildings and structures
AN.2112	Land under cultivation
AN.2113	Recreational land and associated surface water
AN.2119	Other land and associated surface water
AN.212	Subsoil assets
AN.2121	Coal, oil and natural gas reserves
AN.2122	Metallic mineral reserves
AN.2123	Non-metallic mineral reserves
AN.213	Noncultivated biological resources
AN.214	Water resources
AN.22	Intangible nonproduced assets
AN.221	Patented entities
AN.222	Leases and other transferable contracts
AN.223	Purchased goodwill
AN.229	Other intangible nonproduced assets
AF	**Financial assets and liabilities**
AF.1	Monetary gold and SDRs
AF.11	Monetary gold
AF.12	Special drawing rights (SDRs)
AF.2	Currency and deposits
AF.21	Currency
AF.22	Transferable deposits
AF.29	Other deposits
AF.3	Securities other than shares
AF.33	Securities other than shares, excluding financial derivatives
AF.331	Short-term securities other than shares, excluding financial derivatives
AF.332	Long-term securities other than shares, excluding financial derivatives
AF.34	Financial derivatives
AF.4	Loans
AF.41	Short-term loans
AF.42	Long-term loans
AF.5	Shares and other equity
AF.51	Shares and other equity, excluding mutual funds shares
AF.511	Quoted shares, excluding mutual funds shares
AF.512	Unquoted shares, excluding mutual funds shares

AF.513	Other equity
AF.52	Mutual funds shares
AF.6	Insurance technical reserves
AF.61	Net equity of households in life insurance reserves and in pension funds reserves
AF.611	Net equity of households in life insurance reserves
AF.612	Net equity of households in pension funds reserves
AF.62	Prepayments of insurance premiums and reserves for outstanding claims
AF.7	Other accounts receivable/payable
AF.71	Trade credits and advances
AF.79	Other accounts receivable/payable, excluding trade credits and advances
	Memorandum items
AN.m	Consumer durables
AF.m	Direct foreign investment

Annex 2. The Household Wealth Survey classification of assets

1-6	**Wealth, total**
1-3	**Non-financial assets, total**
1	Value of dwellings
1.1	Value of dwellings (permanent, owner-occupied)
1.2	Value of dwellings (others)
2.	Value of free-time residences
3.	Value of vehicles
	Memorandum items
	- Value of other durable goods and valuables
	- Assets of forestry (tax value)
4-6	**Financial assets, total**
4.	Deposits, total
4.1	Current accounts
4.2	Term deposit and investment accounts
4.3	Accounts, unspecified
5.	Securities, total
5.1	Listed shares and mutual funds
5.1.1	Listed shares
5.1.2	Mutual funds
5.2	Other shares
5.3	Share certificates
5.4	Bonds and debentures
6.	Other financial assets
6.1	Savings and deposit insurance
6.2	Voluntary pension insurance savings
6.3	Loan receivables
6.4	Cash funds
1-4	**Liabilities, total**
1.	Housing loans (permanent, owner-occupied)
2.	Consumer loans
3.	Student loans
4.	Other loans

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