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Housing wealth and aged care: asset-based welfare in practice in three OECD countries

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ABSTRACT

The transition of the baby boomer bulge into old age and their increasing longevity will lift the numbers of elderly in residential aged care. Population ageing and associated fiscal pressures have motivated governments to shift responsibility for the financing of aged care to the individual. We consider policies that include owner-occupiers' housing wealth and imputed rental incomes in means tests that determine co-contribution charges for residential aged care. Differences in how housing wealth is included in the residential aged care resource tests of three OECD countries – Australia, England and the Netherlands – are documented. We find some neglected equity implications as tenants in all three countries typically pay higher co-payments for their residential aged care than homeowners with similar wealth holdings. These outcomes are a consequence of the concessional treatment of owners' housing equity stakes, and of wider significance given the growing importance of asset-based welfare strategies. England has relatively progressive asset and income tests that offer more limited concessions.

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Australia; England; Netherlands; owner-occupation; residential aged care

1. Introduction

In OECD countries, the number of individuals aged 65+ years per 100 working age persons is projected to double from 27 to 55 between 2015 and 2075 (OECD, 2015). These demographic projections are prompting calls for governments to establish a sustainable aged care financing system that adequately resources aged care. But concerns over the capacity of government budgets to finance aged care are motivating some governments to introduce larger client co-contribution (co-payment) charges.

A key mechanism for engineering such shifts in financial responsibility is an asset-based welfare policy strategy which promotes horizontal redistribution over the life

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cycle. It typically employs fiscal interventions (e.g. tax concessions) that incentivise household wealth accumulation during working lives, that households are then compelled to draw on in order to meet needs in later life that are traditionally provided by public services (e.g. health). It is hoped that such a strategy will help cushion growing financial pressures when welfare programmes retreat under austerity measures. There is a burgeoning literature on the rationale underpinning asset-based welfare that draws on theoretical perspectives from a range of disciplines.[1] But the literature neglects policy design issues, and 'in practice' consequences for equity, as well as the more mundane but important implications for efficiency.

In this paper we address the equity implications of resource tests that compel age care residents to draw on their wealth in order to finance co-contributions for their care and accommodation. As Price & Livsey (2013) point out, co-contributions are relatively recent initiatives that are an important example of reforms that can be expected as the traditional welfare state retreats, and is displaced by an asset-based welfare strategy (see also Ong, 2016). Owner-occupied housing is often the most important asset held in homeowners' wealth portfolios, but these assets commonly attract concessions when determining client charges for aged care. Concessions are not extended to tenants' wealth which is commonly stored in financial assets. Tenants end-up being doubly disadvantaged. They both fail to benefit from the fiscal concessions incentivising asset accumulation in homeownership, yet also suffer because governments that promote asset-based welfare cut public services that tenants are typically more reliant upon (Elsinga & Hoekstra, 2015). The inequities that these arrangements cause add to the worries raised in a growing literature analysing asset-based welfare as a pillar supporting social policy for the elderly (Delfani *et al.*, 2014; Dewilde & Ronald, 2016; Toussaint & Elsinga, 2009). These worries are especially acute for today's young people, as growing numbers of them are spending longer periods of their lives in private rental housing because they cannot afford to purchase housing and are unable to access social housing (McKee *et al.*, 2017). These young renters belong to a 'generation rent' who are not only excluded from the traditional norms of housing consumption, but are also vulnerable to poverty in old age since they are unable to draw down on large amounts of housing wealth to meet welfare needs, age care being a conspicuous example of needs in later life (Dewilde & Raeymaeckers, 2008).

Much of the asset-based welfare literature is theoretical in orientation. Our paper is distinctive and important because it explores the 'in-practice' equity effects of asset-based welfare in residential aged care as implemented in three countries – Australia, England and Netherlands. Residential aged care, that is nursing home based care for the aged, is the costliest component of the aged care sector and the subject of this paper. All three countries now have co-payment arrangements consistent with asset-based welfare principles, but diverse ways of including housing wealth into the resource (means) tests determining co-payments. These resource tests have failed to attract the attention of housing analysts, despite important implications for equity. With growing personal responsibility for aged care and increasing need due to population aging, these equity implications will be of growing importance and will have to be taken into account when reforming aged care means tests.

Government expenditure on long-term aged care is also expected to increase as a result of growing demand. In 2007 public expenditure on long term aged care accounted for an average 1.2% of GDP in OECD countries, but is expected to double by 2050. In the Netherlands, public expenditure on long-term care is projected to soar from 3.4% of GDP in 2007 to 8–9% in 2050; the projected increase in UK public expenditure is more gradual – from 0.8% to 1.3% between 2007 and 2050 (Colombo *et al*., 2011). Australian government expenditure on aged care could nearly double from 0.9% to 1.7% of GDP over the next 40 years (Australian Government, 2015). Clearly, the financial pressure on governments to leverage higher co-contributions from aged care clients will increase, and resource tests governing their determination will attract increasing attention.

The paper has two principal aims. Firstly, to describe how housing wealth is treated under residential aged care resource tests in three case study countries with a view to uncovering the policy logic shaping these tests. Our second aim is to assess the fairness of resource tests from vertical and horizontal equity perspectives, as well as the viewpoint of clients with spouses whose housing security could be impacted by co-contribution charges.

The paper's second section discusses the issues motivating inclusion of housing wealth in means tests, before a third section describes how the three countries treat housing wealth in aged care financial assessments determining client co-contributions. It also considers different deferred payment and refundable deposit arrangements designed to soften the immediate impact of co-contributions. The fourth section documents how different ways of including housing wealth in means tests have contrasting implications for fairness. A concluding section outlines some policy implications and reform options, as well as identifies some future directions for research.

2. Background

Aged care services are delivered in the form of home care or through nursing homes. Governments have placed increasing emphasis on delivering care services in the client's own home. These services often supplement the in-home care supplied by a spouse and assist ageing in place that could be more cost effective than residential care, as well as help to maintain a client's sense of independence. But entry into residential aged care climbs in the 85 years and over age cohort, a population group that is expected to grow rapidly,[2] so the demand for residential aged care will inevitably increase. Client co-contributions are typically charged for both home care and residential aged care, though fees are larger for residential aged care, the focus of this paper.

International reviews of aged care (see Colombo *et al*., 2011; Productivity Commission, 2011) highlight three approaches to aged care funding arrangements. A universal system emphasises the need for care by offering universal access to publicly funded care with little if any co-contribution from the care recipient. Countries that matched this description back in 2011 include the Netherlands, Japan and Sweden. At the other extreme, a safety net system provides minimal government support tightly targeted on those with limited means to pay. Countries with safety net systems include the United Kingdom (UK) and United States. In between these two extremes were mixed systems with a degree of universality but with targeting of assistance on those in greatest need. Examples include Australia, Austria and France. Since 2011 some countries have introduced reforms that shift systems closer to the safety net model. These reforms follow the large windfall gains in booming housing markets during the late 1990s and 2000s. Inflated real house prices mean many aging baby boomers are entering the retirement phase with large amounts of wealth locked up in housing assets.

Tapping into housing asset gains is a particularly attractive proposition given government budget worries about meeting the welfare needs of an ageing population. Our three case study countries' means tests now compel aged care residents to draw down on savings and divert part of their income to meet co-contributions. In principle, this frees up public resources for elderly income-poor aged care residents with little or no wealth (Productivity Commission, 2011).

But there are a number of equity issues. From a vertical equity perspective, a common concern is whether the income and asset-poor are protected by resource tests, while also ensuring that income or asset-rich clients make an appropriate co-contribution. The failure to design resource tests in a housing tenure neutral fashion also raises horizontal equity issues because they result in aged care residents with the same income and wealth, but from diverse sources, or held in dissimilar assets, paying different co-contributions. Partnered aged care residents that rented their homes are especially disadvantaged. Elderly homeowners might also have concerns when resource tests compel them to dip into savings accumulated in their home (Hancock *et al.*, 2002; National Seniors Australia, 2011). This is keenly felt by care residents with spouses still resident in the family home, but is also expressed by those with a bequest motive (Productivity Commission, 2011).

These broader concerns about fairness have prompted governments to reform payment arrangements in ways that soften the immediate impacts of co-contribution requirements. The reforms include payment deferral programmes, as well as concessions allowing clients' spouses to continue residence in the owner-occupied family home. In England, care home residents can enter into deferred payment arrangements (DPAs). Australian care home residents can choose a refundable accommodation deposit (RAD) arrangement in which a deposit is lodged, and providers receive the investment returns in lieu of co-contributions. Such arrangements were not a pressing need in the Netherlands because its aged care financing was until recently a universal system with a national insurance-based long-term care system financed by contributions made through the payroll.[3] In all case study countries, the asset value and imputed income of homeowner clients is ignored provided a spouse, or other dependent, is resident. But there is a trade-off since this preferential treatment introduces horizontal inequity between singles and couples with equal means, an issue that we document in Section 4 below.

3. Residential aged care income and asset tests in three countries

This section offers a summary of each case study country's treatment of housing assets and imputed rents in residential aged care resource tests, as well as DPAs and

RADs. Resource test formulae can be found in the appendix, while key features including marginal contribution rates (MCRs) from increments in wealth, are described in Table 1. The MCR is the proportion of any one unit (a dollar, euro or pound sterling) increase in wealth that is sacrificed in order to meet annual co-contribution charges, and is a key parameter in the analysis of equity reported in Section 4.

3.1. Australia[4]

Since 1 July 2014 clients of residential aged care homes may have to meet three different co-contribution charges; a basic fee, a care fee, and an accommodation payment. The basic fee is non-means tested and fixed at 85% of the maximum single age pension rate. Care and accommodation charges are calculated by applying income and asset tests *independently* of each other and then *adding* the contributions determined under each assessment. Assessable income levels less than A$27,341 and assessable assets less than A$45,000 are disregarded in determinations of these two co-contributions.[5]

All assets are assessable under the asset test (see Aged Care Financing Authority, 2017, p. 19). However, if the owner client's primary home is occupied by a *spouse or dependent* it is disregarded; in the case of a client who retains ownership of their unoccupied home, assessable assets will include their housing equity but up to a capped value of A$154,179. The asset test applies different MCRs in three asset bands (see Table 1).

The separate assessable income means test *excludes homeowners' imputed rents and also the income that tenants could have been deemed to receive from RADs*, but does include the income that other financial assets are *deemed* to generate.[6] The income test is akin to a proportional tax schedule with a low-income exemption (see appendix for formula).

These rules define three groups of aged care residents (Chomik, 2014). The first group (fully supported residents) comprise those with income and assets below the disregard thresholds who pay a basic fee only. The second group (partly supported residents) again pay the basic fee; however, their income and/or assets are above the disregard thresholds and their co-contribution assessment is less than the maximum government support for accommodation (A$19,106). They are required to meet some of their accommodation costs with the government meeting the rest, but bounded by the A$19,106 cap. They do not meet any of their care costs. Finally, the third group (non-supported residents) have income and assets such that their assessed co-contribution exceeds the A$19,106 cap on maximum government support for accommodation. They again meet the basic fee, but also pay all their accommodation costs as well as a care fee that is the difference between the assessed co-contribution and A$19,106.

3.2. England[7]

Under the 2014 Care Act means test assessments are conducted on an individual basis, with couples' jointly owned assets divided equally between partners.

Table 1. Comparison of aged care residential charges and means tests across the three countries, from 2014 onwards.

Feature	Australia (2014)	England (2016)	Netherlands (2017) (see also Table 2)
Non-means tested component	Yes. A non-means tested basic fee is payable, calculated at 85% of the maximum age pension rate for singles.	No.	Yes. A minimum care contribution of €160.60 per month is payable.
Cost structure	On top of the basic fee, separate charges and co-contributions for accommodation and personal care worked out by financial assessments of the client's income and assets.	Accommodation and care costs are bundled together with one client contribution calculated with respect to all combined costs.	On top of the minimum care contribution, accommodation and care costs are bundled together with one client contribution calculated with respect to all combined costs.
Means test structure	Separate income and asset tests.	Income and assets combined in a single means test.	Income and assets combined in a single means test. Low-tier and high-tier means tests apply to different groups.
Treatment of principal residence within asset test	Assessable assets include the homeowner's principal residence up to a capped value of A$154,179 (at March 2014 rates), unless occupied by a spouse or dependent.	Assessable assets include the homeowner's principal residence, unless occupied by a spouse or dependent. However, a 10% deduction from the assessed value of assets (including the principal residence) is allowed in recognition of the transaction costs that would be incurred on realising assets.	Under the low-tier means test, the principal residence is not included in assessable assets. Under the high-tier means test housing equity is included in assessable assets after 2 years of residence if no partner is living in the home.
Income imputed from housing assets	Assessable income does not include the imputed income accruing to homeowners.	Assessable income does not include the imputed income accruing to homeowners.	Under the low-tier means test: if net imputed rents are negative they can be deducted from assessable income. If positive they are set equal to zero, including those of the outright owner. Under the high-tier means test, two years after moving into residential care, deemed income from the home equity is included in assessable income like for any other asset.
Marginal contribution rates (MCRs)	There is a sharp drop in the MCR from the lowest wealth bracket (17.5%) starting at A$45,000 to the second (1%) starting at a threshold of A$157,179	There is a steep increase in the means tested fee once the disregard threshold is passed with MCRs of 20.8%. Clients with assessed capital in excess of	Once the disregard threshold is passed, the MCR is 1.5% under the low-tier formula and 12% under the high-tier formula.

(*continued*)

Table 1. Continued.

Feature	Australia (2014)	England (2016)	Netherlands (2017) (see also Table 2)
	and a third (2%) beginning at A$372,537.	£23,250 face a MCR of 100%.	
Refundable accommodation deposit (RAD) or deferred payment arrangements (DPAs)	Residents are permitted to lodge a lump sum RAD as an alternative to a daily fee, or a combination of a RAD and daily fee.	Residents can enter DPAs to defer payment, so they are effectively borrowing money and interest is charged on the accruing amount that is borrowed.	No general provisions for a RAD or DPA.

Source: Authors' summary of key points from main text.

Accommodation and care costs are bundled together with one client co-contribution calculated with respect to all combined costs. English resource test arrangements are then simpler than their Australian equivalent where separate charges are calculated.

The resource test includes an asset and income assessment. The homeowner's primary home is again disregarded in asset assessments if a partner or dependent lives in the home. But all the equity held by a single client who owns an unoccupied primary home is included in assessable assets. If assessed assets are below a minimum threshold they are ignored and there is an income only determination of co-contributions. The income test sets the co-contribution equal to total assessable weekly income less a weekly personal expense allowance.

Assessable assets only 'come into play' if assets exceed minimum thresholds and weekly income exceeds £188; if they do, assessable assets are converted into a weekly income equivalent (tariff income). The co-contribution is then set equal to the sum of this tariff income and assessable weekly income less the small personal expense allowance. The formula determining tariff incomes (see appendix) has an upper threshold above which clients are self-funding and meet care home costs *in full.* MCRs are relatively steep in England (see Table 1).

3.3. The Netherlands[8]

The Dutch 2014 Long Term Care Act subjects two groups of clients to different assessments governing co-contributions for combined care and accommodation costs (see Table 2 for summary). The first group are former tenants and homeowners resident in care homes for less than six months. For these clients a low-tier means test applies and continues to apply if resident for more than 6 months, *provided a partner or dependent child remains in the client's home.* Homeowners' primary home equity is disregarded in the asset test component of means tests, and if net imputed housing income is negative it can be subtracted from an assessable income component in the means test. The income that assessable financial assets are *deemed* to generate (4% of their capital value) is included in assessable income.[9]

After six months of residence clients who do not have a partner or dependent child living in the former primary home, are subject to a high-tier means test. All housing equity accumulated in the un-partnered client's primary home is *in principle*

Table 2. Determination of the homeowner's assessable assets and imputed rents in assessable income,[a] Netherlands (2014 Long-term Care Act).

Timeline after entry into residential age	First 6 months	7–24 months	25 months and beyond
Dependents living in the primary residence			
Low or high-tier formula	Low-tier		
Assessable wealth determination	The resident's contribution to aged care costs is based on assessable wealth. Equity in owner-occupied home is not included in assessable wealth for the calculation of the aged care contribution, while all other wealth is.		
Determination of assessable income (imputed rents)	Imputed rents are calculated as a percentage of a property's assessed value. Mortgage interest can be deducted from imputed rents for a maximum period of 30 years (negative gearing); if net imputed rents are negative they can be deducted from assessable income. If positive they are set equal to zero, including those of the outright owner.		
No dependents living in home			
Low or high-tier formula	Low-tier	High-tier	
Assessable wealth determination	The resident's contribution to aged care costs is based on assessable wealth. Equity in the owner-occupied home is not included in assessable wealth for the calculation of the aged care contribution, while other wealth is.		Once two years have passed the owner-occupier's dwelling is deemed to be part of 'normal wealth' and its value (net of debt) is added to all other forms of assessable wealth.
Determination of assessable income (imputed rents)	As per the treatment of owners with dependents living in the home.		The home is deemed to generate imputed rents, like any other asset, equal to 4% of the equity holding (net wealth in the house), and the imputed rents are added to assessable income.

Source: Authors' summary of key points from main text.
[a]Assessable wealth and assessable income are measured with a two-year lag.

part of assessable assets, and net *imputed* housing income is added to other sources of assessable income. All financial assets are assessed according to the high-tier formula (see Appendix).

The two-tier nature of Dutch resource tests is distinctive, as is the practice of setting *current* co-contributions with reference to assets and income of the *client two years ago*. This mimics their treatment by Dutch tax authorities for income taxation purposes.[10] There is also a minimum co-contribution charge (€1,927 per year for single and partnered clients) under both tiers that all clients must meet.

Income and assets are integrated in resource test formulae by annuitizing wealth (see Appendix for formula). In the low-tier means test there is a disregard wealth threshold of €21,330 (€42,660 for partnered clients); above this threshold wealth is annuitized at a rate of 8% and added to assessable income. The client co-contribution is set at 12.5% of the sum of assessable income and annuitized wealth.

As clients become longer term residents of nursing homes the high- tier resource test sets co-contributions at higher levels. Assessable income is again added to annuitized wealth, but co-contributions are equal to the difference between this sum and a deduction for non-discretionary spending needs (income tax paid, compulsory health insurance fees and subsistence costs).

There is an important implication from the unusual practice of basing assessments on income received and assets held two years earlier. It means that in the first two years of residence in aged care, the owner client's primary home is effectively disregarded from assessable wealth (because they were occupying their primary home two years ago). Property value (net of any secured mortgage) is only included in assessable assets if the client retains ownership of her home for two years following transition into residential aged care, and no dependents are resident[11] (Van Rijn, 2016). In the assessable income part of the formula, deemed income (imputed rents) from housing *equity* is included as a component of assessable income in the same way as income is deemed to be generated by financial assets (see Table 2). These provisions are a potentially important motive incentivizing clients to leverage debt secured against their homes.

3.4. Curbs on co-contributions

There are various ways in which case study countries seek to limit the burden of co-contributions. Disregard thresholds, below which co-payments from assets (or income) are zero, have been incorporated in each country's resource tests and are an important safeguard for asset (income) poor clients. The Netherlands is alone in setting larger disregard thresholds for partnered clients. Australia also applies a cap (A$154,179) on assessable primary home equity when an owner retains their unoccupied primary home. It is common to place upper limits on the co-contribution charges clients pay annually (or lifetime limit). Australia has an annual cap at A$25,000 a year, as well as a lifetime cap of A$60,000, while the Netherlands caps monthly contributions at €2,312.60 (€842.80) under the high-tier (low-tier) formula (equivalent annually to €27,756 and €10,114, respectively). For English clients receiving subsidies, co-contribution charges are limited to a local government budget assessment of the care and accommodation needs of clients. Self-funding residents of aged care homes pay market determined charges.

In countries, such as the USA, where Medicaid pays for an individual's nursing home care if income and assets are below eligibility thresholds there are recapture provisions. This means that upon the death of a Medicaid recipient, the state will try to recover subsidies for long-term care through the individual's estate (American Council on Aging, 2020). There are no provisions of this kind in our case study countries. But the immediate impact of residential aged care charges can be mitigated in Australia and England. Australia allows homeowners to preserve the nominal capital value of their home equity, or other assets, by allowing residents to lodge lump sum RADs as an alternative to recurrent accommodation fees, or a combination of RADs and fees. To meet accommodation costs in full the deposit must equal a price set by providers but subject to a maximum of $500,000. A client that sells up to lodge their realized housing equity as a RAD, will have the realised equity value included in means tests as assessable assets.

There is no lump sum refundable deposit arrangement in England. Instead care home residents can enter DPAs. DPAs allow clients to keep their unoccupied primary home instead of having to sell in order to pay nursing home fees. Clients can delay paying their co-payments by borrowing money that is a legal charge on their property. Interest is charged on the accruing amount that is borrowed[12] and when a client dies the outstanding debt is a claim on the client's estate. This is the equivalent of a reverse mortgage. In the same vein, a government-backed aged care Equity Release scheme has also been discussed in Australian policy circles. It would allow an older homeowner to use 'a maximum amount, say 40 to 60 per cent', of their housing equity to finance care costs, with no or limited repayments until the ownership of the family home is transferred to another individual (Productivity Commission, 2011, p. 108). The evidence in the USA suggests that seniors access their home equity infrequently using this financial instrument, so these DPAs may prove to have limited appeal (Haurin & Moulton, 2017).

Unlike the other two countries, Dutch arrangements make no general provision for either deferred payment[13] or refundable deposit arrangements. Reverse mortgages are marketed in the Netherlands, but are not tailored to the needs of aged care residents.

3.5. Policy rationale

Government documents explaining each country's aged care means tests lack a clearly stated policy logic with respect to the treatment of housing wealth. However, we can draw some inferences from the way these tests are structured. All three countries clearly want to avoid forcing a *homeowner* client's spouse or dependents out of the family home. They therefore disregard housing equity when a client has a spouse or dependent living in the primary home. The exemption recognises that the accommodation costs of an owner client's spouse or dependents must be paid for if the owners had to sell up in order to meet co-contribution charges. However, no country extends this recognition to tenant clients that leave behind a spouse or dependents in rental accommodation.

Where a home owning client moves into residential aged care but retains an *unoccupied* home, the Australian means test ensures that most will receive no government support for their accommodation costs. This is achieved by setting a relatively high MCR (17.5%) in the first assessable asset bracket (see Appendix). *Outright* owners of an unoccupied home with a value greater than A$154,179 are then ineligible for government assistance to meet accommodation costs.[14] However, a person whose only asset is their house and with income below the income-free threshold will not have to pay a means tested care fee (Department of Health, 2017).

There are then strong incentives for owners to keep unoccupied homes that are also magnified as a result of their exemption under age pension asset tests; however, income poor clients may have to sell up if they have insufficient income to meet accommodation fees. On the other hand, the bequest motives of income and asset-rich clients are respected by steep falls in MCRs in higher asset brackets, along with RAD arrangements that allow clients to preserve the (nominal) capital value of their wealth while meeting accommodation costs. These features can be rationalised on the grounds that they avoid 'penalising' those that have saved to support themselves in old age, or accumulated wealth for children to inherit. High co-contributions could deter individuals from saving to meet aged care costs. However, there are significant implications for equity (see Section 4).

England's arrangements are consistent with those of a safety net system. Institutional care and accommodation costs are expected to be borne by aged care home residents, unless their income and assets fall below disregard thresholds, or they are homeowner clients with a spouse or dependent occupying the family home. Other clients must 'spend down' their resources before qualifying for public funding.

The Netherlands is the only country that applies different and lower co-contribution arrangements for short-term or temporary residents to assist them with coping with potential extra care costs. It is also distinctive in giving homeowner clients a 'breathing space' before their housing wealth position is assessable under resource tests, because co-payments are based on income and asset positions lagged two years in line with income tax rules. Lastly, the Netherlands is also the only country to apply different wealth disregard thresholds conditional on whether aged care clients are partnered; partners' thresholds are double those of singles. The asset test acknowledges that all partnered clients must meet higher accommodation costs when one partner enters residential aged care

4. Fairness: horizontal and vertical equity

In this section we report simulations examining horizontal and vertical equity in our three case study countries at varying levels of assessable wealth, but holding assessable income constant. This assumption isolates the nature of the relationship between co-contributions and assets, which is necessary as our focus is the asset test component of means test arrangements. The general properties of the relationship between co-contributions and wealth are the same regardless of assessable income.[15] The key dimensions of horizontal equity are the housing tenure of aged care residents and their partnered status. Tenure neutrality is the horizontally equitable outcome when two clients with identical partner status and net wealth, but different housing tenure, pay the same co-contribution fee for identical accommodation and care services. It is a commonly used concept in housing taxation studies (see Wood, 2003), and is equally relevant here because of the preferential treatment of owner-occupied housing under aged care resource tests. These preferences cause deviations from a tenure neutral outcome that are also more generous if the nursing home resident is partnered. Partner status is therefore an important second dimension of horizontal equity, particularly in the Netherlands because it is the only country where wealth disregard thresholds vary by partner status.

The relationship between co-contribution charges at varying levels of wealth is the key dimension of vertical equity. Co-contributions are progressive if the charges are increasing in wealth and asset-rich clients sacrifice higher proportions of wealth. We assume undiversified wealth portfolios[16] to isolate the impact of increments in housing wealth on owner co-contributions as well as the impact of increments in financial wealth on tenant co-contributions.

Table 3. Comparison of the vertical and horizontal equity properties of asset means tests.

Appraisal criteria	Australia	England	Netherlands
Vertical equity[a]	*Typically regressive:* The burden of co-payments on wealth is progressive over modest wealth ranges, but beyond modest levels of wealth they become strongly regressive.	*Progressive:* Once the disregard threshold is passed the burden of co-payments on wealth rises, and beyond a £23,500 threshold they in effect become steeply progressive because clients are self-funding.	*Varying outcomes:* Over low to modest wealth values a minimum charge is binding and charges are regressive. Once relaxed the burden of co-payments on wealth is constant under the low-tier means test, but rising and therefore progressive under the high-tier test up to the point when a cap on the maximum contribution is reached.
Horizontal equity	*Major departures from tenure neutrality:* Partnered owners' housing equity is disregarded. Single owners that hold on to their home benefit from a cap on the housing equity that is assessable. All else being equal, a renter will make a higher contribution than an owner from the same level of wealth. The departure from tenure neutrality is greater at higher wealth levels. *Single and Partnered Clients:* Disregard thresholds and upper limits on charges are uniform.	*Some Departures from Tenure neutrality:* Partnered owners' housing equity is disregarded and is a major departure from a 'level-playing field' that becomes increasingly significant as assessable wealth increases. But all other clients' assets are uniformly assessed including those of un-partnered owners that hold on to their primary home. *Single and Partnered Clients:* Disregard thresholds and upper limits on charges are uniform.	*Major departures from tenure neutrality:* Under the low-tier means test and the first 2 years of the high-tier means test, single and partnered owners' housing equity is exempt from assessable assets; inequitable outcomes become more significant as assessable wealth rises. After 2 years, partnered owners continue to benefit from this exemption. *Single and Partnered Clients:* Disregard thresholds are higher for partnered clients, but cap on maximum charge is uniform.

Source: Authors' summary of key points from main text.
[a]Analysis here ignores the preferential treatment of owner-occupiers' housing equity which is taken up in the horizontal equity section of the table. Conclusions are based on how co-payments are related to the assessable wealth of tenants.

Table 3 summarises the horizontal and vertical equity implications of each country's treatment of housing wealth in their resource tests. The details are described in the following country sections which each is based on two sets of simulation estimates. First, the level of co-contribution charges as levels of wealth vary from a zero minimum; second, co-contributions as a percentage of wealth over the same wealth range. These measures are reported for single and partnered aged care clients that were homeowners and retain ownership of their primary home; they are compared with those of single and partnered clients that were rental housing tenants.

4.1. Australia

The Australian simulations ignore the basic fee which all clients must pay regardless of their wealth; because we are focusing on how housing wealth is incorporated into resource tests and since owners' imputed rents are not an assessable income, only the asset test needs to be examined. Tenant charges assume that financial wealth is folded into a RAD, and as RADs are not deemed to generate assessable income, co-contributions again need only take the asset test into account.

Both single and partnered Australian clients share the same wealth disregard threshold (A$45,000), and so *former* homeowners as well as tenants make no co-contribution at assessable asset levels below this threshold. Above this threshold co-contributions from wealth rise steeply for all except partnered homeowners who make no contribution from housing wealth (see upper panel of Figure 1). Other clients pay a marginal contribution rate (MCR) of 17.5 cents for each one dollar increment in wealth until the next threshold (A$154,179) is reached. The lower panel of Figure 1 plots co-contributions as a percentage of wealth; for single homeowners they increase from zero at the disregard wealth threshold to 12% at the upper limit of the 17.5% MCR threshold. Tenure neutrality is infringed. At the A$154,179 threshold single owners and all tenants resident in aged care homes contribute A$19,106 from their wealth (12.4% of their wealth), but former owners whose spouse lives in the primary home are not expected to dip into their wealth.

In the next two wealth brackets (A$154,179 to A$372,537; above A$372,537) the MCR plunges to 1% and 2% respectively. The horizontally inequitable co-contribution outcomes by tenure and partner status worsen in these two brackets, and they also become regressive (see lower panel of Figure 1). Partnered owners' primary homes continue to be exempt but in addition single owners benefit from a cap on assessable primary home equity (A$154,179), so single tenant co-contributions rise above those of their single owner counterpart. Consider the position at the A$372,537 threshold; tenants must pay A$21,289 from their wealth (5.7%). Meanwhile, single owners that have not sold up continue to pay A$19,106 (5.1% of their wealth), and partnered owners sacrifice none of their housing wealth. The burden of other clients' payments now fall sharply as a percentage of wealth since MCRs are much lower in these higher brackets (see lower panel of Figure 1). They therefore become strongly regressive, and particularly so for single owners due to the cap on assessable assets; as a share of single owners' wealth charges fall from 12.4% at A$154,179 to 5.1% at A$372,537 and then 2% at the maximum of the wealth range in Figure 1.

4.2. England

The English simulations in Figure 2 calculate total co-contributions for accommodation and care costs that are bundled together, and again hold assessed income (other than tariff income) constant. Beyond the asset disregard threshold there is a steep rise in annual charges with the latter increasing at 20.8 pence for every one pound increase in assets. As a percentage of assessable wealth, co-contribution charges rise from zero at the disregard threshold to 8% at assessable wealth of £25,000 for all clients other than partnered owners. This is just beyond the asset threshold of £23,500 where clients with assessable income in excess of £188.25 a week are self-funding, and meet all residential aged care costs. There is a non-neutral tenure outcome for partnered owners because their primary home is exempt. However, single owners and

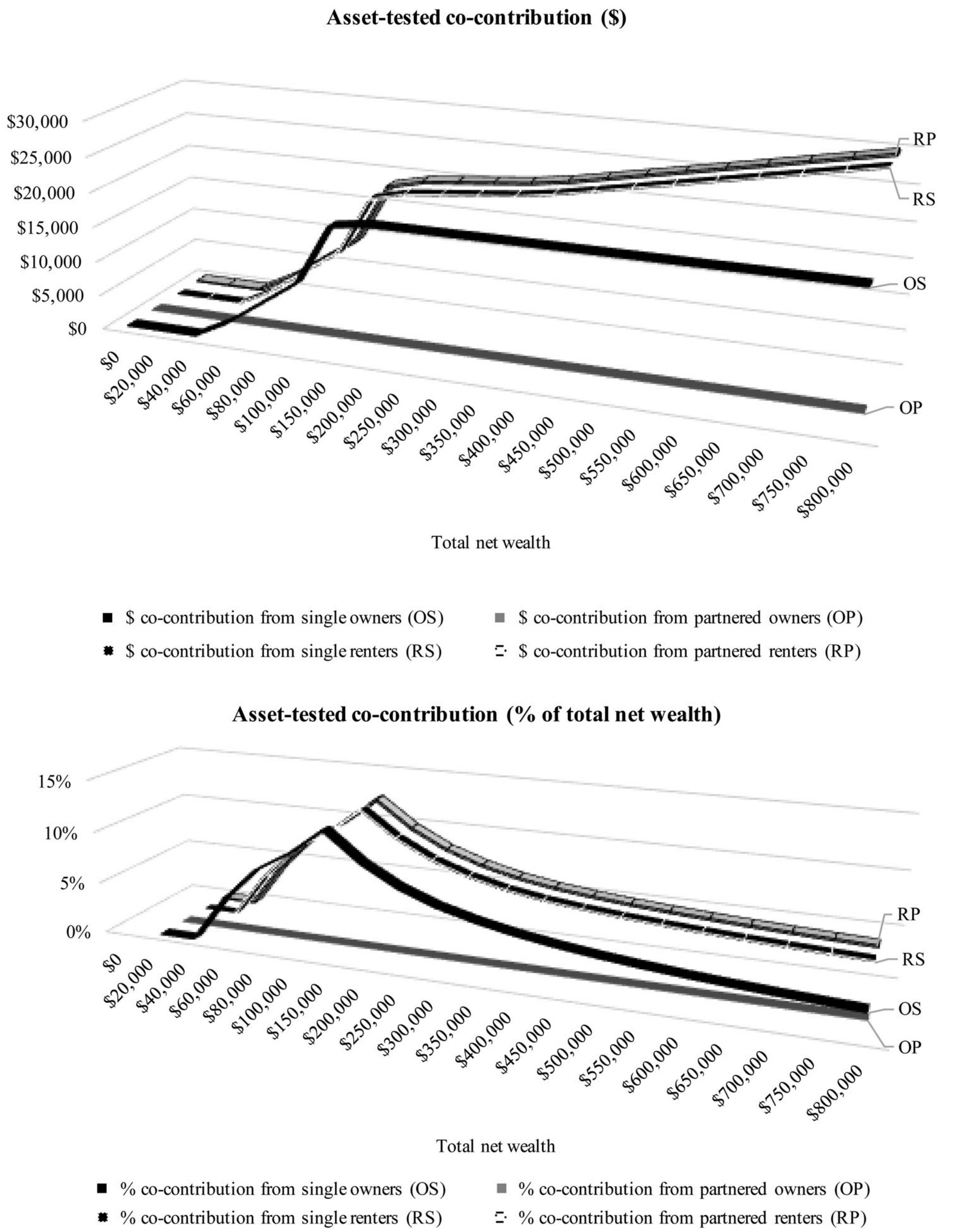

Figure 1. Australia – Asset-test co-contribution by wealth level, dollars and per cent of total net wealth.

tenants with identical wealth holdings pay the same co-contribution; because single and partnered tenant clients have the same disregard threshold the latter are particularly disadvantaged. For those clients other than partnered owners there is a steep increase in co-contributions as a percentage of assessable wealth; Figure 2 (see lower panel) shows this percentage increasing from 8% at assessable wealth of £25,000 to peak at 65% when assessable wealth is £62,500.[17] The steeply progressive schedule

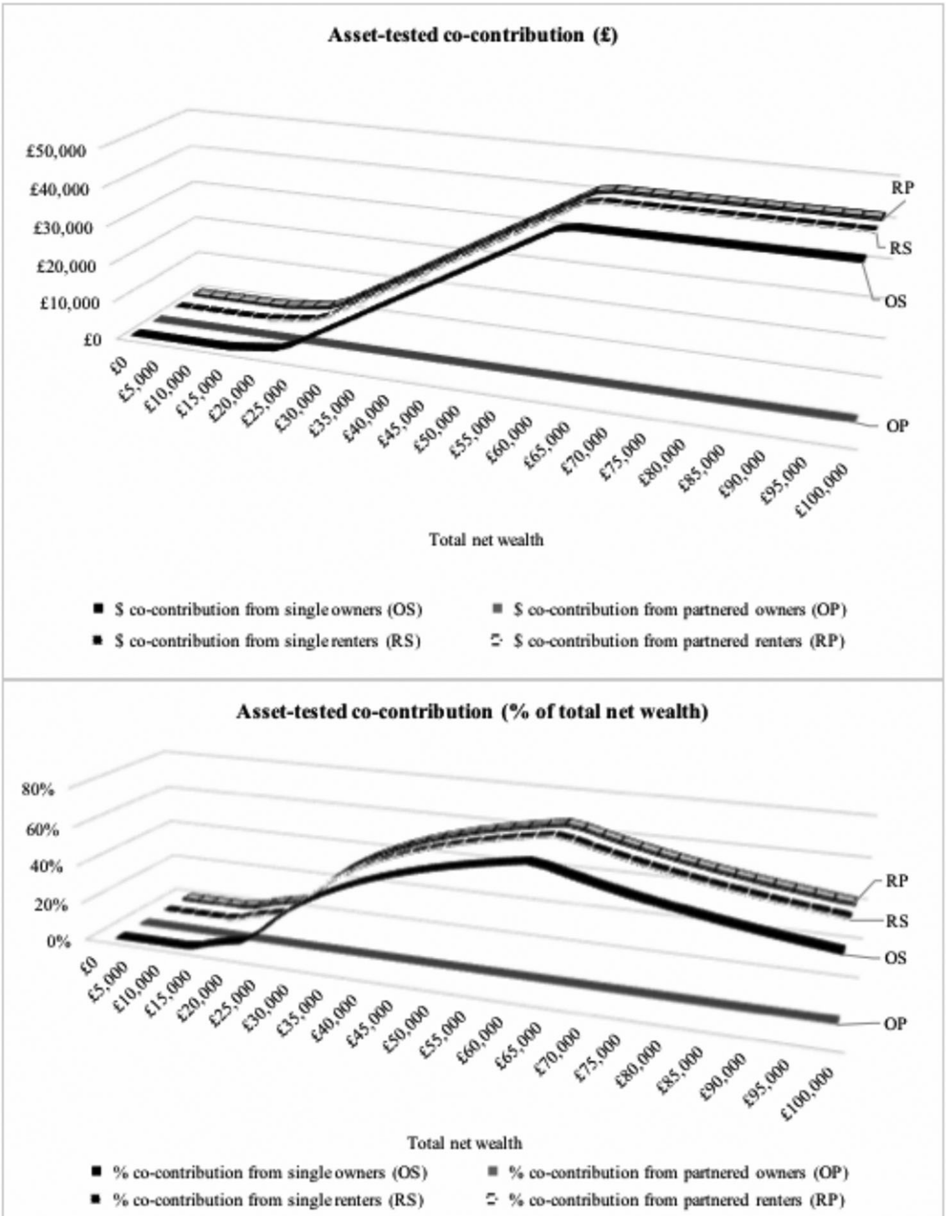

Figure 2. England – Asset-test co-contribution by wealth level, pounds sterling and per cent of total net wealth.

over this wealth range arises because clients with assets above £23,500 are self-funding.

4.3. The Netherlands

The Netherlands simulation findings are more heterogeneous. Horizontal equity considerations must take different disregard thresholds for singles and partnered clients

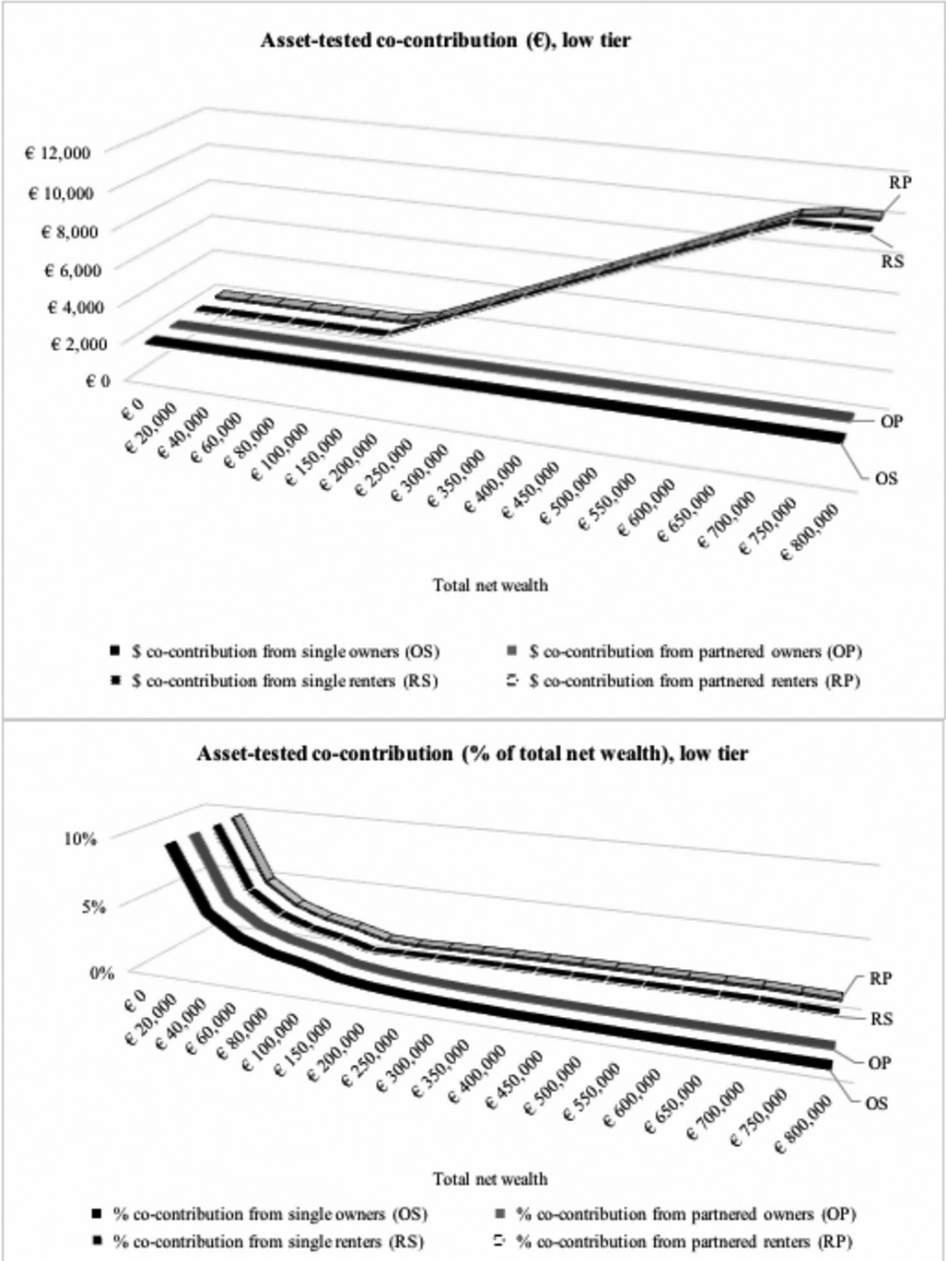

Figure 3. Netherland low-tier or under 6 months – Asset-test co-contribution by wealth level, euros and per cent of total net wealth.

into account, and the two-tier co-payment formulae are complicated as charges are calculated with respect to assessable income and assets lagged two years. Figure 3 illustrates the position of short-term residents under the lower tier resource test. We hold constant assessable income from sources other than deemed income from assets. At low levels of assessable wealth, the minimum charge of €1,927 is binding and results in an average contribution burden that falls steeply from 10% of assessable wealth of €20,000 to 1.3% at €150,000. Beyond this threshold, the co-contributions of former owners and tenants diverge because homeowners equity is disregarded (and so charges remain fixed at €1,927), while the 1.5% MCR met by tenants means that average contribution burdens rise. When assessable wealth reaches €300,000 single (partnered) tenants are paying €2,253 (€1,933) per annum more than homeowner counterparts holding the same wealth. The single (partnered) tenant surcharge widens further to €6,753 (€6,433) when assessable wealth reaches €600,000. The position of partnered tenants is safeguarded by a higher disregard threshold, but in practice it is of limited value especially at higher wealth values.

Permanent (longer than 6 months) aged care residents are subject to higher tier arrangements. The simulation findings in Figure 4 capture the position of clients in the first two years of residence; the housing equity of former owners who subsequently retain ownership, is excluded from assessable assets over this period. Co-payments are much higher for single and partnered tenants; when assessable assets are €300,000 and the maximum allowable charge of €27,751 is reached, this is €23,571 (€23,891 if partnered) higher than under the low-tier formula. Tenants' high-tier co-contribution charges rise steeply given a 12% MCR, eight times the 1.5% MCR under the low-tier formula. The minimum €1,927 charge is binding for single (partnered) tenants with assessable assets of roughly €20,000 (€40,000). This keeps average co-payment burdens for asset-poor tenants at relatively high levels – for example, it is 10% for single tenants with assessable assets of €20,000. While this minimum fee constraint is binding there is a temporary fall in the average co-payment burden as assessable wealth increases; once the constraint is relaxed and the 12% MCR 'kicks in' it gradually lifts these burdens back up to 11% (10% if partnered) when the maximum allowable charge of €27,751 is reached. Beyond this, the average co-payment burden declines for these relatively asset-rich tenants.

The position of clients that continue to own their primary home is safeguarded for the first two years (see Figure 4). There is therefore a horizontally inequitable treatment of former tenants among aged care residents, and this worsens at higher wealth levels. Once the minimum fee constraint is relaxed co-payments diverge; this occurs when assessable wealth has reached €60,000 with single (partnered) tenants paying €2,713 (€154) more than their equally wealthy owner counterparts. But this gap widens to an alarming extent, reaching €25,824 at assessable assets of €300,000 when the maximum allowable charge of €27,751 is reached. While co-payment charges are progressive for former tenants over this wealth range, they are regressive for former owners whose burden falls from 10% at a modest wealth of €20,000, to less than 1% at €300,000.

Beyond two years of residence, departures from tenure neutrality are partly bridged because the former owner who has no resident partner or dependent, must now include housing equity as an assessable asset. Their co-contributions from wealth are then the same as those of the single tenant. But owners with a partner or dependent living in the primary home continue to enjoy preferential treatment in the form of a housing equity disregard.

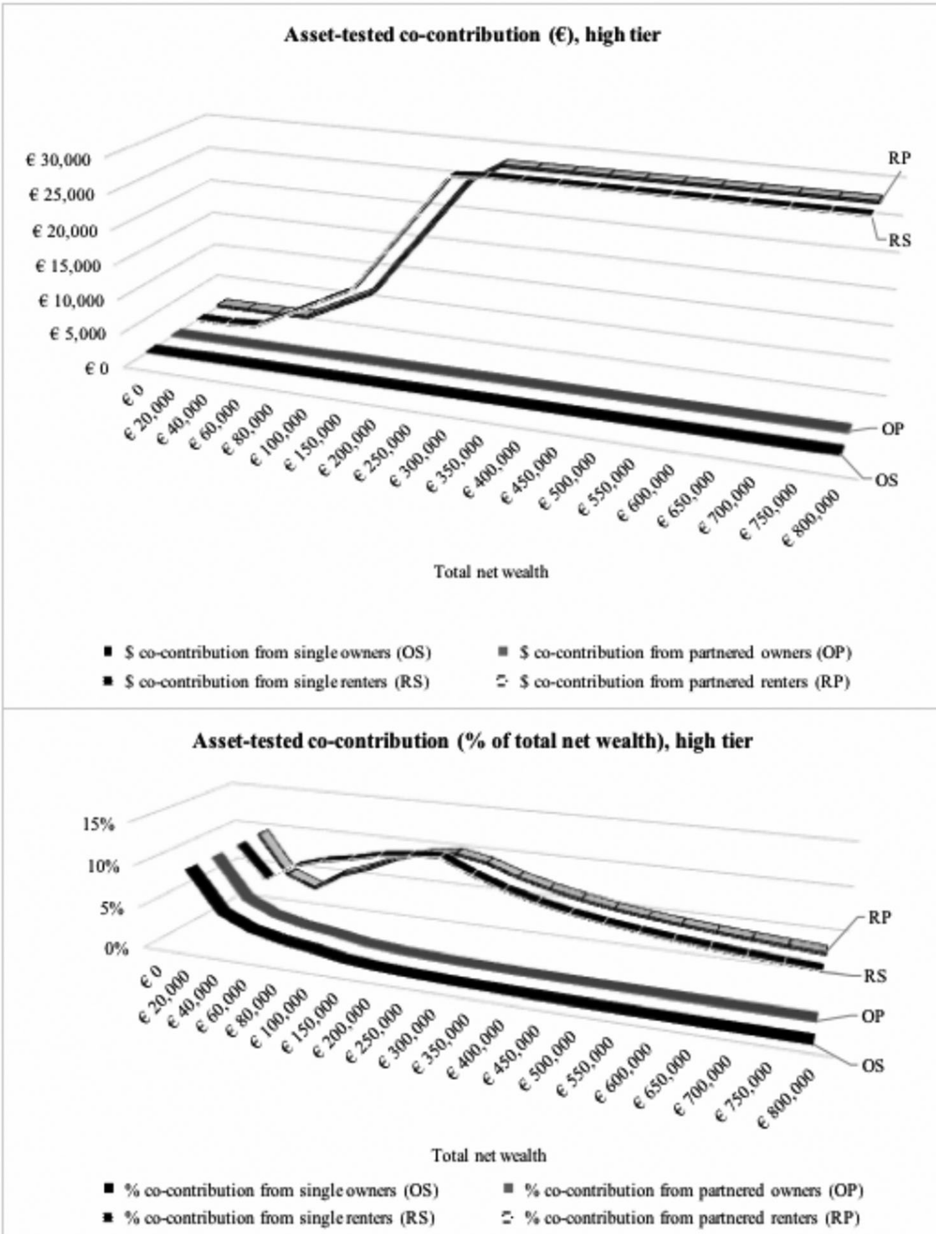

Figure 4. Netherland high-tier and 6 months to 2 years – Asset-test co-contribution by wealth level, euros and per cent of total net wealth.

5. Summary and conclusion

Our paper fills an important gap in the academic literature, by describing the ways in which housing wealth is treated in the context of residential aged care means tested co-payments. It also explores the hitherto neglected equity effects of these means tests as practiced by three countries – Australia, England and the Netherlands.

Our empirical investigation of horizontal equity identifies significant departures from a ‘level playing field’ that result in unfair outcomes for clients that rented their homes before entering residential aged care. All three countries offer preferential treatment of the wealth stored in homes owned by clients; tenants therefore end up paying higher co-contributions from wealth than owners in the same circumstances. Given population ageing, declining rates of homeownership and the possible emergence of a generation rent that could increase the number of late-in-life tenants, these inequitable outcomes will become more conspicuous, and are consistent with fears raised in the asset-based welfare literature about the relatively disadvantaged position of tenants.

The disregard of a partnered client’s owner-occupied home in asset tests acknowledges the sharp increase in a couple’s accommodation costs when one partner moves into a care home. But inequitable outcomes again arise because sharp increases are also experienced by clients whose partners continue to live in rental homes, yet they are given no commensurate allowance.[18] One response to this dilemma would be to lift the disregard wealth threshold applied to the wealth accumulated by partnered aged care residents that previously rented their homes.

Vertical equity outcomes offer a vivid contrast between Australia on the one hand, and England and the Netherlands on the other.[19] In Australia, co-payments are regressive over wealth values beyond A$157,179, which is a modest level of wealth for most homeowners. In England, there is a consistently progressive pattern to co-payments beyond disregard thresholds and until assessable wealth reaches £62,500 given the present range of age care charges, so wealthier clients must typically give up a higher share of their wealth to meet co-contribution charges up to this threshold. This is also the case for most permanent Dutch clients under the high-tier resource test, but charges are maximized rather than assessable wealth. Inequity is biggest in the first two years, when the equity embodied in the owner-occupied dwelling is not taken into account for the asset test. Australia’s regressive co-payments reflect high co-payments over modest ranges of wealth which ensure that all clients other than partnered owners, including those of modest means, meet much of or all accommodation costs.

The description of the means tests document their complexity and lack of transparency, especially so in Australia and the Netherlands. In the Netherlands this complexity is due to a two-tier system whose application is conditional on whether a spouse lives in the client’s former home, and the length of residence in aged care. The values of assets and income entering the co-contribution formulae are also lagged two years, adding to their intricacy. Australia’s co-contribution formulae are made difficult to understand by splitting care and accommodation costs, and applying separate income and asset tests. There are also complicated but important interactions with Australian government age pension means tests, RADs being the notable example.[20] Understanding how co-contributions for aged care have been determined must be seriously challenging for the elderly. Simplifying means test formulae should be an important consideration in future Australian and Dutch reform agendas.

The number of residents in aged care remains small, but as populations age we can expect growth in those numbers. And as residential aged care becomes an increasingly important segment of countries' housing systems, there will be significant implications for housing systems that have also been neglected. Residential aged care means tests clearly offer clients strong incentives to store wealth in owner-occupied housing. Elevated vacancy rates and under-occupancy of housing are important consequences that could impair housing market performance. These effects are likely to be especially strong in Australia and the Netherlands. But in the Netherlands means test rules also exacerbate a debt bias in the housing system.[21] Future research agendas should include these potentially important housing system performance effects, as well as alternatives to residential aged care that could mitigate these effects as well as reduce the need for government subsidy.

The analysis in this paper also signals potentially wider implications. Quasi-mandatory private pension arrangements such as those in Australia and the Netherlands, and more recently introduced in England, are potentially relevant. Falling rates of homeownership among young age groups are particularly evident in Australia as well as England, and could herald a general trend toward postponed entry into homeownership. There is no longer the same urgency to pay down mortgages as soon as possible when there is forced saving into pension accounts. Access to these account balances on retirement may offer opportunities to retire mortgage debt late in life. The incentives to store wealth in housing that aged care means tests sharpen is an important factor here. These are developments that could pose significant challenges to retirement income policy and transform tenure transitions across the housing career.

Finally, bequest plans are important for many older residents of aged care homes. Two of the three case study countries offer aged care clients' vehicles that allow them to shelter some of their capital in ways that help fulfil bequest plans. In Australia, RADs allow 'asset-rich' aged care clients to meet accommodation charges without having to dip into their capital. English deferred payment (reverse mortgage) arrangements allow a client's home to act as security. However, because the accrued interest and instalments granted under this reverse mortgage are secured against clients' housing, it will eat into the equity stored in the family home. The English approach is distinctive because it is the only country offering a vehicle that enables home owning clients (that lack other assets) to use their home to meet aged care costs without having to sell up. The current arrangements governing co-contributions to aged care have not been in place long enough to evaluate their impact on intergenerational transfers through inheritance. As the older population grows and demand for aged care increases we can expect bequest considerations to become more important.

Notes

1. Sherraden (1991) is an early contribution that makes the case for an asset based welfare strategy. For a recent review of the literature from a housing perspective see Ronald & Dewilde (2017), while Whitehead (2016) offers a critique.
2. In Australia, the 85+ years cohort presently numbers 500,000 (2% of the population) but is expected to double (to 1 million) by 2034-35 (Aged Care Financing Authority, 2017). The likelihood of utilising aged care services, whether home care or (respite and permanent) residential care, increase with age and particularly so beyond age 85. The proportion of people using aged care (home and residential) rises from close to 0% at

age 65 to roughly 15% at age 85; it then sharply increases to around one-third of the 90 year old and over age band, and 60% of 98 year old and over (Aged Care Financing Authority, 2017, figure 4.3). From 2031, when the first of the baby boomers reach 85 years, there will be a steep increase in the demand for residential aged care. According to data on the Netherlands from CBS Statline, the 80 years and over age cohort was almost 750,000 (4.4% of the population) in 2018, but only a little over 500,000 (3.2%) in 2000. The proportion of the 65 years and over population receiving long-term care increased from 14.7% to 20.5% between 2005 and 2015 (OECD, 2015).

3. These arrangements are exceptional in the OECD. Before reforms that extended the range of assets taken into account in means tests, only 8% of care costs were met by clients (Colombo et al., 2011).
4. Details of Australian resource tests have been sourced from the Australian Department of Social Services' (2014) information booklet on fees for home care packages and residential aged care for people entering care from July 1 2014.
5. All Australian dollar values in the following description of aged care means tests are at March 2014 rates.
6. Most financial assets are deemed to earn income, the important exception is RADs (see https://www.myagedcare.gov.au/costs/aged-care-homes-costs-explained/income-and-assets-assessment-aged-care-home-costs?fragment=deemed-income).
7. Details in this section have been sourced from Age UK's (2016, 2017) Fact Sheet 10 (Paying for Permanent Residential Care). The arrangements described apply to England, not other parts of the UK.
8. Details for the means test are sourced from: https://www.hetcak.nl/regelingen/zorg-vanuit-de-wlz/berekening-van-de-eigen-bijdrage-wlz/gegevens-eigen-bijdrage-wlz (last accessed on 22 August 2017). Details about personal income taxation rules are from: https://belastingdienst.nl/wps/wcm/connect/nl/home/home (last accessed on 30 October 2018). All euro values in this section are at their 2017 values.
9. This deeming rate applies to wealth above the €21,330 (€42,660) single person (couple household) disregard threshold. This method of determination applied up to 2016. For the calculation of deemed income from assets in 2017, see: (https://belastingdienst.nl/wps/wcm/connect/bldcontentnl/belastingdienst/prive/inkomstenbelasting/heffingskortingen_boxen_tarieven/boxen_en_tarieven/box_3/; last accessed on 30 October 2018).
10. The definition of assessable income and assessable assets is consistent with their measurement in Dutch income tax provisions (Haffner et al., 2015, 2016; Haffner & Winters, 2016).
11. The contribution is calculated on the basis of property value assessed two years previously.
12. Advances of the loan are made in instalments and interest accrues in a compound way. The interest rate can vary with market conditions, but is capped at a nationally determined maximum rate set by Central Government every six months.
13. If the client's dwelling has not been sold, but has been made available for sale, a tailor-made deferred payment arrangement can be made with the Central Administration Agency (Van Rijn, 2016).
14. The assessable housing equity is capped at A$154,179. Note that (A$154,179–$45,000)*0.175 = $19106, the maximum government support for the accommodation costs of someone with income and assets below the disregard thresholds.
15. Assessable income is held constant at zero, or equivalently to any value below the disregard income thresholds. Clients in Australia and the Netherlands will pay a basic or minimum fee and in addition will be required to sacrifice some of their wealth to meet the asset test component of the co-contribution, but no further charge based on income. In the UK income is held constant at £188 per week (the threshold at which wealth becomes assessable).

16. There is a caveat here. With diversified portfolios, measured horizontal inequities will be smaller than those reported in simulations below. Moreover charges will be less regressive than reported.
17. According to Age UK (2018), total residential aged care costs for self-funded residents range between £31,200 and £41,600 per year. When assessable assets are £62,500 a client charged £41,600 would be expected to meet this in full.
18. However, aged care rent subsidy programmes could offer spouses more financial assistance to meet rent payments provided the household income measure used to calculate subsidy excludes the income of their partner because (s)he has now moved into an aged care home.
19. The vertical and horizontal equity comparisons are conducted with respect to wealth, holding income constant. This is because asset based welfare strategies are the focus of this paper. In future research it would be helpful to analyse how income shapes co-contributions as well as their vertical and horizontal equity implications. This is a potentially important extension of the analysis because tenants typically have lower incomes than owners.
20. See https://www.humanservices.gov.au/individuals/enablers/assets/30621#a2.
21. In the 65 years and above age band, 55% of all Dutch owner-occupier households had an outstanding mortgage in 2015 (CBS Statline database: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/81702NED/table?ts=1539244705047; last accessed on 30 October 2018).
22. For clients that have folded all financial assets into a RAD this 17.5 cents in the dollar is the only effect that assets have on the co-contribution. This is because the RAD is not deemed to generate income under the income test (see below).
23. There is one complication. If the individual is eligible, a pension credit disregard (P_D) of £5.75 per week is also subtracted from the means tested fee. Pension credit can take two forms as long as the client has a qualifying income below an 'appropriate minimum guarantee'. A guarantee credit tops up income if it is below the appropriate minimum guarantee. Savings credit is intended for people who have made extra financial provision towards retirement through savings or occupational pensions.

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Appendix: the formulae determining Co-contributions

Australia

The annual care charge under the asset test is determined by the following formula *when* assessable assets exceed A$372,537:

$$\text{Asset tested annual care fee} = 0.175 * (\text{A\$157,179} - \text{A\$45,000}) + 0.01 * (\text{A\$372,537} - \text{A\$157,179}) + 0.02 * (W_A - \text{A\$372,537}) \tag{1}$$

where W_A represents the value of assessable assets.[22] When assessable assets fall below A$372,537 the highest wealth bracket is not relevant. If assessable assets fall below A$157,179 only the lowest wealth bracket is applicable.

For those with assessable annual income exceeding A$27,341, the income tested annual care fee is

$$\text{Income tested annual care fee} = 0.5 * (Y_A - \text{A\$27,341}) \tag{2}$$

where Y_A represents assessable annual income. The individual's total *care fee* is the *sum* of the amounts given by Equations (1) and (2). However, there is an allowable offset against the total care fee, which is the maximum government support for the accommodation costs of someone with income and assets below the disregard thresholds (A$19,106 per annum in 2014). If the assessed care fee exceeds the allowance for accommodation costs the client meets *all their accommodation costs* and makes a contribution to care costs given by:

$$\text{Asset tested annual care fee} + \text{Income tested annual care fee} - \text{A\$19,106} \tag{3}$$

If clients lodge a RAD equal to the published price there is no other accommodation costs to pay during their residence. When lodging a RAD less than the published price clients pay an annual fee to meet the balance. An equivalent annual amount generated by the deposit is calculated from:

$$(\text{RAD} \times \text{interest (deeming) rate}) \tag{4}$$

The interest (deeming) rate was 6.63% (in 2014); the shortfall between this equivalent annual amount and the annual amount due for accommodation costs is met by a recurrent annual payment

England

If assessed assets are less than £14,250 the means tested fee is calculated from income only and obtained from:

$$\text{Means tested fee} = Y_A - PEA \tag{5}$$

Y_A is assessed *weekly* income, and PEA is a weekly personal expense allowance of £24.90. If Y_A is greater than £188.25 a week (for a single person) and assessable assets exceed the lower £14,250 threshold the income assets are deemed to earn, what is called the 'tariff income' (Y_T), which is calculated on a weekly basis from the following formula:

$$Y_T = \frac{W_A - 14250}{250} \tag{6}$$

W_A represents the value of assessable assets. 'Tariff income' is therefore deemed to increase by £1 per week (or £52 per year) for every £250 increment in assets above the £14,250 threshold. The means tested fee is then computed from the formula[23]:

$$\text{Means tested fee} = Y_A + Y_T - (PEA) \tag{7}$$

On an *annual basis* clients' co-contributions will increase by 20.8 pence in every extra pound of assets. Finally, those with capital exceeding £23,250 are self-funding and meet care home costs *in full*. Once capital above the £23,250 threshold is exhausted, the individual can apply for means tested support and co-contributions are determined by formula (7).

Netherlands

Provided an un-partnered client's assessable assets are above a €21,330 threshold the low-tier means test can be represented by the following formula (in the case of partners the disregard threshold is €42,660):

$$\text{Total annual aged care contribution} = [0.125 * (Y_A + 0.08 * (W_A - €21,330))] \tag{8}$$

where Y_A represents assessable income, W_A represents the value of assessable assets and both are measured with a two-year lag. The increment in assessable wealth above the single person (partnered person) €21,330 (€42,660) threshold is then annuitized at a rate of 8%. Equation (8) indicates that single (partnered) clients' aged care co-contributions will be set equal to 12.5% of assessable income plus 12.5% of the annuitized value of assessable assets (net of debt) in excess of €21,330 (€42,660).

Under the high-tier means test total annual aged care contributions for single clients are determined by the following formula (with Y_A and W_A once again measured at a two-year lag and the disregard threshold for partnered clients is €42,660):

$$\text{Total annual aged care contribution} = [(Y_A - X) + 0.08 * (W_A - €21,330)] \tag{9}$$

The definition of Y_A in formula (9) differs from that in the low-tier formula by incorporating a deduction X for income tax paid, compulsory health insurance fees and living costs. All assessable income after the deduction is set aside to meet co-contributions, not 12.5% as in the low-tier means test. The second component of the high-tier formula is structurally the same as the low-tier except that all of *annuitized* wealth (net of debt) contributes to co-contributions, not 12.5% of annuitized wealth. The disregard threshold for partnered clients is again (at €42,660) double that of single clients.