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Abstract: A long running debate in the welfare state literature centers on an alleged trade-off between widespread homeownership and either a robust welfare state or a robust public pension. The central assumption in this literature is that homeownership front-loads housing costs, thus creating political sentiment against higher taxes for a larger welfare state. This paper questions the central assumption that buying is inherently more costly. Rather, the mechanism behind any observable trade-off is the need to reduce financial risks from mismatched maturities on bank balance sheets. Thus, the trade-off is not between homeownership and welfare (or pensions) *per se,* but rather between *debt-financed* homeownership and pay as you go pensions. The need to reduce maturity mismatch on balance sheets creates a rough continuum from societies combining high levels of mortgage debt with funded pensions (whether public or private) and societies combining debt free ownership with essentially pay as you go pensions. This finding also shows the weaknesses in proposals for asset-based welfare.

Is there a really big trade-off? Housing, welfare and pensions reconsidered from a balance sheet perspective

Is there a really big trade-off between owner occupied housing and either a robust welfare state or a robust public pension system? This long running debate in the welfare state literature occurred in two waves paralleling the expansion and then transformation of the welfare state. The first debate, about the expansion of the welfare state, was between Jim Kemeny, who argued for the broad trade-off against a robust welfare state, and Francis Castles, who argued for a narrower trade-off against a robust public pension.[1] This 'genetic' version claimed that home buying front-loads housing costs and thus creates political sentiment against higher taxes for a larger welfare state. The more recent 'transformative' versions of the argument concern political support for and recent changes to the welfare state, and thus come in both political and policy flavors. The political version posits that owners enjoying rising home equity will favor self-insurance over social insurance, and the reverse.[2] This ability to self-insure has generated a policy rhetoric about 'asset-based welfare.'[3] All these versions blur the material mechanisms behind the welfare/ownership tradeoff – Does home-buying truly front-load costs? Can housing assets actually be tapped? Are equity gains durable? – in favor of behavioral explanations driven by voters' illusions about costs and benefits.

This paper, by contrast, emphasizes a material explanation based on the co-constitutive relationship between housing finance systems and pension systems rather than a behavioral one based

[1] Kemeny 1980, 2005; Castles 1998; Castles and Ferrera, 1996.
[2] Prasad 2013; Ansell 2014.
[3] Finlayson 2009; Delfani, DeDeken and DeWilde 2014.

on voter illusions. The functional need to reduce both systemic and firm-level financial risks arising from mismatched maturities on bank balance sheets constrains the policy choices available to voters and politicians. Voters and politicians can only produce sustainable institutional structures on a continuum running from societies that combine high levels of mortgage debt with funded pensions (whether public or private) to societies that combine debt free ownership with pay as you go pensions. Put simply, where mortgages are large in relation to GDP, systemic risk is lower when long-term investors like pension funds and insurance firms, or state agencies, are the ultimate funders of those mortgages. Where second tier pay as you go (PAYGo) pensions funded from current tax receipts crowd out pension plans funded from asset holdings, the smaller pool of long-term purchasers for mortgage debt implies correspondingly less mortgage lending in relation to GDP.

This material explanation provides a more precise – though not comprehensive – explanation for the apparent welfare/ownership trade-off, and establishes a better position for assessing the possibility of asset-based welfare. To the extent that we observe a housing versus pensions trade-off as an outcome, the trade-off is not between homeownership and welfare (or pensions) *per se,* but rather a trade-off between *debt-financed* homeownership (rather than homeownership *per se*) and PAYGo second tier pensions. Welfare states and in particular pension systems are co-produced with housing finance systems, contrary to the main trade-off arguments, which posit a linear causality running from ownership to political preferences and thence to welfare and pension systems. With respect to policy, a balance sheet approach also suggests that asset-based welfare is an illusion. Rather, what we observe is the reverse: *welfare-based assets*, where the more financialized housing provision is, the more welfare provision is needed to stabilize the housing finance system and thus the broader financial system. This functional relationship emerged from real political processes: State intervention in housing finance markets during the Great Depression and immediately after the war created durable institutional structures that voters found difficult to modify.

The argument proceeds in four steps. First it surveys the existing trade-off literature to show that most posited material mechanisms linking owner occupation to diminished welfare state provision rest on the assumption that buying owner occupied housing puts more financial stress on young households than does renting. The second section contests the assumption that buying is inherently objectively more costly in the present than renting, showing that this can only be true to the extent that state policy favors renting over buying. This seems to suggest that the mechanism driving the trade-off in the extant literature is in fact the purely political one in which voter illusions and political imperatives determine a free choice over the level of homeownership and the structure of the welfare state.

The third section, however, demonstrates that political struggles at the time of the Great Depression (or even earlier) around how to reduce maturity mismatch risk on banks' balance sheets produce what the trade-off literature sees as an apparent owner-occupation versus welfare trade-off. These struggles largely occurred inside the state, or between the state and financial actors, as states sought to revive collapsed banking systems. Successful state efforts to reduce maturity mismatch risk around housing finance on banks' balance sheets are what creates a link between liquid mortgage markets, indebted ownership and *funded* pension plans, rather than a link between ownership and smaller public pensions *per se*. Unsuccessful efforts to reduce that maturity mismatch produce societies with illiquid mortgage markets, in which ownership involves much less debt, and in which PAYGo pensions are more likely. The final section considers the policy implications of this revised understanding of the trade-off for recent state efforts to promote (and academic debates about the promotion of) asset-based welfare, while also trying to bring some closure to the debate about the owner occupation versus welfare debate. This debate matters because housing is typically most households' single biggest expense/liability, pensions are most states' single biggest budget item, and mortgages often the largest private debt instrument in most financial markets.

The really big trade-off debate: owner occupation versus welfare?

The alleged higher cost of purchasing housing as opposed to renting is the core mechanism animating the classic Kemeny and Castles genetic arguments about the inverse relationship between owner-occupied housing and the initial development of the welfare state.[4] Kemeny argued that higher levels of private ownership produced a weaker and smaller welfare state. Castles claimed more narrowly and precisely that higher levels of private homeownership produced weaker and smaller public pensions, particularly second tier pensions.[5] Later arguments, like Ansell's, refined both positions by offering supply and demand side political arguments focusing on welfare state retrenchment and efforts to develop an asset-based welfare state.[6] Finally a recent effort by Delfani, DeDeken, and Dewilde (3D hereafter) presents a thorough critique of the debate, and, following Esping-Andersen, attempts to ground a new typology in the degree to which housing and pension provision are each decommodified.[7] 3D correctly argue that the housing versus welfare trade-off is not straightforward, and even more so that arguments favoring asset-based welfare misconstrue the utility of owner-occupied housing as an asset. But in generating their typology they also lack a mechanism beyond the alleged higher cost of buying as compared to renting. This section transits the trade-off literature to arrive at section two, which shows that buying is not inherently costlier than renting and thus that the essential difference is liquid versus illiquid housing finance markets and not renting versus ownership.

The trade-off literature has genetic arguments about the build out of the welfare state (welfare state origins), and transformative arguments about current fights about how much risk is socialized (welfare state transformation). Both literatures implicitly or explicitly start from voter preferences. Genetic arguments ask whether and how voters choose between having houses or welfare. Transformative arguments ask how incumbent homeowners react to changing asset values as they weigh the risks of self- versus social- insurance.

The original, genetic Kemeny versus Castles debate started from what looked like a material premise, but ultimately collapsed into a voter preference based argument. Kemeny posited a trade-off between owner-occupied residential property and the quantity and quality of welfare state benefits. Although the total life-cycle cost of owner-occupied or rented housing was the same at any given level of income, the temporal distribution of those costs varied. Kemeny argued that would-be owners had to save for a down payment varying from 10 to 50 percent of the purchase price and then faced a front-loaded schedule of payments as they amortized a mortgage over the next 15 to 30 years. Buying a house thus seemed to compress the bulk of the life-cycle cost of housing into a household's early years, while renting involved more level payments across the entire life cycle. The frontloading of housing costs for owner-occupiers inclined them against higher taxes for social services and transfers. These taxes competed in the household budget with saving for and then amortizing a mortgage. Kemeny is thus an argument about voter resistance to state revenue raising, about tax politics.[8] While Kemeny (2005) softened the causal claims made in Kemeny (1980), he did not retreat from his underlying assumption that the frontloading of housing costs was the critical causal factor explaining the relationship between high homeownership and low social spending. Kemeny thus argued that the level of home ownership reflected political choices by voters and parties and not per capita income levels.

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[4] Kemeny 1980, 2005; Castles 1998.

[5] First tier, or basic pensions are typically relatively flat, tax financed, pay as you go pensions designed as insurance against poverty in old age. Second tier, or wage related pensions can be organized on a defined benefit or defined contribution basis, and generate a payout linked to one's earning power over one's lifetime, thus providing something close to the recipient's pre-retirement standard of living.

[6] Ansell 2014; see Stamsø 2010 for a survey.

[7] Delfani, DeDeken, and Dewilde 2014; Esping-Andersen 1990.

[8] Gösta Esping-Andersen (1985) made a similar argument, but with a psychological rather than financial mechanism.

Frank Castles narrowed Kemeny's claim, making a genetic argument for a specific and functional trade-off between individual homeownership and robust public pension spending.[9] Castles argued that the considerable imputed income from freehold homeownership provided a functional substitute for public pension income. Private, debt-financed homeownership split an otherwise natural elderly constituency for expanded social spending along tenure lines. Thus, settler societies with high levels of homeownership prior to the emergence of public pension systems were least likely to develop robust public pensions, because freehold ownership of housing substantially reduced the income requirements of the home-owning elderly. Castles and Ferrera addressed southern Europe's otherwise anomalous combination of high homeownership and weak public pensions.[10] On the one side, debt free ownership emerged from the combination of a large rural population and considerable tax evasion through the cash purchase of property. On the other, weak taxation capacity limited the universality of public pensions. Where Kemeny focused on the revenue side of the welfare state, Castles focused on the expenditure side, and, in the article with Ferrera, on state capacity rather than voter preferences for the trade-off. Unlike Kemeny, Castles was cautious about the direction of causality between home-ownership levels and spending levels, but like Kemeny, Castles largely saw spending as an outcome driven by voter preferences.[11]

Finally, Dalton Conley and Brian Gifford (2006) analysed and reversed some of the Kemeny and Castles findings.[12] While Conley and Gifford retained the core mechanism of front-loaded purchase costs, they argued that home-ownership represented a self-insurance response to low levels of social insurance. This genetic argument reverses the causality in Kemeny, though Conley and Gifford were cautious about placing too much weight on this specific finding. Conley and Gifford note that widespread homeownership appeared to blunt wealth and consumption inequality even if it did nothing to ameliorate income inequality. Conley and Gifford, however, provide a bridge to non-genetic arguments looking at welfare state transformation rather than build-out.

Those transformative arguments rest on the partisan use of housing policy to affect individual preferences, and the partisan consequences of the asset accumulation afforded by private home-ownership. Where Kemeny and Castles made unmediated leaps from homeownership to voting preferences around welfare state development, David Malpass and Ben Ansell separately look at how homeownership affected retrenchment politics in mature welfare states.[13] They provide two different arguments that voting preferences are sensitive to households' asset holdings. Like Castles, they argue that rising housing asset values enable a belief in self-insurance and thus motivate either a preference for or tolerance of social insurance cuts. Malpass correctly notes that once we move out of the rarified atmosphere of the top 10 percent, most household wealth takes the form of non-financial and thus predominantly housing assets. Ansell's argument also rests on changes in asset (i.e. housing) prices. He finds that rising house prices in the United States, Britain and Germany motivate a preference for self-insurance over social insurance. Though this belief may be flawed – quality adjusted housing prices in the United States historically do not rise much above inflation, and the size of housing and financial assets covaries for most people while varying inversely with their risk of unemployment – it may well be a social fact motivating preferences for greater or lesser social spending.[14] Ansell also demonstrates, however, that falling asset values – falling housing prices – can motivate a preference for expanded social welfare, suggesting that voters accurately assess their relative exposure to risk at any given point

[9] Castles 1998.
[10] Castles and Ferrera 1996.
[11] Castles 1998, 17.
[12] Conley and Gifford 2006; See Fahey and Norris 2003 for a similar but qualitative argument.
[13] Malpass 2008; Ansell 2014.
[14] Langley 2008.

in time, even if they do not make an accurate lifetime assessment of risk.[15] Malpass and Ansell supply the partisan basis for the shift of the housing *versus* welfare debate into a housing *as* welfare debate, in which housing is the largest component of the asset-based, self-help, self-insurance welfare system preferred by the OECD and governments looking for ways to cut social spending.[16]

Finally, Delfani, DeDeken and Dewilde ('3D') provide the most cogent assessment of the nature of the housing-welfare trade-off, by building on the decommodification framework in Esping-Andersen.[17] 3D directly address the transformation of Castles' genetic argument that housing inhibited the creation of robust public pensions into the more recent asset-based welfare arguments that houses *should* be a mechanism for self-insurance. 3D argue that the trade-off is mostly a spurious correlation, and thus that societies characterized by high home-ownership do not necessarily create an opportunity for asset-based welfare. For 3D, the critical issue is the institutional structure of the housing and pension markets. They focus on the degree to which housing and pensions are commodified. If housing is not commodified – a situation they identify with Southern Europe – then it cannot serve as a substitute for a pension or broader social insurance because the 'value' inherent in the dwelling is not liquid. Housing can only provide consumption services. By contrast, in commodified housing markets, like those in the Anglo-economies, houses can serve both as pension and welfare substitutes because the cash value of the dwelling is accessible through home equity loans and reverse mortgages. In between, partially commodified housing markets and pensions systems, like those of northern Europe, have housing systems in which the consumption function of housing predominates over its asset function. Consequently, partially decommodified public pensions also predominate. 3D thus replicate and expand Esping-Andersen's three worlds of welfare capitalism into five types combining differing degrees of housing and pension decommodification. Notwithstanding the other manifest problems with asset-based welfare, few polities actually have the institutional structure to attempt its use.[18]

3D are on the right track in looking at the institutional structure of housing and pension markets, and their analysis strongly improves on the preceding literature. But their allegiance to Esping-Andersen's decommodification framework and the orientation to the asset-based welfare policy debate leads them to misread the nature of the trade-off. And they lack a mechanism, instead proffering a typology in order to dismiss earlier claims about a trade-off. They take an important first step towards understanding a potential mechanism creating a trade-off by pointing to the lack of a liquid housing market in the Southern European countries, and only partially liquid markets in northern Europe. But they do not take the necessary second step to ask why that market is illiquid and what that implies for the pension system (and the opposite).

To fully understand how housing and welfare systems interact, and the nature of any trade-offs, we need to correct some of the initial assumptions of the debate and correct the policy debate about asset-based welfare. First, it is not at all obvious that buying a house automatically front-loads costs relative to renting. Put bluntly, there are no natural housing markets. Second, the critical distinction is not between the level of home-ownership *per se* and the level of either welfare or pension spending *per se*. Rather, the critical issue is *how* home-ownership is accessed, which is to say, the nature of the mortgage market. Approached this way, the trade-off becomes one between liquid mortgage markets and funded pensions on the one hand, and illiquid mortgage markets and PAYGo pensions on the other. The next two sections make these points in more detail.

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[15] See also Tranøy 2009, and Doling and Horsewood 2011, who argue that it is the expectation of capital gains that drives a preference for owner-occupation. This is especially true in Scandinavia, where the majority of mortgages are interest only. This implies that mortgage payments will extend into the retirement years.

[16] Finlayson 2009; Prasad 2013.

[17] Delfani, DeDeken and Dewilde 2014; Esping-Andersen 1990.

[18] Schelkle 2012.

Is buying really more costly up-front than renting?

The core assumption in the owner-occupation versus welfare/pension trade-off is that buying housing is more costly in the short and medium term than renting, because buying frontloads costs while renting smoothes housing expenses over the life cycle. But it is not at all obvious that buying is more expensive than renting on a current cost basis. Instead, the frontloading of costs in home buying central to the arguments above resolves into four factors that are subject to considerable political intervention in all societies: the required down payment, the tax treatment of depreciation, the t treatment of owner-occupier mortgage interest, and the tax treatment of capital gains.[19] The only way renting can be systematically cheaper than buying over, say, a ten year time horizon is if renting is subsidized or if the transaction costs involved in buying housing are substantially larger than those involved in renting. Conversely, the only way home buying can systematically be cheaper than renting is if home-ownership is highly subsidized by the state through tax expenditures. Why?

The assumption that buying frontloads while renting smoothes rests on an incorrect understanding of how to handle housing costs for owners in the post-mortgage period, and conversely of how depreciation of rented property is handled. It makes heroic assumptions about landlords, even when they are the state. And finally, it often carries an implicit apples to oranges comparison between owner occupied single family homes and renter occupied apartment housing.

Imagine two identical housing units, one of which is occupied by an 'owner,' i.e. someone with a mortgage liability, and one of which is occupied by a renter. Their running costs are identical, because behind the renter is a landlord who is functionally no different from the home-buyer with respect to her liabilities to financial markets, and who has to pass along all her costs to the renter. This is true even if the state is the landlord, because subsidizing rental housing involves either direct budget expenditures or tax expenditures, and these compete with other welfare spending.

What are our buyer's costs? Our buyer obviously pays interest on her mortgage loan, and probably some part of the principal to amortize the loan. She also pays property taxes and must pay for any repairs (or do them herself). If our owner were able to secure, say, a 40 year interest-only loan, and made no principal payments, she would face continued interest costs over her entire lifetime.[20] In effect her situation would be like a rental with aesthetic control (and perhaps with control over costs, if the interest rate were fixed). Principal pay-down – loan amortization – is thus what allows the owner to live 'rent-free' during retirement (or the post-mortgage period). But the tax deductibility of mortgage interest is equally important, because in the higher tax brackets the subsidy to buying is much greater.

What about a renter? She makes a single monthly payment to the landlord… so the real issue is the cost to the landlord of supplying rental housing to the market. What are those costs? Our landlord faces exactly the same situation as our hypothetical buyer. The landlord must obtain a mortgage to finance purchase of the rental property. In theory, that mortgage will be amortized on terms that are similar to those the would-be owner-occupier faces. In practice they are often worse, which should raise the month-to-month cost of the rental. In the United States, mortgages for rental properties with more than four units face substantially shorter amortization periods and higher interest rates. The typical home-purchase mortgage amortizes over 30 years, while the typical commercial mortgage amortizes over a five to 10 year period. 'Buy-to-let' mortgages (i.e. buying a dwelling and renting it out; 'let' as in 'lease') in Britain require a 30 percent down payment (Richard Ronald, personal communication). These

[19] Brueckner (2011, particularly ch. 6) provides a comprehensive analysis of this question, albeit to answer different questions about urban economics.

[20] This is not simply a theoretical consideration. Over half of Dutch mortgages are interest only products, albeit without a fixed interest rate, and over 70% of Swedish mortgages (64% OOH), 60% of Danish mortgages (50% OOH), and 20% of Norwegian mortgages (80% OOH) are interest only. (UK = about 20% - Williams-FT).

conditions raise the front-end cost of providing rental housing, but for the purposes of the argument, make the conservative assumption that landlords borrow on the same terms as homeowners. The landlord, like the buyer, will face costs of purchase that include both interest and principal pay-down, as well as any property taxes and repairs (although large landlords can gain some economies of scale in maintenance and in the incidence of repairs). A rational landlord will pass along all of these costs to the renter – that is, renters are paying for principal and repair costs just as much as would-be home-owners.

A landlord who did not pass along any of these costs, including principal, would soon be bankrupt in the absence of any offsetting incentive to keep rents below market levels. These incentives do exist, do matter in the supply of rental housing, and are often administered through the tax code. Thus in Australia, the entire buy-to-let phenomenon rests on a tax system allowing landlords to deduct rental losses from their main wage income ('negative gearing'). With a marginal income tax rate of 47 percent, and a belief in fairly brisk rates of real price appreciation, enduring a running loss in the hopes of reaping a capital gain becomes (somewhat) rational for a landlord. Similarly, Germany's tax code waives capital gains taxes on the sale of rental property. This encourages private landlords to enter the market even though rent controls hold rents somewhat below the true economic cost of acquiring the property. In both cases the state foregoes tax revenue – which is the situation Kemeny feared would impede welfare state build out. But this is merely an indirect way of subsidizing renting.

Now it is possible that a landlord who inherits property might charge only variable costs rather than the full principal and interest costs. But in that case the landlord has voluntarily offered a subsidy to the tenants – there is nothing automatic here that makes renting cheaper in the short or medium term. Indeed, most economists would regard this landlord as being unduly charitable, unless the lower rent here functioned like an 'efficiency wage,' allowing the landlord to screen the renter pool for the best possible tenants.[21] Alternately a public authority or cooperative might offer rents below their cost of acquiring or constructing dwellings – but here too the state has to provide a subsidy that competes with welfare spending for other purposes.

Quite aside from the fact that renters pay the full cost of buying the property on behalf of the landlord, we might imagine that renting property involves costs above and beyond those faced by an owner, and which a rational landlord will pass on to the renter. Landlords cannot be certain of full occupancy and thus a continuous cash flow. (indeed, banks recognize this: in the United States mortgages for rental properties use only ten months of rent as the expected income when calculating debt to income ratios.) For these reasons they might price rentals a bit above the actual monthly costs of their mortgage, property taxes and insurance. Landlords face opportunity costs: they need to obtain a rate of return commensurate with that in other financial markets, including, importantly, on their own investment of a down payment. Otherwise why buy property, when equities might give better returns with fewer day-to-day headaches? This cost also must be built into the rental price.

Yet, the idea that renters and buyers face identical costs runs against our common sense. Our common sense, however, is influenced by an apples-to-oranges comparison. We typically associate owner-occupation with single-family homes and renting with multi-family buildings. Single-family homes do cost more than multi-family units on a per square foot/meter basis, because they have significantly lower economies of scale with respect to construction, infrastructure and land use. But the relevant comparison here is not single-family versus multi-family dwellings. Young households entering the housing market are not buying McMansions in tony neighborhoods. They are buying condominiums, small starter homes, or units in apartment buildings. On a like versus like comparison, these should cost about the same as renting an identical unit, with the salient exception of the need to accumulate a down payment. But politically, our young household is renting at the time of the decision to buy – so if they find taxes get in the way of accumulating a down payment, why not just continue to rent and

[21] Brueckner 2011: 133-136.

meanwhile agitate for better social programs? The slow upward drift in home-ownership rates (until 2008) suggests our renters place considerable value on owner occupation.

Renters and owners thus face identical running costs. The frontloading of housing costs resolves into the matter of down payment or purchase money. Here, state policy clearly determines the balance between renting and buying, because regulation determines the size of purchase money.[22] Many states had or have programs that allow first time homebuyers to save down payment money tax free, generally by depositing this money into specialized banks providing mortgage loans. Thus, for example, in pre-1980s France and Germany savers could put money into special contract savings accounts that gave them access to below market interest rate mortgages and also sometimes qualified them for government bonuses, Australia supplied grants to first time buyers based on their level of saving, and Spain administered a failed contract savings program. Similarly, financial regulation and the provision of public mortgage insurance affect the size of the down payment. In the United States, the Federal Housing Administration both insured and provided loans with down payments as low as 3-5 %. Even in Sweden, the ideal case of a Kemeny-type integrated rental market, down payments of 1 to 5 % were deemed acceptable.[23] Finally, even renters typically make a "down payment" in the form of two to three months' rent, which is equivalent to a 3 % down payment using the normal rule of thumb that monthly rent should approximate 1 % of a home's value.

What does this mean for Castles' argument that homeownership is a functional substitute for a pension? That argument also rests on an implied frontloading of costs. If buyers and renters face identical short run costs, why then can owners live 'rent free' once the mortgage is paid off? What value are they consuming? The answer is that they live rent-free only if they are depreciating the property.[24] (And systematic visits to houses whose owners have vacated on account of death after a long life quickly reveal the degree of depreciation, non-upkeep, and non-updating during retirement. Eighty year old pensioners do not typically replace their furnaces with the most efficient and durable appliance, or put a 50 year roof on the house, or upgrade amenities to contemporary standards.) A second thought experiment shows why. Imagine that our renter and our buyer again each obtain access to identical dwellings, and that the interiors of these dwellings fully depreciate after 30 years.[25] Both our buyer and our landlord would have to replace appliances, wallboard, paint, flooring, etc. at that time. Each could spread out the cost of this by sequencing repairs, or do everything at once by taking out a new loan and then amortizing costs over the term of the loan. Doing so creates a new stream of payments from our notional owner (or landlord) to financial markets. These payments would be in addition to taxes, insurance, etc. So our post-mortgage, but renovating owner hardly lives rent-free.

Our owner could choose to consume their asset by deferring maintenance and living with depreciated surroundings. Eventually someone will have to carry the cost of this deferred maintenance – typically the heirs who will sell the unit at some substantial discount to a fully maintained property. Similarly our landlord could choose to defer maintenance, but this comes at the cost of a lower rental price point unless there are shortages of housing or discriminatory housing markets that permit slum-lording. (And slum-lording of course would incline voters to prefer both owner-occupied housing and a regulatory regime favoring owner-occuption.) Rational landlords build the cost of renovation into the

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[22] Sweet and Walters 1975.

[23] Boleat 1985.

[24] Brueckner (2011: 119) assumes that depreciation runs at about 1.5% per year, implying commensurate running costs were a homeowner to attempt to maintain the property. Some renovations can be delayed; others, like roofs, cannot.

[25] The US tax code assumes a 27.5 year depreciation cycle; the "bones" of a house – framing and exterior – typically last 75 to 100 years. But in between are many systems with much shorter lifespans: roofs, HVAC, wiring, flooring, walls.

rent level. If they cannot do this because of rent regulation, that does not indicate any intrinsically cheaper nature of renting as compared to owning. 'Rent-free' living for home-owners is asset-burning living, not the consumption of prior frontloaded costs. It might be argued that a buyer facing a 15 year amortization schedule but a 30 year depreciation cycle does enjoy rent free living for 15 years. But, again, if home-buyers face a 15 year amortization schedule then landlords almost certainly face an equally short amortization schedule that necessarily shows up in the rental price. That being so, renters would be just as cash constrained as owners, so it's not obvious renters would simultaneously prefer higher taxation and a bigger welfare state. The only obvious exception would be if the state undertook to build housing using bonds with a maturity longer than 15 years – in which case, as noted above, the state is deliberately structuring the market in favor of rentals, and committing tax revenues to housing rather than other welfare arenas.

The argument above suggests that in any market free of subsidies, the cost of buying and renting an equivalent unit should equilibrate. However, real world markets demonstrate considerable disequilibrium, with the ratio of the cost of owning versus renting ranging from 0.62 in Japan to 1.46 in Australia in late 2013; the United States in 2017 was about 1.25 (IMF data). This diversity is a product of massive state subsidies to one side or the other of the rent or buy equation. Rental societies have heavy subsidies to renting. Home-owner societies have heavy explicit or implicit subsidies to owner-occupation. High owner-occupation United States has multiple subsidy vehicles for home-ownership despite near parity in the rent versus buy ratio. The single largest subsidy is tax deductibility for mortgage interest, which amounted to about $70 billion in 2013, or 0.4 percent of GDP.[26] Property taxes and state and local taxes are also deductible under certain circumstances and historically have equaled or exceeded the mortgage interest deduction in scale. These deductions subsidize both suburbanization and owner-occupation. The implicit federal government guarantee of the credit-worthiness of American mortgage giants Fannie Mae and Freddie Mac, which became explicit with their nationalization in 2008, appears to have lowered mortgage interest rates over the long term by roughly 25 basis points (0.25%), which is non-trivial. The Federal Housing Administration (and similar, but more narrowly targeted agencies) insures the mortgages of low-income borrowers, enabling them to purchase housing with 5 % down payments. This removes one of the largest potential sources of frontloading for the weakest buyers. By contrast, the total budget for the federal Housing and Urban Development Department, only part of which is used for rental subsidies, amounted to roughly $50 billion in recent years. And US housing market intervention is trifling compared to the implicit subsidies provided by the Dutch government, whose mortgage interest tax subsidies alone amount to 2 percent of GDP; tax subsidies in Scandinavia are also larger than in the United States as a share of GDP.[27] In Denmark, state policy gave mortgage bonds a monopoly in the long maturity private bond market. Finally, the weak tax collection systems prevalent in southern Europe can also be understood as a subsidy to the self-provisioning of home-ownership.[28]

Equally so, large subsidies also mark societies with higher levels of social and market based rental housing. Virtually all social housing in western Europe was funded with subsidized loans, privileged access to the central government fisc, or direct state mandates.[29] Mortgage bonds from Danish cooperatives share the monopoly of issue with private home-owners' mortgage bonds. The Swedish state used funds from its first wage related pension scheme, the 1960s *Allmän tilläggspension*, or ATP, to fund the million house project (*Miljonprogrammet*) of the same decade. France mandated that firms spend 1 percent of their wage bill on housing. The Dutch state provided mortgage subsidies to

[26] CBO 2013.
[27] Vandevyvere and Zenthöfer 2012, 3.
[28] Allen, et al. 2004.
[29] Sweet and Walters 1975; Harloe 2008.

social housing organizations equal to 0.8 percent of GDP annually by 1994 before buying off all future obligations at a cost of 5.5 percent of GDP in 1995.[30] After that, the Netherlands state was content simply to guarantee mortgages for social housing corporations, much as the US state subsidized owner-occupation via Fannie Mae and the FHA. All this helped push the share of social housing in the Netherlands to the highest levels in western Europe, at roughly one third of all dwellings, even as private homeownership rates also rivaled those of the Anglo-economies.

In all these systems, the state dedicates tax resources or tax expenditures to lower the relative cost of renting. Subsidies for rentals are no more 'free' than those for housing, even when those subsidies simply take the form of loan guarantees and so appear to be costless. As nationalization of Fannie Mae and Freddie Mac in 2008 shows, those obligations do sometimes come due. So it cannot be the case that renting necessarily confronts young households with lower housing payments at the cost of higher taxes. Renters' higher taxes are subsidizing their own rents in social rental dominated societies. There is a trade-off between renting and owning, but it is a politically constructed trade-off in which tax expenditures fund private ownership and tax-based subsidies fund cheap rentals.

The only clear upfront cost borne by homebuyers is the down payment, because that cost is determined by political decisions about financial regulation it is not necessarily much higher than the costs renters face. If the cost of buying and renting is essentially the same, what then drives the apparent trade-off between home-ownership and a large welfare state? In the next section I offer a state side rather than society/voting based mechanism rooted in state desires to stabilize the financial system given the risks that mortgage finance creates on bank balance sheets.

Maturity mismatch and the trade-off between funded and PAYGo pensions

Maturity mismatch and balance sheet realities generate the apparent trade-off between home-ownership and a smaller welfare state. More precisely, political choices around financial regulation generate a spectrum of possible institutional configurations stretching from indebted homeownership plus funded pensions over to freehold homeownership and PAYGo second tier pensions. The political mechanism is the state's desire and ability to intervene in financial markets to prevent financial crises. The financial mechanism is banks' desire to avoid the risks of carrying maturity and, to a lesser extent, interest rate mismatches on their balance sheets. The trade-off is not between ownership as such and welfare or pensions as such, but rather between indebted home purchase and PAYGo pensions. Because first tier PAYGo pensions are always organized by the state, and virtually all PAYGo second tier pensions are state run, high levels of (indebted) homeownership appear to inhibit state spending. But high levels of indebted homeownership are necessarily connected to *funded* pension plans, which are almost always private, because some financial institution has to hold those mortgages as assets. A political choice for high levels of indebted homeownership and a pure PAYGo system is difficult to instantiate, because it creates enormous risks for the banking system that inevitably become an open-ended liability for the state anyway.

Thus, high levels of indebted home ownership change the organizational format but not the presence of pensions. The increased size of funded, usually private, plans is what makes the state share of welfare spending seem smaller. Where homeownership is organized without much debt, PAYGo plans prevail, because the balance sheet mechanism linking indebted homeownership to funded plans is not present. Re-conceptualizing the ownership-pension trade-off as a trade-off between ownership and PAYGo plans helps make sense of the otherwise anomalous (to Castles) southern European economies characterized by high levels of homeownership and largely *public* PAYGo pensions, and the otherwise anomalous (to Esping-Andersen) Danish pension system, which is characterized by a large, funded and *private* second tier pension.

[30] Vandevyvere and Zenthöfer 2012, 7.

Balance sheets link indebted homeownership (or its absence) to the structure of pensions. Put simply, all financial assets on a balance sheet must have a corresponding liability on someone else's balance sheet, and we can think of the economy as a set of interrelated balance sheets.[31] What are commonly called 'assets' in everyday language are not the same things as financial assets. A financial asset is a tradable claim on an income stream. Assets in common parlance can exist without liabilities. But a claim on a stream of income implies that someone else must supply that income and this 'someone ' thus carries a liability. All financial assets have a matching financial liability. This simple relationship has three major implications.

First, in any housing market based on debt financed individual home-ownership, some financial actor must be willing to carry the asset mirroring that homeowner's liability on its books. In turn, that financial entity must finance its purchase of assets by accepting some liability (-ies) to other actors.

Second, housing is an illiquid and costly physical asset, and thus most often requires long-term financing. But this requirement does not guarantee availability of long-term financing. If mortgages are financed only through normal bank deposits, this inevitably creates a maturity mismatch in the financial system, with the resulting risk borne either by households or by financial institutions. While banks exist in part to do maturity transformation, this does not make mismatched maturities any less risky.

Third, in the absence of a system for mitigating maturity risks both for households and for financial institutions, private, debt-financed homeownership will be difficult. When banks put the risk on households by requiring rapid amortization of loans and flexible interest rates, most households will not be able to generate the funds needed to purchase a dwelling on an accelerated basis. When banks carry the full maturity risk and don't limit credit, frequent liquidity crises, bank runs and financial system crashes of the sort characterizing the 19th century result. Of course, households can informally finance housing on their own, as in southern Europe. Equally so, banks can (and do) advance mortgage credit in small amounts. But these both mean that most housing is not debt-financed. The critical force in all three factors is the risk that flows from maturity mismatches.

Maturity refers to the length of time before a given debt must be repaid. A loan or bond with a one-year maturity must be repaid at the end of one year; a ten-year loan or bond after ten years. Maturity mismatches occur when an organization borrows in credit markets on a short-term basis and then reinvests the proceeds into less liquid, longer duration assets. Banks, for example, borrow short-term from depositors and lend long – sometimes – to homeowners and industrial firms.

Mismatched maturities are dangerous and a typical cause for bank runs. If the short-term lender calls in her loan (e.g. a deposit) from the actor (e.g. a bank) who has borrowed short-term in order to lend or invest long-term, that long-term investor may not be able to generate enough cash to repay the short-term loan. What ensues is either a forced or panicked liquidation of the long-term asset at a loss, or default on the short-term liability, as in the banking crises of 1932 and 2008, and the typical panics of the 19th century. Banks are the classic locus for mismatched maturities in most economies. If banks only had to finance commercial credit, which typically revolves in 30 to 90 days, then there would be little maturity risk. Banks would lend depositor money on a 30 to 90 day basis to firms that were borrowing operating capital to finance wages and input purchases, and firms would liquidate their liabilities as sales occurred and cash flowed in.[32] But banks exist not only to provide short-term commercial credit, but also precisely in order to turn some short-term liabilities (depositor money) into long-term assets (loans to homebuyers and industrial firms). This is what makes them vulnerable to bank runs. The more that banks engage in long-term lending, the greater their risks.

All things being equal, bankers would prefer to avoid risk. In the absence of state efforts to remove maturity mismatches from banking or reduce the risks from those mismatches, banks will limit

[31] Minsky 1992.

[32] This is the essence of so-called real bill banking.

either the volume of mortgage lending, or structure mortgage lending in ways that shift maturity mismatch risk to the borrower. Up until the 1930s, the typical rich country bank strategy for avoiding mismatch involved large down payments (which discouraged all but the most serious and solvent borrowers and limited the risk of default) and short loan maturities (typically no more than five years, and often as short as three years). These were also often balloon loans, where the whole principal was due at once at the end of term. Banks thought this strategy would limit the risk of being unable to fund depositor redemptions. Even so, banks were leery of offering mortgages and as much as possible tried to fund those mortgages with different kinds of long-term deposits, typically by issuing their own long-term bonds.[33] Banks also engaged in primitive efforts at securitization – that is, bundling mortgages into bonds and selling those bonds into the capital market. Very few national banking systems evolved these securitization strategies before the mid-20th century. In America, life insurance companies dominated inter-regional bulk lending, with a 22 percent share of all mortgage lending; in Denmark, the state in essence allowed banks to use state bonds to fund mortgages; and the state-owned Crédit Foncier de France had both a monopoly on mortgage lending and a better implicit credit rating than the French state).[34] In each case, these efforts avoided maturity mismatch. Crédit Foncier, for example, issued long-term bonds to finance its mortgage lending; even so its loans had a five-year maturity.

Short-term, high down payment, balloon mortgages had two consequences. First, they limited individual homeownership in urban areas. In the pre-1930s United States, roughly 40 percent of households owned their home. Given that roughly one-third of US households were farming, this implies quite limited urban ownership. Only families with stable incomes could risk borrowing, knowing that they would have to re-establish their creditworthiness within three to five years; only families with substantial incomes could accrue the 50 percent down payment banks required. Second, while balloon mortgages protected banks from individual defaults, they did not actually provide banks with protection in the event of a systemic shock like the Great Depression. Most mortgages were generated by cooperative building societies, where a dense network of social ties made banker George Bailey[35]-type appeals relatively credible in a crisis.[36] Despite this the collapse of farm land and urban housing prices in the early 1930s provoked a vicious cycle of bank runs, property liquidation and falling prices for banks' collateral assets, causing many banks to fail. *Pace* George Bailey, avoiding bank runs is clearly a collective action problem and as such requires a state solution.

After the Great Depression, states everywhere stepped in to stabilize the banking system. The United States used victory in World War II to try to influence the choice of solutions, pushing countries towards longer-term, self-amortizing mortgages backed by parastatal finance agencies.[37] Most analyses of post-1930s state efforts to resolve this core maturity mismatch focus on depositor guarantees or insurance.[38] These deposit guarantees calmed potentially panicky depositors, stabilizing the liability side of banks' balance sheets. Equally important, but often ignored, is overt state regulation of finance. In the United States, the limits on deposit interest rates and bank products imposed by Regulation Q meant that small savings and loan banks could safely hold mortgages to maturity, for savers had no where else to go.[39] Systems with state owned banks and credit allocation exerted even more control.

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[33] Boleat 1985.

[34] Snowden 1995, 220; Jensen 1937; Hoffman, Postel-Vinay and Rosenthal 2000.

[35] See *It's a Wonderful Life*, http://www.imdb.com/title/tt0038650/.

[36] Snowden 1995.

[37] Boleat 1985; De Grazia 2005.

[38] Schwartz and Seabrooke 2009; Zimmermann 2013.

[39] Mutual funds, including money market mutual funds, did not become a major savings vehicle in the US until the mid to late 1970s. Equity mutuals held only $48 billion in assets in 1970 (Fink 2008: 63).

But states also addressed the asset side of banks' balance sheets by segmenting financial markets into long- and short-term credit markets, or by insuring mortgages against default. Insurance created an implicit bail-out guarantee for banks. Segmentation matched long-term assets to long-term liabilities at the level of specific financial institutions, like the Norwegian Husbank.[40] This segmentation is what links private, indebted homeownership to (mostly private) funded pensions. Successful segmentation permitted the development of long-term mortgages like the classic American 30 year, self-amortizing, fixed-rate mortgage. In the absence of segmentation, this kind of mortgage would create intolerable maturity and interest rate mismatches for the banking industry if indebted homeownership were widespread. Notably, the US government currently guarantees a greater share of securitized loans (c. 80 percent, the bulk of which are mortgages) than of bank deposits (c. 60 percent), and this was implicitly true even before nationalization of Fannie Mae and Freddie Mac.

The most elaborate form of segmentation is via securitization of mortgage debt, where banks sell mortgages off into the capital market, and where the buyers are typically insurance and pension funds looking to acquire long-term assets to balance their long-term liabilities to customers. Pension and insurance funds have stable and predictable long-term liabilities to their customers, particularly as rational consumers should opt to annuitize pension income. To fund these liabilities, pension funds need assets that generate a stable and predictable cash flow on the other side of their balance sheet. Mortgages provide that stable and predictable cash flow. Mortgages are not the only way to get stability, but they nevertheless account for a large proportion of pension assets everywhere but the United States. The disproportionately large US equity market provides an alternate investment vehicle.

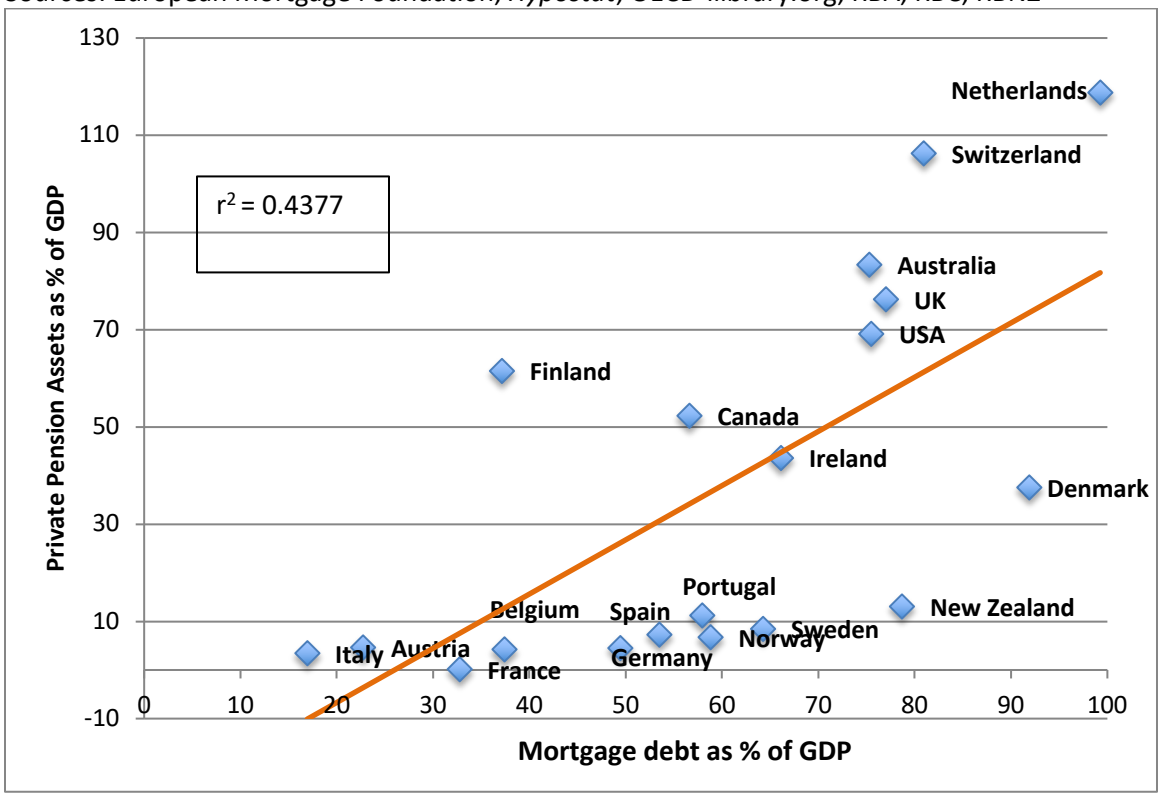
Detailed, long-term data on pensions and mortgages are not available for most OECD countries. But the little data we have suggests a considerable amount of maturity matching. The US Federal Reserve Bank annual Flow of Funds data runs from 1945 forward. From 1945 to 1972, life insurance firms on average held about 20 percent of all mortgages in any given year, and these mortgages accounted for an average of 32 percent life insurance firms' total assets.[41] This is an underestimate, as borrowing by the Federal National Mortgage Agency (Fannie Mae's immediate predecessor) is included in the more general category of 'U.S. Government Securities,' and as Fannie Mae and Freddie Mac did not start securitizing mortgages until the 1970s; FNMA debt was equal to about 10% of all mortgages. Given that it is an underestimate, and that the United States came out of World War II with a considerable overhang of federal debt anyway along with considerably larger equity and corporate bond markets than most other countries (enabling life insurance and pension firms to diversify), mortgages constituted a significant share of pension holdings.

Figure 1 shows the relationship between the scale of mortgage debt and the scale of funded *private* pension plans relative to GDP for the rich OECD countries (net of Japan, for which there is no consistent data). It suggests but does not demonstrate a close connection between the scale of mortgage debt and the size of funded pension plans. Still, as the data exclude public funded plans (e.g. Sweden's AP4), this is a conservative presentation.

Financial market segmentation and mortgage securitization as described above are *functional* solutions to maturity mismatch risk. But *political struggles* at the time these institutions or regulations were birthed determined the scale and form of segmentation and securitization across rich country economies. Space considerations prevent any detailed consideration of these political struggles here, but a brief example is possible. Kenneth Snowden and Sarah Quinn (2010) both show that political choices drove the development of securitization in the United States.[42] The US federal government

[40] Tranøy 2009.
[41] Federal Reserve Bank 1973, 78-79, 100-2.
[42] Snowden 2010; Quinn 2010; see also Prasad 2013.

Figure 1: Mortgage debt versus funded pension assets, % GDP, average, 2001-2012
Sources: European Mortgage Foundation, *Hypostat*; OECD-ilibrary.org; RBA, RBC, RBNZ



responded to the 1930s crisis with something like the modern Troubled Asset Relief Program (TARP), bailing out banks and, to a more limited extent, homeowners. The Federal Home Owners' Loan its bonds for the mortgages on banks' books. In doing so, it restructured housing finance away from shorter term (three to five years), balloon payment, high down-payment, variable interest rate, interest only mortgages and towards the typical contemporary longer term, low down-payment, fixed rate, self-amortizing US mortgage. The US government took mortgages and thus the maturity mismatch off banks' books. Initially the link occurred through straightforward government debt, albeit collateralized by houses. Eventually Fannie Mae financed its purchases directly through borrowing in capital markets, supplying its debt as a long-term asset for pension and insurance plans. Finally, Fannie developed the mortgage backed security (MBS), and began to turn itself into a pure servicer of mortgages on behalf of buyers of those residential MBS. Federal government interventions thus simultaneously created a new class of liquid, long-term assets that pension funds could buy, simultaneously removing maturity mismatch from banks' balance sheets.

Similar stories could be told for other countries, but with considerable variation in the degree to which the banking system was able to shed its maturity mismatch and thus become liquid. The Norwegian state provided the bulk of housing funds via a specialized state bank, *Den Norske Stats Husbank,* which had access to the public debt market.[43] The Japanese state channeled deposits from its huge postal savings system to the Housing Loan Corporation.[44] By contrast, countries lacking institutional solutions to maturity risk ended up with illiquid mortgage markets. The Italian and Austrian

[43] Tranøy 2009.
[44] Sweet and Walters 1975.

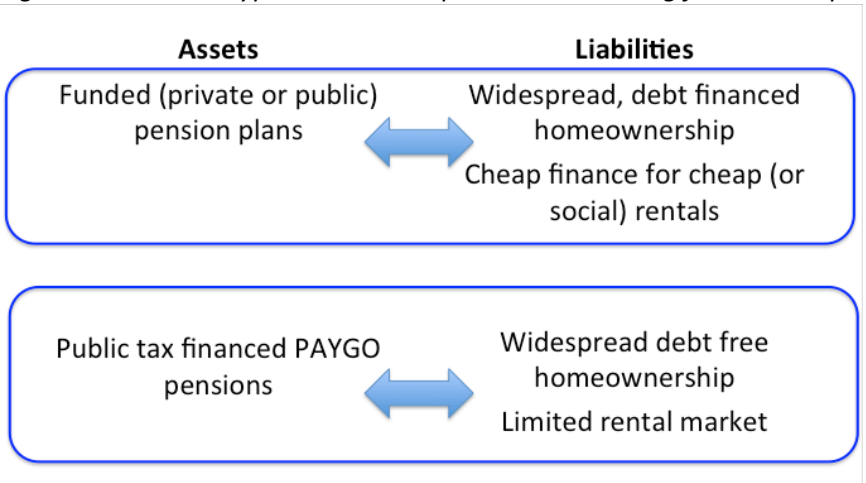
states had no specific mechanisms for dealing with maturity mismatch, with the result that banks limited mortgage lending. In the late 1970s over 70 % of Italian housing finance came from personal savings, as did over 60 % of housing finance in Austria.[45] The Italian situation has not changed much in succeeding decades.[46] In between, Danish and German banks elaborated a system of covered bonds (*pantbrev*, *pfandbrief*), which were funded by long-term deposits but which remained on banks' books with a bank guarantee to the bondholders. And in Germany, where homebuyers typically layer two or three mortgages to get sufficient financing, the states (länder) typically were first in line for any losses in the event of a default, shielding banks from their maturity mismatch.[47] These specific institutional solutions thus varied in the degree to which they created liquid versus illiquid housing finance markets, where the crucial element creating liquidity was banks' ability to generate mortgage finance without also generating a maturity mismatch. Critically, all these fights occurred before internationalization of credit markets allowed both borrowers and lenders to escape national systems of regulation.

The political nature of fights over financial regulation thus presents us with many composite systems. But these systems do not freely combine mortgage and pension systems. Rather, balance sheet and maturity considerations produce a continuum between two ideal typical mortgage finance and pension systems (Figure 2). The first has large-scale, debt financed private homeownership and cheap rental housing, along with funded (largely private) pensions to hold the assets created by debt financed housing construction and purchases. The second has widespread debt-free homeownership, a limited private rental market, and, in the absence of some other deep securities market to supply funded pension plans with assets, PAYGo public pensions. Put simply, private pensions imply large-scale debt-financed private homeownership and cheap rentals, while public PAYGo pensions imply societies with illiquid housing markets, and vice versa. Pension and insurance systems face long-term commitments to their clients, and as noted above match this by acquiring long-term assets. Public PAYGo systems finance these commitments out of tax revenues. From a technical point of view, pension commitments via a PAYGo system are not strictly speaking liabilities. But the long-term commitments of private pension plans are *de jure* liabilities (commitments to pay money out), and, as such, they must be matched by long-term assets (claims on money coming in). Long-dated mortgages, or bonds built out of long-dated mortgages, or, a functional equivalent, rents from property directly owned by pension plans, create a natural asset for pension plans' corresponding liabilities to their clients. They are not the only asset, as government bonds and private equities can also theoretically fund a pension plan. Still, it is remarkable that societies with illiquid mortgage markets tend to have relatively small funded pension plans.

Liquid housing finance systems have extensive mechanisms for removing mortgage debt from banks' balance sheets or for bypassing banks entirely. This can be done through forms of securitization or by having the state fund mortgages. Either way, mortgages tend to end up in the hands of pension funds (including funded pensions run by the state, as in Sweden) and other long-term investors. By removing mortgage debt from banks' books, states enable banks to expand lending to households for owner occupation and to developers for rental construction. By contrast, in illiquid housing finance markets, banks have few mechanisms for avoiding maturity mismatch. Thus they generate little in the way of mortgage finance, and mortgages resemble the shorter term, balloon mortgages of the 1920s in the United States. This does not preclude high levels of homeownership, as Italy has higher rates of owner occupation than the United States or Netherlands. But the absence of some form of securitization means mortgage debt is very small in relation to GDP in Italy as compared to the United States or Denmark (see above in Figure 1).

[45] Boleat 1985, 218, 291.
[46] Allen et al., 2004.
[47] Boleat 1985.

Figure 2: Two ideal typical relationships between housing finance and pension finance systems



On the other side of the balance sheet, a funded pension system cannot develop without a stable supply of long-term assets. In the immediate post-war period, equity markets were under-developed in almost all economies. This left bonds as the only source of long-term income for potential funded – usually private – pension plans. But what kind of bonds? Corporate bonds might substitute for household mortgage debt. But in the post-war environment few firms were able to independently float their own bonds. Most relied, instead, on revolving bank loans that de facto functioned as bonds, and which remained on banks' balance sheets (think: German house banks, or the main banks of Japanese *keiretsu*). Equities (stocks) are also a potential vehicle, though in the post-war years the equity market capitalization in most countries was too small to sustain a fully funded pension system. Even by 2012, only 40 percent of OECD pension assets on a weighted basis were in equities, and this average was very much pulled up by the United States, which accounted for about half of global pension assets and where nearly 50 percent of pension assets were equities.[48] Finally public debt might also provide an asset for pension funds, and indeed British and Dutch pension funds had a high proportion of public debt on their books until deregulation in the 1980s, reflecting state mandates that funded pensions hold public debt (part of which of course had been generated through housing subsidies).

Funded pension plans thus needed high levels of housing debt in order to function. These funded plans were not necessarily private, although most were. One public exception, the old Swedish public second tier pension, ATP, was theoretically funded by employer payroll contributions. But these contributions had to be parked somewhere, and as noted above the Swedish state channeled them to the million home project which aimed at building a million new housing units in a decade.[49] Swedish municipalities and cooperatives borrowed money from the ATP, becoming the indebted landlords described above. Their ability to offer low rents depended on the ATP's willingness to accept a lower rate of return and on state guarantees against default that abetted that low return. The degree to which pension plans could find and take up various assets accounts for some of the variation observed in Figure 1. Funded pensions require assets to function, and if those assets are absent, then pension systems will necessarily be organized as PAYGo systems. No private firm will operate a PAYGo pension (nor will a rational individual accept a private PAYGo pension, if there is any more credible alternative), so countries with smaller mortgage markets relative to GDP typically have larger public PAYGo pension systems. This is what creates the apparent trade-off between housing and public pensions. But it is in

[48] OECD 2013, 18.
[49] Immergut and Anderson 2007, 365.

fact a trade-off between indebted homeownership and funded pensions on the one hand, and debt-free ownership and PAYGo on the other, even if this trade-off is not one for one.

Thus the debate over the relationship between housing and the welfare state that occurred between Kemeny and Castles boils down to a politics in which the choices are set by a functional balance sheet reality. From a balance sheet perspective, the choice between owning and renting in Kemeny's argument is misreading, given that balance sheets must balance. Large-scale mortgage finance implies large-scale public or private holdings of mortgage bonds (or, less efficiently, of unbundled mortgages) regardless of whether those mortgages fund rentals or private homeownership. Debt free homeownership and a shortage of rentals implies a smaller pool of assets to fund pensions and thus a reliance on tax funded PAYGo pensions. This is why the countries in the lower left hand quadrant of Figure 1 often have higher levels of private homeownership and smaller rental markets compared with the highly indebted homeowners in the upper right hand quadrant. The level of homeownership is not the issue, but rather the level of debt.

Castles' argument thus receives qualified support. Private homeownership certainly provides a substitute for a more robust public second tier PAYGo pension, but if it is debt financed it also supplies the robust pool of debt instruments that a private, second tier pension system needs in order to function. And just as voters with access to imputed rent might vote against larger public pensions, voters with access to private second tier pensions might also vote against an expanded public first tier pension.

Whether a country has a funded or PAYGo second tier pension system is thus tightly connected to the kind of housing finance system it has, and vice versa. Funded pensions require assets; home-buyer debt provides some of those assets. Without those assets, pensions are much more likely to be established on a PAYGo basis. There is no uni-directional causality here, because this is a balance sheet or reflexive or co-constitutive relationship. This is why quantitative tests, like those of Castles and of Conley and Gifford are unable to establish the direction of causality, although intensive case studies can tease out what might have been the primary concern of policymakers intervening in either mortgage or pension markets.[50] It is also why the trade-off debate has been so hard to resolve. The initial debate focused on ownership, but the critical issue is the *financing of ownership*, not ownership per se. Similarly, the initial debate focused on public versus private pensions, but the critical issue is funded versus PAYGo pensions. The near identity respectively between private/funded and public/PAYGo magnifies this confusion. That identity has political roots in the balance of class power. But even in the classic social democracies, funded pension plans require assets, as the privately organized (but mandatory) second tier Danish pension and the various Swedish ATPs show.

Conclusions and implications for asset based welfare

The shortest possible version of the argument above is that states' relative success in removing maturity mismatch from banks' balance sheets co-produces the scale of indebted home purchase and funded pension plans in any given society. In this story, politics is secondary to balance sheet realities. But what of arguments that are more purely political, in which the availability of credit is a functional substitute for welfare, and thus dampens voter demands for social insurance?[51] This is the basis for current policy and analytic debates around the possibility of assert-based welfare, and in particular the use of housing assets for self-insurance. Asset-based welfare is consistent with other long-term trends to de-socialize the welfare state, through policy changes that make individuals responsible for arranging their own insurance. At the level of voters, the acceptance of asset-based welfare rests on an illusion

[50] Castles 1998; Conley and Gifford 2006.

[51] See Prasad 2013 for the best version of this argument.

about housing prices: they always rise. Superficially this seems to be true. Nominal house prices in the nineteen OECD countries with long-term data rose by an unweighted average of 137.6 percent, 1993 to 2009.[52] But this increase reflects inflation, rising incomes and rising housing standards. Real prices rose only 67.3 percent on average. The average price to income ratio only rose 16 percentage points over this same period, and in some large, important countries, like the United States, was basically unchanged from start to finish – though with a notable and unsustainable bubble in the middle. If houses are an asset, they are an asset that returns only the imputed income that was at issue above, in the debate about Castles' argument.

The best, recent analysis of the ownership-welfare debate, 3D confirms this. Their typology leads them to criticize the idea that asset-based welfare is possible in all societies with high levels of homeownership, and thus, by extension, that policies to increase homeownership might succeed in freeing the state from some of its social spending obligations while also giving individuals more control over how and when they need to rely on the state. 3D show that in de-commodified and pre-commodified housing markets, households simply cannot liquidate any of the monetary value locked up in the housing. Instead, it is precisely the use or consumption value of housing itself that is the resource.[53] 3D come to the correct, and pessimistic, conclusions about asset-backed welfare not so much for wrong reasons as for incomplete reasons. Their typology shows why institutional configurations in some countries mean that housing (and perforce, pensions) are not in strict terms financial assets, and thus cannot be used to buffer households against life or economic events that diminish current income.

As the analysis above shows, the difference between commodified and de-commodified housing and pension systems is not absolute. It reflects the degree to which banks transform mortgage debt into a marketable asset in order to remove maturity mismatches from their balance sheets. Liquid housing finance markets also create liquid home sale markets, and thus theoretically do enable people living in countries with liquid markets to use houses as a buffer against life and economic risk. Practically, of course, the covariance between income stability and size on the one hand, and financial and housing wealth on the other, means that many households will not be able to take advantage of this opportunity. Self-insurance remains an effective option only for those who face the lowest risks and thus need the least insurance.

In fact, the covariation between ownership, substantial home equity, income and job security is so high that it makes more sense to speak of *welfare-based assets* rather than asset-based welfare. Households can only accumulate substantial home equity if they have stable (and preferably rising) incomes. Erratic income makes regular mortgage service impossible. The result is a paradox. As 3D note, homeownership *per se* does not convey access to cash in a moment of household crisis in the absence of a well-developed mortgage credit market. Yet a well-developed and stable mortgage market requires a pool of borrowers with stable incomes. One way to do this is to limit access to credit to those who have stable incomes. This is the Fannie Mae / Freddie Mac strategy. They defined 'prime' borrowers via their underwriting criteria, which, among other things, limited the borrowing population to the top two-thirds of the population by credit rating. This population is precisely the part of the US population that typically has access to the US 'invisible welfare state' of tax subsidized pensions, health insurance and mortgage interest deductibility. The same effects can be seen in the Netherlands, where a robust welfare state stabilized incomes and thus prevented a foreclosure crisis in the housing market during the global financial crisis. The income stabilizing effects of the welfare state thus make it possible for households to carry larger mortgage debt loads, and thus enable the financial system to generate assets for pension

[52] Basically, the 18 large, rich OECD countries plus Korea. OECD Economic Outlook, 2010 no. 2. November 2010, pp. 335-336.

[53] See also Allen, et al. 2004 on this.

plans and other investors. These effects, ironically, are most visible in Scandinavia, where generous tax allowances mean that higher income earners are the typical homeowner households, and where those households have household debt to income ratios that make Americans look like Germans. The ratio of Danish and Dutch household debt to gross disposable income in 2012 was roughly 170 % higher than that for allegedly credit crazy Americans; Norwegian and Swedish 86 and 50 % higher, respectively.[54] Only stable incomes anchored in a robust welfare state make this possible.

The debate about the 'big trade-off' between homeownership and a robust welfare state or public pension thus has been inconclusive because the original terms of the debate mis-framed the actual trade-off. Mis-framing means that most of the participants in the debate end up being right for the wrong reason. The trade off is not between homeownership *per se* and welfare or public pensions *per se*. The trade-off, to the extent that it exists, does not arise because purchasing a home necessarily involves substantially more front-loading of costs than does renting. Nonetheless, Kemeny is correct that the balance between homeownership and renting is politically determined through a wide range of subsidies to housing. States do control the form of tenure that predominates in their housing markets. Castles is correct that freehold ownership does mean that some retired households can enjoy a higher standard of living than their overt cash income would otherwise permit. However this determines the size of public pensions rather than their form. States can make second tier, privately funded pensions both mandatory and adequate as in Australia, and also somewhat egalitarian, as in Denmark. Or they can run public *funded* plans as with Sweden's AP4, for which mortgages and mortgage bonds constitute about one-fourth of assets.

The trade-off is not dichotomous, or as 3D would have it, an artifact or spurious correlation arising from a confusion over what homeownership means financially for households. Rather, the trade-off occurs because of the combination of a balance sheet reality and political responses to that reality. When households buy housing using debt, this liability has to appear on banks' balance sheets as an asset. At the same time, banks must incur a liability to depositors in order to fund that purchase. In the absence of state intervention to reshape financial markets in general, and housing finance in particular, this mismatched maturity on banks' balance sheets will incentivize them to limit mortgage lending. In turn this limits the volume of assets available for a funded pension system. The more that states intervene to remove maturity risks from banks' balance sheets, or to protect specialized housing banks from risk, the greater the pool of assets available for private pension schemes. This trade-off produces a continuum of relatively more or less commoditized housing and pension systems in which mortgage debt and pension assets are only loosely coupled, but nonetheless coupled.

This functional relationship does not determine how societies choose to resolve the maturity mismatch, nor whether their pension systems are public or private, nor whether renting or ownership dominate housing tenure. All of these are fully political choices. But the choice is made from a menu in which it is very hard to create large funded pensions without some recourse to large volumes of mortgage debt and very hard to generate large volumes of mortgage debt in the absence of a ready buyer of that debt. That is the source of the big trade-off.

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