The Political Economy of Ownership: Housing Markets and the Welfare State

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The major economic story of the last decade has been the surge and collapse of house prices worldwide. Yet political economists have had little to say about how this critical phenomenon affects citizens' welfare and their demands from government. This article develops a novel theoretical argument linking housing prices to social policy preferences and policy outcomes. I argue that homeowners, particularly those experiencing rapid house price appreciation, will become less supportive of social insurance policies since their houses act as a form of self-supplied private insurance against job and income loss. Political parties that represent homeowners will, following these preferences, cut social insurance spending substantially during housing booms. I test these propositions using both micro-data on social preferences from surveys in the USA and the UK, and macro-data of national social spending for eighteen countries between 1975 and 2001.

1 Introduction

The past few decades have seen a remarkable transition in the political economies of the advanced industrial world. Whereas in the postwar era, the Keynesian duel of rapid price inflation and full employment held sway, since the 1980s inflation in the price of goods and services has been stable and declining. During the same time period, however, a new source of volatility, dormant since the Great Depression, has re-emerged - that of the price of assets, such as housing and equities. Between 1985 and 2006 real house price inflation was three times greater than between 1970 and 1985, with a standard deviation almost twice as large. The housing boom and bust that played out between 2002 and 2009 was unprecedented in modern times. Moreover, there has been ever-greater 'leakage' from the housing sector into the health of the overall economy. Cardarelli, Igan, and Rebucci (2008) estimate that house price volatility and its feedback into consumption and residential investment together account for over twenty percent of the variation in national economic output in many advanced industrial countries.

Surges and collapses in the price of assets affect the livelihood of citizens by underpinning, or undermining, their savings and personal wealth. Politicians have responded everywhere to the increased importance of assets in determining citizens' welfare. In boom times there emerge declarations of an 'ownership society.' In bad times, politicians fret about collapsing asset prices. These reactions suggest that asset prices have profound effects both on citizens' welfare and on policy-making. However, to this point, social scientists know very little about how changes in asset prices, such as housing, affect support for the broader institutions of social policy. This neglect is surprising considering the importance of housing values to both individual well-being and macroeconomic health. The contemporary significance of housing markets provokes two questions in particular. First, how do citizens respond to house price growth or decline in terms of their demand for social insurance and redistribution? Second, how do governments of varying partisan stripes respond to house price changes in terms of social policy?

Political economists come to these questions armed with analytical weapons from an earlier war. The focus of political economy has been on the labor market - to the exclusion of the asset market -

both in terms of the preferences of citizens over social insurance and in terms of policymaking at the national level. Early work on both individual preferences and on government spending emphasized the role of social class as defined by labor market income (Goldthorpe et al. 1969; Korpi 1978). More recently, a consensus has emerged on the importance of individual labor market risk - be it skill specificity (Iversen and Soskice 2001), occupational risk (Rehm 2009, 2011; Rehm, Hacker, and Schlesinger 2012), or income volatility (Hacker 2006) - in determining social policy preferences and policy outcomes. Yet, the focus on individual level risk as determining demand for social insurance has led scholars to overlook the capacity of individuals to supply their own 'private insurance', through the ownership of assets, as a hedge against labor market risk. In a world of volatile asset booms and busts and widespread homeownership, this neglect is problematic, as citizens increasingly rely on their houses and other assets as 'nest eggs' for retirement or periods out of the labor market. In other words, citizens can provide their own private insurance through asset ownership as a substitute for social insurance. Incorporating the ownership of assets complicates and enhances the dominant way that the political economy literature has conceived of the state-market nexus.

In this paper I provide a novel theoretical framework for the impact of asset ownership - focusing on housing - on social insurance policies. I begin in Section 2 by discussing the implications of thinking about asset markets for theorizing about the preferences of individuals over particular social policies. I argue that changes in asset prices have powerful effects on the social policy preferences of asset-owners, and that these are quite distinct from the impact of labor market status focused on by most political economists. I develop an argument, both informally and formally, that rising house prices make homeowners less supportive of publicly provided social insurance since the value of their 'private insurance' increases. Collapsing house prices, in contrast, produce demands for government support. I further argue that political parties will respond to these changes in voter preferences and that this effect will be pronounced for right-wing parties, which disproportionately represent homeowners.

The following two sections develop the empirics of home ownership and social policy. Section 3 begins at the micro-level, focusing on individual preferences over social policy using a series of social surveys in the USA and the UK, including two panel surveys. I examine how the prefer-

ences of homeowners over social policy change over time according to the prevailing level of house prices, using both geographic data on house prices and individual self-estimates. Throughout these examples I find powerful effects of house price changes on social policy preferences, particularly among right-wing voters. I conclude by extending this analysis to citizens in twenty-nine countries covered by the International Social Survey Program in 2009, where I am able to examine the effects of negative equity following the housing crash beginning in 2007.

I turn in Section 4 to examining the effects of changes in aggregate house prices on national social insurance policies. Here I examine the joint effect of political partisanship and house price changes on various forms of social insurance policy, both in terms of aggregate spending and replacement rates. I find a conditional effect where right-wing government combined with house price appreciation reduces both spending and replacement rates dramatically. The pattern is not limited to 'liberal market economies' but is particularly pronounced in countries with higher homeownership rates. This effect, hitherto unexamined in the literature on the determinants of public spending, demonstrates the significance of a deeper understanding of the role of ownership in political economy. Section 5 concludes with some implications of the theoretical approach developed in this paper for rethinking a range of anomalies in comparative and international political economy.

2 A Theory of Asset Ownership, Asset Prices, and Social Spending

Political economists know a great deal about the determinants of social policy preferences and outcomes in the postwar era. The theoretical apparatus developed by several cohorts of scholars was built on the role of labor market in defining both individual preferences and the behavior of political parties. Class-based theories provided powerful insights into the postwar world of economies driven by the manufacturing sector, demonstrating that social class, as defined by an individual's job, determined citizens' demands for greater or lesser government spending (Goldthorpe et al. 1969). Social class also determined the behavior of parties, with left-wing governments, supported by the working class, increasing social insurance spending (Huber and Stephens 2001; Korpi 1978).

As the economic structure of developed countries has shifted towards the service sector and

skill-intensive production, recent work has moved away from class cleavages to focus on the skills individuals bring to the labor market. Here work has examined both how skills affect policy preferences (Iversen and Soskice 2001) and how governments of various partisan stripes and differing national institutions provide these skills (Boix 1998; Estevez-Abe, Iversen, and Soskice 2001). At the micro-level, Iversen and Soskice (2001) argue that the relative specificity of an individual's skills determines the risk they face in the labor market and shapes their preferences over government policies that insure them against income loss. Thus individual labor market risk conditions the demand for social insurance. At the macro-level, labor market risk is considered to underpin national social policies, whether that risk is produced by specific skills (Estevez-Abe, Iversen, and Soskice 2001; Iversen 2005; Mares 2003), occupational risk (Rehm 2011), or by exposure to volatile global trade and capital flows (Garrett 1998; Rodrik 1998).

While the rise in importance of the service sector and human capital has been incorporated into the political economy canon, the accompanying growth in the macroeconomic importance of asset markets, especially housing, has so far been largely neglected. This is somewhat surprising given the emphasis placed on 'assets' by recent literature. Indeed, Iversen (2005) argues that an investment in human capital produces the most important asset people ever own. For some people this is likely true. However, for many others their most valuable asset is not their education but their home. Wealth, in other words, may be just as important as labor market income in shaping an individual's economic circumstances and, by implication, what they demand from government. This is especially true when such wealth is rising, or declining, dramatically as has been the case in global housing markets since 1980.

The implications of housing markets for social policy and individual preferences, while somewhat marginalized, are not entirely uncovered terrain. In terms of the microanalysis of housing and individual preferences, Scheve and Slaughter (2001) examine the role of home ownership in determining trade-policy preferences, arguing that homeowners in regions with uncompetitive industries will oppose free trade deals that might further weaken house prices. There is, however, no existing analysis of home ownership and preferences over social policies, particularly as mediated by house prices. At the macro-level connecting housing markets and social policies, Kemeny (1981), Castles

(1998), Conley and Gifford (2006), and Prasad (2012) have noted the potential tradeoff between homeownership and the welfare state. However, these analyses focus purely on aggregate homeownership rates and, in the case of Conley and Gifford, concentrate on explaining homeownership with reference to social welfare provision rather than vice versa. These analyses, save for Prasad (2012), also do not speak to the role of political parties; rather, there is simply a cross-sectional trade-off between homeownership rates and the size of government without analysis into why particular actors within countries want specific policies.

Finally, the relative price of housing is unexamined in the macro-level analyses, with homeownership assumed to have similar effects regardless of the value of housing. Much as Iversen and Soskice (2001) identify the relative value of skills in particular uses - rather than just the presence of education itself - as key to explaining preferences, if we are to understand the broader impact of homeownership we have to examine the value of the asset of housing itself. Recent work that does take into account fluctuations in the housing market, for example Schwartz and Seabrooke (2008) and Schwartz (2009), remedies this omission but it too does not delve into individual preferences or the behavior of parties, mostly focusing on national-level cross-sectional variation. A final gap in work on housing and social policy is that, in contrast to the extensive labor-market literature, scholars have not connected the micro- and macro-levels of analysis. We do not yet know how the preferences of individual homeowners are aggregated into national social policy regimes.

2.1 Asset Ownership and Individual Preferences

What, then, are the connections between homeownership, housing prices, and social policy preferences and outcomes? The existing literature examining social policy preferences and outcomes focuses on the demand for social insurance by individuals, according to their labor market risk. There is debate about whether risk comes from skill endowments, occupation, or exposure to trade, but across the welfare state literature there is agreement that individuals facing the risk of losing employment and earnings clamor for protection by the state. Political parties, especially on the left, build on these demands, offering policies that protect exposed groups. The role of ownership and wealth, however, has been neglected in this focus on the labor market.

How is wealth distinct from labor market status? First, individual wealth need not be correlated with an individual's labor market income or participation at any given point. To be sure, high earners often own valuable property but so too may lower earners or individuals who have exited the labor market. Symmetrically, some individuals with high labor market incomes may lack substantial assets. Second, changes in the value of an individual's assets may be unrelated to changes in their labor market income or indeed to broader macroeconomics changes in labor market conditions. For example, Rajan (2010) notes that median incomes in the USA were stagnant between 2000 and 2007, even as property prices surged. Third, because wealth is a stock that can be disconnected from both levels and changes in labor market income, it can serve as a form of 'private insurance' against labor market and life cycle risks. Political economists often think of 'assets' as endowments producing a flow of income in the labor market - for example, specific human capital as an asset that produces different returns depending on its use. When an individual loses their employment in this model, they also lose the value of the asset. But other types of assets, such as housing, are not tied to the labor market - they exist as a separate stock of wealth.[1] The greater is an individual's wealth, the less they are at risk of a collapse in living standards if they lose their flow of income.

Economists connect asset ownership and patterns of consumption through two related mechanisms: assets as part of an individual's 'permanent income', and assets as a 'buffer-stock' to draw on in times of reduced income and credit constraints. Both mechanisms produce similar expectations in terms of how home ownership and house prices might affect demand for social insurance.

The 'permanent income hypothesis', dating back to Friedman (1957) and Modigliani and Brumberg (1954), states that an individual's present consumption depends not on their present income, which may be affected by transitory fluctuations, but rather on their permanent income, which includes their wealth. Accordingly individuals should smooth their consumption over their life-cycle. Since housing adds to an individual's permanent income, home ownership, or a rise in the value of their house, should enable individuals to maintain consumption levels even during times of tempo-

[1]This stock of wealth may be accessible either as a lump-sum, by selling the property, or as an annuity, by borrowing against its collateral. While these mechanisms have different benefits depending on the ability and need to sell, both can substitute for lost labor market income.

rally low current income, perhaps caused by unemployment. This mechanism will be especially effective when citizens can us their house as collateral to borrow cheaply to sustain consumption. The permanent income hypothesis also expects citizens to draw down on assets as they age, particularly following retirement - the higher house prices are, the higher the associated level of consumption will be. Both the ability to use housing as a means to smooth consumption (through borrowing) while in the work force, and to draw down on housing to fund retirement provide citizens with steady levels of consumption during periods of lower income and thus can substitute for socially provided transfers such as unemployment insurance and pensions.

A related literature notes that citizens often face liquidity constraints or engage in 'precautionary saving' in order to maintain a 'buffer-stock' of assets to ensure the ability to maintain consumption during periods of transitory income loss (Carroll 1997). Whereas savings in the permanent income model exist to smooth consumption over the life cycle, the 'buffer-stock' argument presumes that savings also exist to hedge again uncertainty in the labor market. Moreover such assets will help sustain consumption *even if* liquidity constraints exist such that individuals suffering temporary income loss are unable to access credit. Homeownership, thus, acts as a form of self-supplied private insurance against the welfare losses associated with job loss, when access to labor market income and to credit may be severely curtailed.[2] In the appendix, I show formally that asset ownership, by providing a source of consumption during periods out of the labor market when individuals cannot otherwise access credit, systematically reduces the demand for both unemployment insurance and publicly provided pensions. This supply of private insurance reduces the demand for social insurance: consequently, private and social insurance are inherently intertwined.

Wealth produced by homeownership comes in two forms. First, there is the decision whether to own a house or to rent. Second, there is the relative value of the house, which may change across time in real terms. The final level of individual wealth is a product of both of these factors - thus solely examining the effects of being a homeowner without regard to housing prices is misleading.

[2]Housing has mixed advantages as a form of 'buffer -stock' saving. On the one hand, it is relatively illiquid and has high sales transactions costs, reducing its utility as a hedge. On the other hand, it serves as collateral that might enable access to credit, thereby removing the credit constraints associated with low income.

For example, if house prices are declining homeowners may actually be more supportive of social insurance than are non-homeowners, particularly if they have negative equity. Moreover, differential rates of house price growth will affect the policy preferences of homeowners differently. Homeowners in a boom that rapidly increases their wealth are more likely to feel that they have a large 'nest egg' to fall back on than are homeowners facing stagnant home price growth or depreciation.

Accordingly, house price appreciation should be an important determinant of social policy preferences. For two reasons, when house prices are rising homeowners will be less supportive of publicly provided social insurance . First, rising house prices, if taxable, will subject homeowners to higher taxes, which may in part pay for social insurance. To the degree that citizens can take advantage of rising property prices as collateral and access cheaper credit through home equity loans, rising house prices may also have an income effect that compounds this anti-tax mechanism. That is, high house prices may make citizens feel wealthier and adopt anti-tax/anti-spending policy preferences, even if their wealth is tied up in unsold property.

Second, and more critically, homeowners have privately insured against income loss due to unemployment or old age by being able to use their homes as a nest egg. Higher house prices mean more valuable 'private insurance' and hence should lead to lower demand from homeowners for social insurance as a hedge against such risks. This force should apply both to differences *between* individuals with differently valued houses and *within* individuals over time, as their house experiences different rates of appreciation.[3] These responses to rising house prices should be mirrored in the case of decreasing house prices, producing a reversal of preferences. During house price declines, these same individuals should become relatively more supportive of social insurance (or at least, given they may have other sources of income, less oppositional).[4]

[3]Since precise data on individuals' home values are difficult to obtain, the empirical analysis focuses on within-individual house price differences, but I examine between-individual differences with the British Household Panel Study.

[4]The question of whether, and how quickly, house price depreciation will produce greater support for social insurance is complex. Owning a house in and of itself provides *some* private insurance, in the sense that it provides individuals with guaranteed shelter and associated house consumption utility. Certainly homeowners should be less antipathetic to social insurance when house prices are declining than when they are rising but this does not imply, for example, that they should be more supportive of social insurance than renters under the same circumstances. A further question emerges as to

To recap, the effect of asset ownership on social insurance preferences is distinct from the impact of labor market status stressed in much of the literature. Assets constitute a stock of wealth rather than a flow of income and their value is not dependent on labor market employment, unlike levels of income or the returns to skills. Accordingly, asset ownership can substitute for a lost flow of income due to unemployment or retirement, whether through a sale, or through borrowing against the value of the house (thereby treating wealth as an annuity). This ability to rely on personal wealth in hard times reduces individuals' needs to rely on social insurance provided by the state. As house prices go up, these effect is amplified. As they go down it is weakened and, in the case of depreciation, citizens may become more supportive of social insurance spending.

Before further developing this argument in a simple formal model, it is worth discussing a number of potential caveats. First, unless they sell their house, individuals do not see the realized value of their asset. For many individuals their value of their house is a subjective approximation based on information gleaned about the local or national housing market. Hence citizens are forming sociotropic impressions of the value of their house and these valuations then determine social policy preferences. Since most studies find that sociotropic voting and opinion formation is more common than pure pocket-book behavior (Lewis-Beck 1988), this is not especially problematic.[5] Moreover, most analyses of demand for social insurance also rely on individuals making judgments about uncertain quantities. For example, specific skills arguments, such as Iversen and Soskice (2001), presume individuals are making judgments about the likelihood of finding another job that rewards their skills at the same level as their current occupation. Thus, even though citizens typically do not know the precise value of their house, national, or - even better - local housing conditions will likely shape their estimate.

Second, houses are not an especially fungible form of wealth. Selling a house can be a drawn-out process, the speed of which depends on local economic conditions. Given this 'specificity' in

the *lag* in preference change - it is essentially an empirical question how long it takes for homeowners to move from antagonistic to supportive of social insurance (if indeed they do) when prices turn from positive to negative.

[5]Grafstein (2009) argues for the existence of 'weak pocket-book' behavior where citizens respond only to changes in their permanent income. Housing values make up an important component of permanent income and changes in their value largely come from fluctuations in local housing market conditions.

the value of housing, it is likely that the ability of housing to operate as private insurance against a loss of income is conditioned by the time-frame in which the property must be sold. Whereas retirements are planned over a long horizon, unemployment is a rapid and often unexpected event. Hence it is likely that asset ownership reduces demand for social insurance programs for old age (pensions, long-term care) more so than for programs targeted at unemployment.

Third, citizen's short-term evaluations of the price of their home may be driven, at least partly, by 'irrational exuberance' rather than the long-term 'fundamentals' of the housing market (Shiller 2007). Indeed, there is substantial evidence that homeowners in the 2004 to 2006 peak of the recent housing bubble believed their homes would continue to rise in value at a substantial rate over the coming decade (Case, Shiller, and Thompson 2012). Thus even if homeowners had cashed out much of the appreciated value of their home through home equality loans (HELOCs), their expectation was that they would continue to have substantial equity remaining as a nest egg. That these homeowners' expectations proved false was unfortunate at the individual (and indeed societal) level but since social insurance preferences will be driven by current (rather than rational) expectations, we should expect rising house prices to produce less support for social insurance *even when* equity has been drawn down through HELOCs.

Finally, what about partial ownership - that is, homeowners who still have substantial amounts of their mortgage to pay off? Arguably this group should see accentuated effects of house price changes since they are more leveraged than individuals who fully own their house. Since they have lower equity, a given change in the value of the house reflects a larger multiple of equity for mortgagees than it does for full owners. Their return on investment is very high when prices rise and similarly they are exposed to negative equity when house prices fall. Moreover, mortgage holders are more likely than full owners to need to sell their property when made unemployed, since paying the mortgage becomes more difficult on reduced income. Depreciating property prices make this 'fire-sale' more costly for mortgage holders, making unemployment insurance more valuable; conversely increasing house prices make unemployment insurance less important. Hence, the effect of house price changes on unemployment insurance preferences should be especially high for mortgage holders.

2.2 From Voters to Parties

How do these arguments about the micro-foundations of ownership aggregate upwards into actual policy outcomes? There are two potential mechanisms connecting political parties to the preferences of asset owners and non-owners. The first mechanism is *compositional*. Broadly speaking, right-wing parties disproportionately represent asset owners. This pattern fits the established findings that homeowners, as well as higher income and older citizens who are more likely to own high-cost housing, tend to vote for right-wing parties (Kingston, Thompson, and Eichar 1984; Verberg 2000). As such, during house price booms we should expect right-wing parties to channel the preferences of these constituents for lower social insurance spending. Left-wing parties, with constituent bases that more heavily represent non-owners should not respond in this fashion. The second mechanism is *opportunistic*. Rather than simply acting as vessels that aggregate the particular preferences of their long-standing constituents, parties may instead come to the table with explicit policy preferences but only be able to enact these when opportunities arise caused by changing public opinion. In this mechanism, right-wing parties would also respond to increasing house prices by cutting social spending but would do so because public preferences had moved in that direction due to the rise in house prices. Since homeowners are a majority in most countries, this implies the electorate as a whole shifts towards less support for social insurance during housing booms, advantaging right-wing parties who are ideologically unsupportive of social insurance vis-à-vis left-wing parties.

The compositional mechanism suggests that the preferences of homeowners are disproportionately important for right-wing parties. Thus empirically, we should expect that during house price booms right-wing governments will cut back social insurance policies, whether by cutting spending or reducing replacement rates. The opportunistic mechanism supports this conjecture and has a related implication. Where homeownership is higher, homeowners form a larger potential constituency of votes. During house price booms this creates a greater electoral opportunity for right-wing parties to curtail social insurance programs. Hence, in high homeownership countries the effect of house price booms on right-wing parties reducing support for social insurance should be amplified. The impact of house price increases on the behavior of left-wing parties is more ambiguous, though generally opposite to that of right-wing parties, since their voting base is made up of

both homeowners and non-homeowners.

Finally, these findings at the macro-level may have counterparts at the micro-level: the effect of house price appreciation on individual policy preferences is likely to be strongest for right-wing voters. Individuals sometimes come to policy choices with their own ideological preferences, often driven by elite behavior and party priming (Bartels 2002; Carsey and Layman 2006). Left-wing voters may be primed to resist cuts to social spending regardless of other individual characteristics, ideology thereby operating as a filter on economically-derived preferences. Conversely, right-wing voters, ideologically inclined towards cutting social spending, are likely to be more responsive to changes in asset prices. This ideological mechanism reinforces the connection between house prices, preference formation, and the behavior of right-wing political parties.[6]

To summarize the theory developed in this section, I have argued that thinking about housing as a form of self-supplied private insurance provides novel insights into both social policy preference formation and policy outcomes themselves. Citizens, relying on housing as private insurance, will be less supportive of social insurance the greater the value of this asset. Political parties will respond to changes in support for social insurance brought about by changes in house prices. In particular, right wing parties, with a support base disproportionately composed of homeowners, will be especially likely to cut back social insurance programs during housing booms.

3 The Microfoundations of Asset Ownership and Policy Preferences

I argued above that asset ownership and asset prices should powerfully shape citizens' preferences over social insurance. In this section, I test this conjecture using individual survey data - both cross-sectional and panel in form - drawn from the USA and the United Kingdom and then conclude with analysis of cross-national survey data from the International Social Survey Program of 2009. In each case, I examine how various measures of home ownership and house price appreciation are related

[6] A similar argument with respect to differential preferences across left and right-wing voters can be found in Margalit (Forthcoming), in this case connecting the experience of job loss (or job insecurity) to preferences over unemployment insurance. Margalit finds that right-wing voters' social insurance preferences are much more responsive to individual economic conditions than are left-wing voters.

to individual preferences over social insurance and redistribution. I find strong evidence for the substitutive effect of home ownership for social insurance under conditions of rising house prices. Put simply, when homeowners experience rising wealth in the form of property price increases they become less supportive of social insurance and redistribution more generally, an effect that is amplified for right-wing voters.

3.1 Housing and Policy Preferences in the United States

I begin by examining preferences over the funding of the Social Security retirement program in the United States. The USA has a number of data advantages that I draw on in this analysis. In particular, detailed data on house prices, dating back to the 1970s, exist at the local level, allowing a more geographically fine-grained analysis of house prices than is possible with most other national surveys. The American National Election Survey includes questions both on home ownership and on the length of ownership, together permitting the estimation of the house price appreciation experienced by a given individual. However, there are no questions on preferences over employment protection nor on redistribution between rich and poor, hence I focus here solely on Social Security spending, following up the other questions in the analysis of the UK.

I use two datasets: the ANES 2004 pre-election dataset and the ANES 2000-2004 panel survey. The main dependent variable is a three point scale asking whether individuals would like to see federal spending on Social Security decrease, remain the same, or increase. In the panel analysis I also examine change in this variable, which is accordingly a five-point scale. In terms of independent variables, I examine a variety of indicators of house price appreciation, with the expectation that homeowners who have experienced rising local house prices will be less supportive of Social Security. I draw on data at the Metropolitan Statistical Area (MSA) and US state level provided by the Federal Housing Administration (FHA). In the 2004 dataset of the 1,039 individuals for whom I have data on the dependent and other control variables, around eighty-five percent live in one of these broadly defined MSAs. For the remaining fifteen percent I have only state level data from the FHA. For the panel dataset MSA data is only available for around one third of respondents, meaning that I use state information for the majority of respondents. The state and MSA house price data is

adjusted for consumer price inflation and in many cases dates back more than twenty-five years.

Using this data I construct two different estimates of the house price appreciation experienced by respondents. For the 2004 cross-sectional analysis I create a variable 'House Price Increase', which combines data on (a) whether an individual is a homeowner, (b) how long they have owned their property, and (c) the percentage change in property values in their MSA or state during the period of ownership. Thus if an individual is a homeowner who has owned a property for five years and the average house price appreciation in their MSA was sixty percent over the period, then they score 0.6 on this index. If an individual is a renter, they score zero. For each individual I create two versions of this index: (a) their state level score, and (b) their MSA level score where applicable and, where not, their state level score. The latter variable provides the best estimate across all individuals of their house price appreciation - it does however assume that the state and MSA level estimates are perfectly comparable. Its mean level in the sample is 0.22, with a standard deviation of 0.33 and a minimum of -0.18 and a maximum of 2.36. Excluding renters (around 30% of the sample) the mean level is 0.32 with a standard deviation of 0.36.

For the 2000 to 2004 panel analysis I no longer employ data on the length of homeownership since in this analysis I am solely looking at the effects of changes in house prices over that four year period on changes in preferences. As above I create a variable that combines information on whether the respondent is a homeowner across the full 2000 to 2004 period multiplied by the state increase in house prices (Δ *St. House Price*) or by the state or MSA increase in house prices (Δ *St./MSA House Price*). This equals zero for renters and the % change in state (or state/MSA) house prices for homeowners.

I include a number of control variables: a dummy for homeownership in order to disentangle the effects of rising house prices from homeownership status alone; a dummy for gender; age; a dummy for whether the citizen is retired (and likely on Social Security); a measure of their household income; a measure of their highest level of education; their employment status; number of children; whether the citizen is black, Hispanic, or Asian; and a measure of their party identification. Party identification is a seven-point scale from strong Democrat to strong Republican.

Finally, in the NES 2004 analysis, I also use a measure of skill specificity, which Iversen and

Soskice (2001) find is a powerful predictor of social policy preferences, particularly with regard to social insurance. I use the NES questions on occupational data and translate this into estimates of individual skill specificity, following the rubric in Cusack, Iversen, and Rehm (2006). Since occupational data is missing for some fifteen percent of the cases, I use multiple imputation to estimate skill specificity for those missing cases. [7]

I begin with a series of ordered logit tests on the cross-sectional 2004 dataset, adjusting the standard errors for clustering by either MSA or state, and using sample population weights provided by the NES. Table 1 presents a series of models using, in turn, the various measures of house price appreciation. Models 1 through 4 use the data on state house prices and show a significant negative effect of house price appreciation on attitudes towards Social Security. The substantive effect is quite large. Moving from being a renter to owning a house that has doubled in value in real terms is estimated to make an individual around nine percent points less supportive of increasing Social Security spending. This effect is comparable in magnitude to that obtained for gender and much larger than those for income or being retired. Moreover, the effect of estimated house price appreciation is robust to a dummy for homeownership (Model 2), dummies for each state (Model 3) and a particularly stringent specification that includes the homeownership dummy, local dummies and the five year average level of house price appreciation in a respondent's state (Model 4). This last specification separates out the effect of being a homeowner experiencing house price appreciation from (a) homeownership alone and (b) regional price effects alone. It is the combination of the two that drives preference formation. Models 5 through 8 use the MSA or State variable, which should provide more accurate estimates of house price appreciation. The models add robustness checks as in Models 1 through 4 and while slightly less statistically significant, house price appreciation appears to have a similar effect to the first set of models.

I now turn to examining ANES panel survey data from 2000 to 2004. Table 2 examines how changes in regional house prices for American homeowners between 2000 and 2004 affected their support for Social Security. I use both state house price data and a variable using MSA price data for

[7] Results without the skill specificity variable or using dummies for (two-digit ISCO) occupations are also similar. Both are shown in the supplementary materials. Occupational data is not available for the ANES panel survey.

those citizens who have it and otherwise state house price data. As independent variables I include the estimated house price appreciation for respondents (with renters coded as having experienced zero appreciation) and changes in income, homeownership status, party ID, and retirement status, and controls for the unchanging variables of gender, race, and age in 2000. These tests are more stringent than those in Table 1 since we are moving from examining levels to examining changes in individual support - a mechanism more directly related to the theory set out in Section 2. Models 1 through 4 examine change in Social Security preferences between 2000 and 2004 as a function of changes in the core independent variables, using state house prices. Models 2 through 4 include the level of preferences in 2000, Model 3 includes regional dummies (netting out differences between regions driven by economic, political, or social conditions), and Model 4 includes information about regional price changes (and thus distinguishing between high and low appreciation regions for renters and homeowners alike). Models 5 through 8 repeat this series of specifications but use the MSA or state house price variable.[8]

Across all specifications I find a negative effect of estimated house price appreciation between 2000 and 2004 on preferences over Social Security spending.To provide an indication of the substantive magnitude of these effects, using Model 1, I find that citizens who experienced a thirty percent house price appreciation between 2000 and 2004 were twice as likely (ten percent versus five percent) to desire less spending in 2004 than they did in 2000 and half as likely (four percent versus eight percent) to desire more spending than were respondents with no house price appreciation. Given that stability of preferences is extremely common (around 85 percent of the sample) these predicted effects of house price appreciation are quite dramatic.[9]

[8]In the supplementary materials, I show that these results are robust to including unemployment in 2004, the change in unemployment between 2000 and 2004, and the interactions of these measures with homeownership.

[9]This is also the case when the *level* of Social Security preferences in 2004 is used as the dependent variable (see supplementary materials). In this case the same shift in house price appreciation is associated with a decrease in the probability of supporting increased spending from sixty-seven to fifty-six percent.

3.2 Housing and Policy Preferences in the United Kingdom

To check on the generalizability of these findings about policy preferences in the American context, I now turn to survey evidence from the the United Kingdom. The British Social Attitudes Surveys (BSAS) provide a greater range of questions on social insurance preferences and relevant political control variables, whereas the British Household Panel Survey (BHPS), though it provides less satisfactory social policy questions than the BSAS provides data on individuals across time and, crucially, provides individuals' estimates of the value of their house.

I begin with the British Social Attitudes Survey of 2006. I examine two questions that relate to social insurance. The first question asks individuals whether the government should spend more or less on pensions. The second question asks individuals whether the government should redistribute income from rich to poor. Iversen and Soskice (2001) argue such redistribution is tantamount to social insurance, at least from a 'veil of ignorance' perspective. Both questions are arrayed on five-point scales where higher numbers reflect more support for social insurance. Since the BSAS 2006 lacks data on how long respondents have owned their property, I estimate individual house price appreciation by examining the inflation-adjusted five year percentage increase in house prices in the region a given homeowner lives in (eleven regions are used in the BSAS 2006).

I employ a very similar set of control variables to Table 1: gender, age, income, education, retired status, and partisanship. Education is measured using university degree since British education has a complicated structure at the secondary level that does not correspond well to the US case. Partisanship is taken as the composite of ideological views on redistribution, government intervention, societal fairness, and big business. Since redistribution views are included in this measure, I exclude it from the analysis of the redistribution question. The BSAS 2006 lacks ISCO codes that would allow calculation of skill specificity. Consequently, I include the Goldthorpe occupational scale as a replacement control. Finally, for each specification I alternate between excluding and including dummies for region. When dummies are included, the housing variable measures differences in regions between homeowners and renters, amplified by the size of the regional five-year change in prices. When dummies are excluded, we obtain this effect and that between homeowners across regions with different price growth.

Table 3 presents results for ordered probit analyses of the pensions and redistribution questions. Across the models I find significant negative relationships between the house price appreciation variable and social insurance preferences, albeit more so for pensions than for redistribution. As an example, the effect of moving from being a renter to a homeowner in Outer London is to reduce support for increased spending on pensions by between seven and ten percent points, depending on the model, an effect comparable in magnitude to that found in the American case. The same move on the house price appreciation variable is associated with a ten percent point decrease in supporting greater redistribution.

In Table 4 I turn to a data source that provides much better estimates of house price appreciation in Britain, albeit at the cost of survey questions that are less directly related to social insurance. Here I use the British Household Panel Survey, which includes over 50,000 citizens in a panel study for which I have data from 1991, 1993, 1995, 1997, 2000, 2004, and 2006, during which period the British housing market saw first a crash and then a long rise in house prices. During these particular surveys respondents were asked questions about their housing status (did they own or rent) and if they owned to evaluate the value of their house.[10] Using this information I create an indicator of the change in the value of their house, adjusted for consumer price inflation, from survey to survey.[11] I also create indicators for changes in other control variables: homeownership, annual income, employment status, education, number of children (not shown), and for voters of the main three political parties, partisanship.[12] I also include variables for gender and age, and depending on the model a linear time trend or dummies for survey year.

Models 1 through 4 in Table 4 examine the closest question on the BHPS to tapping social insurance preferences - asking people whether they agree that the government should see to it that everyone looking for work can find work - that is, whether the government should implement a de facto 'full employment' policy. This is not an ideal measure of support for social insurance but it

[10]The survey also asks for the original purchase price of the house. However, this data is only available for a small fraction of the cases that have estimates of the current price.

[11]The surveys are almost evenly spaced and the analyses are robust to time dummies. I exclude properties worth over £2m, which drops fewer than .001 of the cases. The results are similar using logged prices - see supplementary materials.

[12]This means excluding non-voters and voters for the small regional parties in Models 3 and 4.

does address government support for people at risk of unemployment or low incomes. I use as the dependent variable, change from period to period in support for the prompt, using changes in the independent variables (and levels of age and gender) as explanatory variables. Since the prompt has just five values, the possible level of change is limited and I use an ordered logit model, clustering standard errors by individual respondent. Models 1 and 3 use a linear time trend, whereas Models 2 and 4 use year dummies. Models 1 and 2 exclude change in partisanship and regional dummies whereas Models 3 and 4 include these, at the loss of around forty percent of the observations.[13]

Across all the models I find a statistically significant negative effect of self-evaluated house price appreciation on support for employment policies, even when time dummies are used (which absorb most of the change in house prices and therefore greatly reduce substantive variation). These effects are, in fact, consistent regardless of whether the sample is limited to increases in house prices or to decreases: house price increases lead to reduced support, house price decreases lead to increased support.[14] The substantial effect of rather rapid house price appreciation - say fifty percent increase over three years, is to reduce support for prompt (either strongly or somewhat support) by around five percent points.[15]

In Models 5 through 8 of Table 4, I extend the analysis to a more diffuse dependent variable - a compound ideological index composed of the full employment question plus similar questions about whether there is one rule for the rich and one for the poor, whether industries should be nationalized, whether private enterprise solves economic problems, whether strong trade unions protect employees, and whether ordinary people are sharing in the nation's wealth. Combining these into a thirty-point compound index permits the use of linear models and hence random effects

[13]The inclusion of year dummies and regional dummies absorbs most of the geographic and temporal variation in economic conditions - hence these results most cleanly identify differences in individual preferences driven by individual housing conditions rather than broader economic conditions.

[14]See supplementary materials. The effect for price increases is similar in magnitude to the full sample. The effect for price decreases is actually somewhat larger in magnitude.

[15]This effect is smaller than that found with the American data - this could be related either to the shorter periods under analysis here - most changes being over two years - or due to measurement error in subjective evaluations biasing coefficient estimates downwards - or it may reflect a weaker substantive effect of housing in the UK than the USA.

to account for variance across the individual respondents. Accordingly, to examine the effects of both changes and levels in house prices and the other independent variables, I employ an error correction model with the respondent's score on the ideological index as the dependent variable.[16]

The results indicate that both changes in house prices and their level have strong negative effects on the compound ideological index and hence are associated with more right-wing ideological views. This implies both within-individual (changes) *and* between-individual (levels) variation in house prices matter for policy preferences, as emphasized in the model in Section 2.[17] The long-run effects of house price appreciation, once the lagged dependent variable are taken into account are quite substantial. For example, a doubling in house prices would be associated with a long-run decrease of two-thirds of a within-person standard deviation in ideological preferences.[18]Thus, as with the social insurance question, it appears house prices are important predictors of social policy views in a more general setting.

To what degree are the results driven by the differences among homeowners, as opposed to between homeowners and renters? And does it matter whether citizens fully own their houses or whether they are still paying off the mortgage? Broadly we would expect similar negative effects of rising house prices on social policy preferences for all homeowners since each group experiences straightforward increases in equity. As I argued in Section 2, the effect for mortgage-holders might, in fact, be larger given that mortgagees are more leveraged than full owners and more at risk of needing to sell if made unemployed. Of the datasets under analysis in this paper, only the BHPS provides data on this issue. Table 5, building off Models 1 and 5 of Table 4, examines the effects of

[16]I exclude the partisanship variable since overall ideology and partisanship are very closely associated but results remain similar if it is included. Using an error correction model for the full employment question in Models 1 to 4 produces results of similar magnitude and statistical significance. See supplementary materials.

[17]As with the full employment question these results are consistent regardless of whether we examine the full sample, individuals with house price decreases, or with house price increases. See supplementary materials.

[18]Using a similar specification to Stegmueller (2013) with an individual's average house price across the panel and their period deviation from this average as proxies for permanent and transitory housing wealth, along with controls for permanent and transitory labor market income, I find both permanent and transitory housing wealth have negative effects on both full employment preferences and ideology as in the error correction model: see supplementary materials.

house price appreciation on the policy preferences of homeowners (excluding renters), homeowners who have paid off their mortgage (or bought outright), and mortgagees. Across all models we see statistically significant negative effects of house price appreciation for all categories of homeowners - this is in itself an important finding since it shows that the findings in Table 4 are not a solely a function of differences between renters and homeowners, magnified by house prices.[19] Moreover, in Models 1 through 3 - testing full employment preferences - we see the hypothesized result that mortgagees are more strongly affected by house price appreciation than full owners (a coefficient roughly double in size), though Models 4 and 6 - testing ideology - all groups see similar effects of house price appreciation.

3.3 Partisanship, Housing Prices, and Support for Social Insurance

I argued in Section 2 that the effects of property prices on social insurance preferences are likely to be stronger among right-wing voters than left-wing voters since, for ideological reasons, only the former group is likely to be willing to countenance such cuts. In Table 6, I re-examine several models from the analyses in this section using the ANES 2004, ANES Panel, BSAS 2006, and BHPS datasets, and dividing voters by partisanship.

I begin in Table 6a with US data from the ANES 2004 and the ANES 2000-4 panel. In the former case I break voters into those who approve of George W. Bush and those who do not (using the fifty percent feeling thermometer threshold as a dividing point), whereas in the panel example I use party identification since George W. Bush had not yet assumed the presidency in 2000. Beginning in Models 1 and 2 with the ANES 2004 data, which split Model 5 from Table 1 into Bush supporters and opposers, I find that estimated house price appreciation has negative effects only among Bush approvers, whereas the impact of house price appreciation is negligible for opposers. Turning to the panel data I find very similar results. In this case I use two different techniques to split the sample, building off Model 6 in Table 2. Models 3 and 4 split voters by whether they identified more with the Republican or with the Democratic Party in 2004, finding that only the former group shows the

[19] Furthermore, as in Table 4, this effect work in both directions: among homeowners the effect of house price changes is negatively signed and statistically significant whether self-estimates of house prices are rising or falling.

negative effect of house price appreciation on changes in social security preferences between 2000 and 2004. Models 5 and 6 split by *changes* in partisanship between 2000 and 2004. For voters who moved to the right we see a strong negative impact of house price appreciation on changes in social security support, whereas we do not see a similar impact among those who moved to the left. With voters whose party identification remained constant, one half of the sample, we see a statistically significant effect of house price appreciation on changes in policy preferences, albeit smaller in magnitude than for those who moved to the right. Accordingly, Bush's 'ownership society' rhetoric appears to have been effectively aimed at his base - right-wing voters are most responsive to the idea of replacing social insurance with a private nest egg.

Table 6b undertakes a similar exercise for British voters, dividing them into those who identify with the Conservative Party and those who identify with the Labour Party. The results of analyzing both dependent variables in each dataset are less conclusive than for the American surveys but suggest a similar pattern of right-wing voters responding most vigorously to house price changes. Models 1 and 2, building off Model 1 in Table 3, show that Conservative identifiers with house price appreciation respond more negatively in terms of pensions preferences than do Labour identifiers with similar appreciation. This effect is not, however, evident when splitting the sample by partisan identification in the case of preferences over redistribution (building off Model 3 of Table 3).

Turning to the BHPS data we also see mixed results. In the case of full employment preferences, there is little appreciable difference in the effects of house price appreciation between Conservative and Labour identifiers (building off Model 1 of Table 4) but in terms of ideology (building off Model 5 of Table 4) we again see Conservative identifiers having stronger effects of house price appreciation than Labour identifiers. In sum, across seven different tests splitting the subsample I find a stronger negative effect of house price appreciation for conservative vis-à-vis left-wing respondents in five of the seven cases, substantial evidence of a partisan distinction at work.

3.4 Cross-National Survey Data

I conclude by examining cross-national survey data that allows me to examine two important questions: to what extent do these survey results hold up outside of the USA and the UK; and what is

the effect of a substantial *decrease* in property prices leaving citizens with negative equity, as many citizens experienced during the housing downturn beginning in 2007? I use the International Social Survey Program from 2009 (henceforth ISSP) to examine the effects of home equity on preferences over redistribution for over 15,000 citizens in twenty-nine industrialized countries. Unlike the previous surveys I do not have house price data matched to citizens nor is the ISSP a dynamic panel survey. It does, however, contain a question that taps into citizens' equity in their house.

Specifically the ISSP asks 'How much money would be left if the home you and your family live in was sold?' and presents a series of categories: just debts; do not own; and a ten point equity scale normalized by national currency (e.g., in the USA this runs from less than $30,000 to over $900,000 in ten (differently sized) increments). This question thus allows to examine the differences between homeowners and renters, between homeowners with different positive levels of equity (relative housing wealth), between homeowners in negative equity and renters, and across all homeowners.

Accordingly, this question teases out whether the effects of housing wealth on policy preferences come are symmetric in both directions - do homeowners with negative equity support redistribution more so than renters, and do homeowners with positive equity support redistribution less than renters (or homeowners with less / negative equity)? As a dependent variable I use the policy preferences question with the broadest availability in the survey: 'do you think the government should reduce differences in income' (a question used by Rehm (2011), among others). I control for homeownership, relative income,[20], sex, age, party identification (increasing in right-wing support), work status (dummies not reported), education level (dummies not reported), number of members of the family, and religiosity. I run a series of ordered logit models with survey weights and country-clustered standard errors. The models then divide citizens into subsamples by house equity status (Models 2 through 4) and by partisanship (Models 5 and 6).

Model 1 of Table 7 begins by examining all available respondents and includes both the house equity variable and a homeownership dummy. The equity variable has the expected negative sign

[20]The ISSP only presents individual income in national currency, thus for cross national comparability I log income and then divide by the country (logged) mean.

and is statistically significant at the one percent level. The predicted substantive impact is large - whereas a homeowner with negative equity is expected to strongly support government redistribution with a probability of thirty-four percent, a homeowner with a moderate level of positive equity will have a twenty-seven percent probability of such support, and a homeowner with a high level of positive equity will only have a twenty-one percent probability. A renter by contrast will have a probability of strongly supporting redistribution of thirty percent. Model 2 compares these renters to citizens with negative equity, finding that renters are actually *less* supportive of government redistribution than are citizens with negative equity when we limit the sample to these two groups. Model 3 and 4 show that when we limit the sample to just homeowners and only those with positive equity, the negative effect on support for redistribution of rising home equity continues to hold. Accordingly, it appears that the effects of asset values operate in both directions - when assets are highly valued they discourage support of redistribution but when their value turns negative they produce greater support than the baseline of non-ownership.

Models 5 and 6 replicate the partisan distinction analysis conducted in Tables 6a and 6b by splitting the sample into right-wing voters and non-right-wing voters. As we found for the cases of British and American survey data, cross-nationally right-wing voters also appear more strongly affected by changes in their housing wealth in terms of their support for redistribution, being around sixty percent more responsive to equity changes. While party types vary greatly across the twenty-nine countries in the ISSP, this pattern suggests that the results found in the UK and USA can be extended more broadly.

Figure 1, displaying the differential effects of housing equity for left and right voters, shows three key findings. First, the overall effect of house equity is substantially stronger for right-wing voters who drop from a thirty-two percent probability of supporting redistribution when in negative equity to twelve percent when having high equity. By contrast , left-wing voters only decline from forty-two to thirty-three percent probability of support. Second, being in negative equity is associated with right-wing voters having somewhat similar preferences to left-wing voters (not statistically distinct at the ten percent level). This result jibes with the finding in Margalit (Forthcoming) that negative economic shocks push conservative voters towards greater support of redistribution. Third,

there is substantial separation of right and left voters with high equity and the effects of moving into this category are stronger for right-wing versus left-wing voters. This finding argues against a uniform effect of house price changes across partisans as left-wing voters do not become less supportive of redistribution when they have high levels of equity. Instead this supports an 'ideological filter' understanding of the effects of housing across partisans - right-wing voters' redistributive preferences appear more strongly affected across both negative and positive asset price circumstances.

The analysis in this section of the effects of homeownership and house prices on individual social policy preferences shows a powerful negative relationship that previous studies of preferences have not uncovered. The effect is one that is quite distinct from traditional factors of interest like income, education, and skill specificity. The analysis shows that measures of individual wealth may, then, be as important as individual labor market status in shaping opinions about the role of government and the welfare state. However, we are left with the question as to whether these preferences matter substantively - do political parties respond to the shifting views of voters?

4 Housing Prices and Policy Outcomes at the Macro Level

In this section I move from examining how house prices affect micro-preferences over social policies to analyzing whether house price fluctuations actually alter policy outcomes. In particular, I investigate whether the same pattern of right-wing voters being most strongly affected by house prices manifests itself at the national level through the actions of right-wing parties. The findings in this section strongly support these conjectures. Even controlling for changes in standard macroeconomic factors including national income, price inflation, unemployment, and interest rates we see powerful effects of house prices on patterns of government spending. In short, when house prices are rising, right-wing governments appear to curtail social insurance programs further. I explore this political effect of the housing cycle using cross-sectional time-series data for eighteen countries dating from 1975 to 2001.

The key independent variable is the five-year percentage change in real house prices (i.e. inflation-adjusted), taken from the Bank of International Settlements' house price data for eighteen countries

from 1970 to 2001. This housing data provides a country-specific level of house prices relative to 1970 - note this implies that house price levels cannot be usefully compared cross-sectionally, though changes can, hence my use of the five-year percentage change.[21] The mean of this variable is 12.8% (i.e. a compounded annual rate of around 2.5%), its standard deviation is 25.6% and its minimum and maximum values are, respectively, -45.8% and 118.3%.

I include as controls, a set of macroeconomic variables that come from the Penn World Tables (PWT), the World Development Indicators (WDI), and the OECD. These include Gross Domestic Product (measured in $100bn) and the annual growth rate of GDP from the PWT, the log of population, the real interest rate and consumer price inflation from the WDI, and the unemployment rate from the OECD. I also add two further important determinants of social spending: trade openness (Garrett 1998; Rodrik 1998) and the proportion of citizens over sixty-five years of age (both from the WDI).[22] For government partisanship I use Cusack and Engelhardt's cabinet 'center of gravity' index, which produces a measure of cabinet ideology that is a weighted average of the ideology of parties in the governing coalition (Cusack and Engelhardt 2002). I use their 'composite ideology' index, which is based on expert ratings and is also used in Iversen and Soskice (2006). This variable ranges (theoretically) between -100 and 100, with right-wing parties having higher scores, and has a mean of 3.65, and a standard deviation of 24.15.[23] I also employ an interactive variable that is the product of cabinet ideology and the five year percentage change in house prices. It is this variable I expect to be most critical - social insurance spending should be reduced by the combination of right-wing government and house price increases.

For the dependent variables, I examine social spending policies from the OECD Social Spending dataset from 1980 to 2001, as well as OECD data on social transfers as compiled by Armingeon et al. (2008) and data on pensions and unemployment replacement rates compiled by Scruggs (2004). The

[21] A five year period both shorter than most housing booms but avoids the volatility of a one year indicator and is less likely to cause endogeneity problems.

[22] Including an index for the number of veto players produces very similar results but reduces sample size. See supplementary materials

[23] These variables, along with the dependent variables, were drawn from the Quality of Governance Social Policy dataset compiled by Teorell et al. (2010).

variables taken from the OECD Social Spending dataset are total social spending as a percentage of GDP, spending on old age pensions as a percentage of GDP, and spending on unemployment benefits as a percentage of GDP. The total social spending measure includes not only pensions and unemployment but also survivors' benefits, incapacity benefits, health spending, family spending, active labor market programs, and public housing. The pensions replacement rate is for a retired couple and the unemployment replacement rate variable measures the net replacement rate during periods of unemployment for a solo breadwinner with dependent family (Scruggs 2004). These variables have the benefit of capturing changes in policy generosity that are not simply functions of the macroeconomic climate but are direct policy changes. Finally, the social transfers measure from Armingeon et al. (2008) is defined as social assistance grants and welfare benefits paid by general government and has the best availability, dating back to the 1970s.

Table 8 tests the propositions developed above on a dataset of eighteen states from 1975 to 2001, with between 280 and 346 observations across the various models. Models 1 and 2 examine total social spending, Models 3 and 4 examine social security transfers, Models 5 and 6 look at old age pensions spending, Models 7 and 8 examine pensions replacement rates, Models 9 and 10 examine spending on unemployment benefits, and Models 11 and 12 examine the net unemployment replacement rate. For each dependent variable I include country and year dummies both without and with the inclusion of a lagged dependent variable. Alternative specifications with autocorrelated error terms in place of the lagged dependent variable and without country fixed effects produce similar results in terms of substantive and statistical significance.[24]

The main finding jumping out of these tables is that the interactive variable of cabinet partisanship and house prices is negative and significant across almost all of the models. Except for unemployment spending and replacement rates, where the results are more mixed, the effects of house prices conditional on right-wing partisanship are to decrease social spending, particularly pensions, and to lead to less generous replacement rates. Broadly, the implication is that the impact of house prices, controlling for other aspects of the business cycle and other determinants of government spending, is filtered through partisan control of government. When right-wing governments capture

[24] See supplementary materials.

office and house prices have been appreciating we see a strong negative impact on social spending and transfers and in terms of old age pensions (with mixed evidence on unemployment policies). Conversely, when left-wing parties are in power during periods of house price appreciation there is no distinguishable effect on social spending.

This pattern can be seen in Figures 2a and 2b, which show estimates drawn from Models 1 and 5 of Table 8 of the marginal effect of real house prices increasing by fifty percent over five years on, respectively, social spending and pensions spending.[25] The figures can be interpreted as showing the estimated effect - with ninety-five percent confidence intervals - of this increase in house prices for a given level of partisanship, where negative fifty implies a fifty-point swing to the left and positive fifty implies a fifty-point swing to the right.[26]

Three patterns are clearest. Firstly, when partisanship moves to the left there is little evidence of house price increases affecting either social spending or pensions spending. Secondly, when cabinet partisanship moves to the right there is a robust negative effect of house price increases on both pensions and social spending more broadly. That is, house price booms lead to decreases in social spending when right-wing parties are in power. A forty point swing to the right in partisanship (1.5 within-country standard deviations) combined with a fifty-percent increase in house prices is associated with a reduction of social spending of around one percent point of GDP and a reduction of 0.4% of GDP in spending on pensions. These figures amount to half a within-country standard deviation in both total and pensions spending - sizable effects with substantial political implications. The final point worth noting is that even with a 'moderate' government (one with the country's mean level of partisanship), house price increases are associated with declines in both pensions and, more borderline in statistical significance, social spending.

Finally, Table 9 examines how dependent the results from Table 8 are on the structure of different countries' economies, particularly on the level of homeownership. I argued in Section 2 that the

[25]Using different model specifications alters the slope and intercept of these predicted curves though broadly the substantive interpretation is the same.

[26]The x-axis reflects swings of partisanship within countries due to the use of country dummies. The distribution of *within*-country partisanship is displayed as a dotted line.

interactive effect of house price appreciation and partisanship should be stronger in those countries with higher rates of homeownership, since such countries present a more fertile territory for 'opportunistic' right-wing parties seeking to curtail social spending. Accordingly, I re-examine Model 1 from Table 8 to incorporate homeownership levels. I use data collected by Atterhög (2005) on home ownership rates from 1960 to 2003 across fifteen of the countries in the dataset.[27]

In Model 1 of Table 9 I add the homeownership variable to Model 1 of Table 8. Although the dataset is reduced by a sixth and three countries are lost, the estimated interactive effect of house price appreciation and partisanship is extremely similar. Homeownership itself is negatively signed but is not significant at conventional levels. Model 2 adds the interaction of partisanship and homeownership rates, in order to clarify the conditional effect of house price appreciation vis-à-vis homeownership. It is apparent that partisanship does not appear to have an impact conditional on homeownership but rather on house price appreciation. Thus it is the increase in asset prices that appears to drive partisan policymaking not homeownership changes *per se*. Models 3 and 4 add some nuance to this picture. Models 3 and 4 splits countries into two groups: those with average levels of homeownership across the time period lower than the overall median (61.75%) and those at or above the median.[28] Although the coefficient on the interactive variable remains statistically significant across both samples, it is substantially larger in magnitude for countries with higher homeownership rates than for those with lower rates.

Models 5 through 12 examine whether these results are dependent on the structure of financial markets across countries. As Schwartz and Seabrooke (2008) argue, the Anglo-American countries had substantially more liberalized financial markets, particularly as related to mortgage financing, than did their Continental European, Nordic and East Asian peers. Broadly, this pattern reflects the division between Liberal Market Economies (LMEs) and Coordinated Market Economies (CMEs) (Hall and Soskice 2001), though a number of Scandinavian countries also had liberalized housing

[27] Atterhög's data is collected at different time intervals across countries. In order to have uniform data I linearly interpolate home ownership rates for missing years. Since homeownership is slow-moving this introduces limited bias.

[28] Similar results obtain for the other spending variables, though not the replacement rates, from Table 8, with the interactive effect of house prices and partisanship stronger in high homeownership countries. See supplementary materials.

finance markets. Schwartz (2009) further notes that cross-national variations in the magnitude of the housing boom were closely connected to the level of capital inflows experienced by countries.

Models 5 and 6 split the sample into LMEs and non-LMEs.[29] It is immediately apparent that there is very little difference between the two groups of countries - thus the interactive effects of partisanship and house price appreciation are not solely an 'Anglo-American' phenomenon. Models 7 and 8 divide the sample by whether individuals were able to borrow against their houses through home equity loans (HELOCs). Again, we see little difference between these groups. Models 9 and 10 divide the sample by whether mortgages could be securitized - here securitization has a slightly stronger effect on the interactive impact of partisanship and house prices but it is not statistically distinct from the group of non-securitized countries. The only major difference occurs when we split the sample by whether countries had increasing or decreasing levels of capital account inflows over the previous five years - here we see the interactive effect of partisanship mattering substantially more in the capital inflow cases. These results indicate that it is rising asset prices themselves, not the ability to borrow against them, that matter most.

This analysis marks an advance on previous analyses of homeownership and social spending (e.g. Conley and Gifford 2006) in showing that it is not homeownership per se, nor economic 'regime' type, that matters for public spending but rather the differential benefits homeowners obtain in terms of their wealth when house prices are rising. These effects will be more pronounced where homeownership is more widespread, as a supermajority of voters, especially right-wing voters, are homeowners who stand to benefit from changes in prices. In summary, OECD countries appear to have experienced important effects of housing on the behavior of governments. This pattern has striking political implications given the increased volatility of housing prices and the general threats to government spending in an era of potential retrenchment. The effect of housing appears refracted through the political system. Right-wing parties respond to the opportunity provided by an 'ownership society' to cut back social insurance policies quite dramatically.

[29] Australia, Canada, Ireland, New Zealand, Spain, the United Kingdom, and the United States constitute the former group. Spain's housing finance system appears much closer to the LMEs than CMEs (Schwartz 2009, 99). Moving it to the non-LME group only has marginal effects.

5 Conclusion

The major economic story of the last decade has been the surge and collapse of house prices worldwide, building on substantial housing volatility that began to emerge in the 1980s (Shiller 2007). Yet political economists have had very little to say about this critical phenomenon, trapped with an analytical language that speaks to the labor market but is deaf to the effects of wealth and ownership. This article presents a novel theoretical contribution that addresses this analytical and empirical gap. Ownership matters for both the preferences of citizens about what they want from government and for the actual policymaking behavior of governments themselves. Building on a theory of assets acting as self-supplied private insurance, I argued that homeowners, especially those who have experienced high levels of house price appreciation, will be less supportive of social insurance spending. Furthermore, parties representing these citizens, typically right-wing parties, will respond by curtailing social insurance programs during housing booms. I tested these propositions in two empirical settings. First, I examined social survey data from the USA and the UK, finding strong evidence for the claim that homeowners with appreciating property are less supportive of social insurance and that this pattern is amplified among right-wing voters. This claim was supported using both 'static' surveys and dynamic panel data. Second, I found that right-wing parties do appear to have cut back social insurance programs more vigorously during housing booms.

Put together, these findings suggest a powerful new approach to thinking about the interaction of the economy and the welfare state. As advanced economies have encountered both increasingly volatile asset markets and retrenchment in the welfare state (Pontusson and Clayton 1998) this theory helps us to understand how these forces are connected. Indeed, thinking about the role of ownership enables us to address a range of theoretical and empirical anomalies in political economy. As an example, a core puzzle in comparative political economy is the so-called Robin Hood paradox (Lindert 2004) - redistribution from the poor to the rich happens least when it is most needed, for example when inequality is high. Ownership provides one, among many, responses to this puzzle: labor market incomes alone do not fully specify individuals demands for social insurance and redistribution. Wealth, especially that stored in housing, may act as a countervailing but

often unmeasured force. As Rajan (2010) has suggested, rising house prices may take the edge off increasing income inequality for the median voter, keeping redistributive demands at bay.

Ownership also has an intriguing international dimension. Many scholars see globalization, through trade or foreign direct investment, as increasing the risk individuals face in the labor market and hence causing them to support greater social insurance (Mayda and Rodrik 2005; Scheve and Slaughter 2004). Accordingly, globalization may drive increases in public spending. However, Busemeyer (2009) demonstrates that globalization and public spending have been negatively related since the 1990s, in contrast to the positive relationship apparent in earlier data (Garrett 1998; Rodrik 1998). This new negative relationship might, however, not be a case of racing to the bottom. In fact, it may be related to the effects of globalization on private insurance as opposed to private risk. As Schwartz (2009) and Broz (2011) have noted, global credit markets underpinned a political economy of cheap credit and housing booms in Anglo-American countries in the 1990s and 2000s. While the value of homes may in the long run have been ephemeral, during the housing boom years many citizens took advantage of globalization to feather their nest eggs. Global credit then made possible the supply of private insurance and potentially reduced support for social insurance, precisely the opposite of the story commonly told about globalization and social spending.

A A Model of Asset Prices and Social Policy Preferences

In this appendix, I develop a simple model of social policy preference formation, along the lines of those in Iversen and Soskice (2001) and Rehm (2011). I examine a two period model where citizens earn labor market income in the first period but face a risk of unemployment. All citizens retire in the second period. Citizens pay taxes on their income to provide for current unemployment benefits and future lump-sum pensions. Citizens may also own assets, such as housing. They may sell their assets to provide income when they are out of the labor market, either unemployed or retired. Thus the model is framed around the relative attractiveness of social insurance spending, given asset ownership and the prices received for assets when sold.

Each individual has income y_i and assets a_i, where only income is directly taxable and assets must be sold to provide income.[30] In the first period, citizens are employed with probability e,

[30] Taxation of assets can be easily introduced and accentuates all of the following results, since it heightens tax aversion by citizens who own appreciating assets.

earning $(1-t)y_i$, and unemployed with probability $(1-e)$, receiving the unemployment benefit b.[31] Unemployed citizens who own assets may sell their asset and receive γa_i where $\gamma \in [0,1]$ reflects the possibility that citizens will not recoup the full value of their asset when selling during unemployment and is determined by current housing market conditions.[32] In the second period all citizens retire, receiving a lump sum pension g. Those who remained employed in the first period can sell their asset at its expected price of $(1+\pi_a)a_i$, where π_a represents real asset price appreciation between periods one and two.

Taxation is linear and total revenues equal $t\bar{y}$, where $\bar{y}$ is average wage income. The budget constraint is $t\bar{y} = g + (1-e)b$. Individual utility is concave, with constant relative risk aversion (for example, a utility function specified as $u(c) = \frac{1}{1-\alpha}(c)^{\frac{1}{1-\alpha}}$ as in Iversen and Soskice (2001)). Second period utility is discounted by δ. Two period total utility can thus be specified as:

$$U_i = eu_i\Big((1 - \frac{g + b(1-e)}{\bar{y}})y_i\Big) + (1-e)u_i(b + \gamma a_i) + e\delta u_i(g + (1+\pi_a)a_i) + (1-e)\delta u_i(g) \tag{1}$$

I examine in turn the effects of increased pension provision g and unemployment provision b on utility, holding the excluded policy area constant.

$$\frac{\partial U_i}{\partial g} = -e\frac{y_i}{\bar{y}}u'\Big(\Big(1 - \frac{g + b(1-e)}{\bar{y}}\Big)y_i\Big) + e\delta u'(g + (1+\pi_a)a_i) + (1-e)\delta u'(g) \tag{2}$$

$$\frac{\partial U_i}{\partial b} = -e(1-e)\frac{y_i}{\bar{y}}u'\Big(\Big(1 - \frac{g + b(1-e)}{\bar{y}}\Big)y_i\Big) + (1-e)u'(b + \gamma a_i) \tag{3}$$

Setting each of these expressions to equal zero provides the individual's optimal choice of pensions g_i^* and unemployment benefits b_i^*. I employ the implicit function theorem to see how these optimal policy choices change with respect to individual asset values a_i, expected house price appreciation between periods one and two π_a (for pensions) and the period one selling price ratio γ (for unemployment benefits).

$$\frac{\partial g_i^*}{\partial a_i} = -\left[\frac{1+\pi_a}{1 + \frac{1}{\delta}\left(\frac{y_i}{\bar{y}}\right)^2 \frac{u''(1-t)y_i)}{u''(g_i^*+(1+\pi_a)a_i)} + \frac{(1-e)}{e}\frac{u''(g_i^*)}{u''(g_i^*+(1+\pi_a)a_i)}}\right] < 0 \tag{4}$$

[31] The model can be extended to the case of individually differing risk of unemployment, using $e_i \in (0,1)$, as in Rehm (2011). The effect of asset prices on social insurance preferences remains negative but its magnitude depends on e_i.

[32] A separate way of interpreting γ is to regard it as the share of the asset citizens must sell in order to pay ongoing debts (including a mortgage), with the remaining $1-\gamma$ available in the second period. Altering the model along these lines implies that the higher the debt service / mortgage needs, the greater is the effect of asset price appreciation on unemployment benefit preferences.

$$\frac{\partial g_i^*}{\partial \pi_a} = -\left[\frac{a_i}{1 + \frac{1}{\delta}\left(\frac{y_i}{\bar{y}}\right)^2 \frac{u''(1-t)y_i)}{u''(g_i^*+(1+\pi_a)a_i)} + \frac{(1-e)}{e}\frac{u''(g_i^*)}{u''(g_i^*+(1+\pi_a)a_i)}}\right] < 0 \quad \forall a_i > 0 \tag{5}$$

$$\frac{\partial b_i^*}{\partial a_i} = -\left[\frac{\gamma}{1 + e(1-e)\left(\frac{y_i}{\bar{y}}\right)^2 \frac{u''(1-t)y_i)}{u''(b_i^*+\gamma a_i)}}\right] < 0 \tag{6}$$

$$\frac{\partial b_i^*}{\partial \gamma} = -\left[\frac{a_i}{1 + e(1-e)\left(\frac{y_i}{\bar{y}}\right)^2 \frac{u''(1-t)y_i)}{u''(b_i^*+\gamma a_i)}}\right] < 0 \quad \forall a_i > 0 \tag{7}$$

Since utility is concave, the ratio of negative second derivatives in the denominators of these expressions is positive. Hence the sign of the equation within the square brackets is positive and the derivatives of g_i^* and b_i^* with respect to a_i, π_a, and γ are strictly negative. In other words, the preferred level of pensions and unemployment benefits is *decreasing* as asset prices rise and *vice versa*. This is true both in terms of comparative statics *between* individuals with differently valued assets $a_j > a_i$, and in terms of comparative statics for a specific individual owning a_i for expected price appreciation π_a or the returns for immediate sale in period zero γ (that is, *within* individual comparative statics).

Furthermore, the numerators of each expression show that the effects of individual asset values are magnified by changes in asset sales prices and *vice versa*. For pensions, the negative effect of asset prices a_i on policy preferences g_i^* is growing in expected further price appreciation π_a. For unemployment benefits the negative effect of asset prices a_i on policy preferences b_i^* is increasing in the share of the asset γ that can be retained in a 'fire-sale' during current unemployment.[33]

From this simple model of assets and social insurance preferences we can draw a number of important conclusions. Firstly, since assets provide a substitute for publicly provided social insurance, a rise in the value of assets reduces the demand for social insurance. This effect could come from owning a more expensive property or from a higher expected rise in property prices - to this extent both individual house prices and expected broader housing market conditions should affect policy preferences. Concomitantly, asset price changes through π_a and γ should not directly impact the social policy preferences of non-asset owners. Finally, in general the effect of assets on policy preferences is likely to be smaller for unemployment insurance than for pensions provided that the unemployment rate (or individual risk) is not especially high. This is because selling during a period of unemployment means forgoing future appreciation and potentially selling at a discount. However, to the degree that mortgage holders are more likely to need to sell during unemployment than full owners, the negative effect of asset prices on unemployment benefit preferences should be

[33]These expressions also appear in the denominator in the second derivatives and work in the same direction as the direct effect in the numerator. Accordingly, $\partial^2 g_i^* / \partial a_i \partial \pi_a < 0$ and $\partial^2 b_i^* / \partial a_i \partial \gamma < 0$.

more pronounced for them than for full owners who do not need to sell assets immediately.

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Table 1: Static Analysis of Social Security Preferences: ANES 2004

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Δ State HP	-0.208**	-0.225**	-0.242**	-0.335**				
	(0.104)	(0.105)	(0.115)	(0.131)				
Δ State/MSA HP					-0.185*	-0.195**	-0.226*	-0.252**
					(0.095)	(0.097)	(0.126)	(0.127)
Own House		0.038	0.027	0.033		0.024	-0.011	-0.001
		(0.149)	(0.155)	(0.167)		(0.147)	(0.166)	(0.160)
Party ID	-0.068***	-0.068***	-0.080***	-0.075***	-0.069***	-0.069***	-0.077***	-0.076***
	(0.019)	(0.018)	(0.019)	(0.019)	(0.019)	(0.019)	(0.020)	(0.020)
Education	-0.132***	-0.132***	-0.114***	-0.125***	-0.132***	-0.132***	-0.117***	-0.124***
	(0.034)	(0.035)	(0.036)	(0.036)	(0.034)	(0.034)	(0.037)	(0.035)
HH Income	-0.008	-0.009	-0.017	-0.015	-0.009	-0.009	-0.017	-0.014
	(0.010)	(0.010)	(0.011)	(0.012)	(0.010)	(0.010)	(0.012)	(0.012)
Retired	-0.187	-0.188	-0.192	-0.222	-0.186	-0.187	-0.179	-0.223
	(0.146)	(0.147)	(0.149)	(0.151)	(0.145)	(0.146)	(0.154)	(0.150)
Self-Employed	-0.296**	-0.297**	-0.308**	-0.300**	-0.295**	-0.296**	-0.284**	-0.299**
	(0.123)	(0.125)	(0.127)	(0.131)	(0.123)	(0.125)	(0.130)	(0.129)
Unemployed	-0.004	-0.008	-0.009	0.032	-0.001	-0.003	-0.024	0.035
	(0.267)	(0.261)	(0.286)	(0.292)	(0.266)	(0.261)	(0.303)	(0.291)
Gender	0.196**	0.195**	0.191**	0.203**	0.193**	0.193**	0.190**	0.199**
	(0.088)	(0.088)	(0.089)	(0.092)	(0.087)	(0.087)	(0.092)	(0.091)
Age	0.002	0.001	0.000	0.001	0.001	0.001	-0.000	0.001
	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)
Black	0.482***	0.484***	0.469***	0.497***	0.484***	0.486***	0.461***	0.489***
	(0.147)	(0.144)	(0.154)	(0.156)	(0.146)	(0.143)	(0.163)	(0.156)
Hispanic	-0.192	-0.190	-0.280	-0.286	-0.197	-0.196	-0.299	-0.295
	(0.174)	(0.173)	(0.177)	(0.221)	(0.175)	(0.174)	(0.222)	(0.221)
Asian	-0.250	-0.246	-0.256	-0.271	-0.249	-0.247	-0.283	-0.272
	(0.288)	(0.286)	(0.303)	(0.316)	(0.287)	(0.286)	(0.316)	(0.312)
No. of children	0.053	0.052	0.031	0.026	0.054	0.054	0.026	0.028
	(0.053)	(0.053)	(0.065)	(0.067)	(0.053)	(0.053)	(0.067)	(0.066)
Skill Specificity	-0.042	-0.042	-0.036	-0.038	-0.043	-0.044	-0.038	-0.039
	(0.038)	(0.038)	(0.037)	(0.038)	(0.038)	(0.037)	(0.038)	(0.038)
Observations	1016	1016	1016	1016	1016	1016	1016	1016
Regional Dummies	-	-	State	MSA	-	-	MSA	MSA
Price Trends	-	-	-	State	-	-	-	St/MSA

MSA Clustered standard errors in parentheses: * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Table 2: Panel Analysis of Change in Social Security Preferences: ANES 2000-4

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SocSec 2000		-1.931***	-2.017***	-1.931***		-1.887***	-2.256***	-1.894***
		(0.222)	(0.216)	(0.221)		(0.228)	(0.265)	(0.223)
Δ St. House Price	-0.718**	-1.131***	-1.164*	-1.141*				
	(0.332)	(0.339)	(0.661)	(0.625)				
Δ St/MSA House Price					-0.790**	-0.939**	-1.413*	-1.236*
					(0.325)	(0.380)	(0.836)	(0.685)
Δ Home Own.	-0.021	0.108	0.038	0.107	-0.014	0.113	-0.074	0.101
	(0.164)	(0.159)	(0.176)	(0.169)	(0.162)	(0.159)	(0.198)	(0.166)
Δ HH Income	-0.123*	-0.094	-0.116	-0.094	-0.115	-0.087	-0.083	-0.086
	(0.071)	(0.067)	(0.071)	(0.066)	(0.076)	(0.070)	(0.083)	(0.071)
Δ Party ID	0.035	0.035	0.051	0.035	0.043	0.040	0.067	0.040
	(0.051)	(0.051)	(0.054)	(0.051)	(0.052)	(0.052)	(0.062)	(0.052)
Δ Retired	0.258	0.249*	0.284**	0.249*	0.266	0.247*	0.322*	0.252*
	(0.160)	(0.135)	(0.131)	(0.136)	(0.163)	(0.139)	(0.195)	(0.140)
Age	0.001	0.004	0.008	0.004	0.002	0.004	0.008	0.004
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Gender	-0.114	0.139	0.167	0.139	-0.109	0.139	0.186	0.145
	(0.104)	(0.115)	(0.138)	(0.114)	(0.107)	(0.117)	(0.168)	(0.118)
Black	-0.333	0.099	0.155	0.099	-0.341	0.093	0.078	0.088
	(0.206)	(0.307)	(0.278)	(0.308)	(0.213)	(0.308)	(0.315)	(0.309)
Hispanic	-0.289	0.032	0.256	0.031	-0.289	0.043	0.401	0.001
	(0.207)	(0.386)	(0.385)	(0.370)	(0.203)	(0.375)	(0.444)	(0.354)
Asian	-0.843***	-1.025***	-1.057***	-1.027***	-1.462***	-1.275***	-1.308***	-1.349***
	(0.300)	(0.225)	(0.209)	(0.219)	(0.224)	(0.229)	(0.261)	(0.258)
Δ Regional Price				0.015				0.444
				(0.658)				(0.638)
N	619	619	619	619	609	609	609	609
Regional Dummies	N	N	Y	N	N	N	Y	N

Clustered standard errors in parentheses: * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Table 3: British Social Attitude Survey Analysis

	(1)	(2)	(3)	(4)
	Pensions	Pensions	Redist.	Redist.
Δ House Price	-2.022**	-2.053**	-0.586*	-0.548*
	(0.986)	(0.860)	(0.330)	(0.315)
Homeowner	1.114	1.209**	0.078	0.050
	(0.718)	(0.617)	(0.282)	(0.275)
Gender	0.096	0.071	-0.160**	-0.159**
	(0.158)	(0.156)	(0.069)	(0.071)
Age	0.050**	0.050**	0.045**	0.044**
	(0.019)	(0.020)	(0.019)	(0.018)
Income	-0.031	-0.029	-0.068***	-0.068***
	(0.032)	(0.032)	(0.011)	(0.011)
Education	-0.087	-0.076	0.034	0.034
	(0.054)	(0.055)	(0.024)	(0.023)
Retired	-0.640**	-0.614**	-0.232	-0.251
	(0.275)	(0.279)	(0.161)	(0.155)
Left/Right	-0.409***	-0.423***		
	(0.132)	(0.134)		
Self Emp.	-0.414	-0.502	-0.172	-0.165
	(0.338)	(0.335)	(0.183)	(0.185)
Unemp.	-0.567*	-0.498	-0.037	-0.020
	(0.333)	(0.324)	(0.209)	(0.204)
Non Emp	-0.663***	-0.614***	0.051	0.071
	(0.224)	(0.230)	(0.137)	(0.138)
Occ. Class	0.033	0.035	0.058*	0.057*
	(0.041)	(0.040)	(0.033)	(0.032)
White	0.634**	0.688**	-0.325	-0.359*
	(0.284)	(0.291)	(0.208)	(0.191)
Church Attend.	-0.095***	-0.086***	0.011	0.009
	(0.030)	(0.031)	(0.022)	(0.023)
Union Member	-0.246	-0.242	0.317**	0.329***
	(0.241)	(0.219)	(0.125)	(0.122)
Δ Regional Price		0.018***		0.004
		(0.006)		(0.003)
N	702	702	2976	2976
Region Dummies	Y	N	Y	N

Clustered standard errors in parentheses: * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$.

Table 4: British Household Panel Survey Analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Full Emp.	Full Emp.	Full Emp.	Full Emp.	Ideology	Ideology	Ideology	Ideology
Δ House Price	-0.003***	-0.002**	-0.004***	-0.003**	-0.006***	-0.007***	-0.006***	-0.006***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.002)
L. House Price					-0.019***	-0.024***	-0.016***	-0.021***
					(0.002)	(0.002)	(0.002)	(0.002)
Δ Home Own	0.042	0.037	0.045	0.035	-0.112**	-0.101*	-0.119**	-0.109**
	(0.037)	(0.037)	(0.053)	(0.053)	(0.052)	(0.052)	(0.052)	(0.052)
L. Home Own					-0.232***	-0.171***	-0.249***	-0.186***
					(0.038)	(0.039)	(0.039)	(0.039)
Δ Education	0.006	0.009	0.024	0.029	-0.061*	-0.056*	-0.060*	-0.057*
	(0.025)	(0.025)	(0.036)	(0.036)	(0.033)	(0.033)	(0.033)	(0.033)
L. Education					-0.098***	-0.092***	-0.102***	-0.096***
					(0.010)	(0.010)	(0.010)	(0.010)
Δ Unemployed	0.085*	0.083*	0.023	0.023	0.189***	0.148**	0.170**	0.134*
	(0.044)	(0.044)	(0.060)	(0.060)	(0.070)	(0.070)	(0.071)	(0.070)
L. Unemployed					0.311***	0.274***	0.282***	0.250***
					(0.086)	(0.085)	(0.086)	(0.085)
Δ Self-Employed	-0.095**	-0.096**	-0.140**	-0.141**	-0.412***	-0.406***	-0.417***	-0.410***
	(0.046)	(0.045)	(0.059)	(0.059)	(0.062)	(0.062)	(0.062)	(0.062)
L. Self-Employed					-0.517***	-0.491***	-0.523***	-0.498***
					(0.057)	(0.056)	(0.057)	(0.057)
Δ Retired	0.044	0.048	0.062	0.068	-0.155***	-0.156***	-0.167***	-0.167***
	(0.040)	(0.040)	(0.050)	(0.050)	(0.059)	(0.059)	(0.059)	(0.059)
L. Retired					-0.362***	-0.344***	-0.375***	-0.356***
					(0.054)	(0.053)	(0.054)	(0.054)
Δ Income	-0.002	-0.000	-0.001	-0.000	-0.089***	-0.089***	-0.089***	-0.089***
	(0.008)	(0.008)	(0.010)	(0.010)	(0.012)	(0.012)	(0.012)	(0.012)
L. Income					-0.144***	-0.141***	-0.143***	-0.141***
					(0.015)	(0.015)	(0.015)	(0.015)
Gender	-0.023**	-0.023**	-0.024	-0.024	0.084***	0.086***	0.086***	0.088***
	(0.011)	(0.011)	(0.015)	(0.015)	(0.030)	(0.030)	(0.030)	(0.030)
Age	0.002***	0.002***	0.002***	0.002***	-0.000	-0.000	-0.000	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Δ Partisan			-0.077***	-0.075***				
			(0.024)	(0.024)				
L. Ideology					0.491***	0.494***	0.486***	0.490***
					(0.005)	(0.005)	(0.005)	(0.005)
N	50896	50896	30802	30802	45121	45121	44838	44838
Time	Linear	Dummies	Linear	Dummies	Linear	Dummies	Linear	Dummies
Region Dummies	N	N	Y	Y	N	N	Y	Y

Clustered standard errors in parentheses: * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$.

Models 1 to 4 are ordered logit estimations. Models 5 to 8 are linear estimations with panel random effects

Table 5: Types of Ownership in the BHPS

	(1)	(2)	(3)	(4)	(5)	(6)
	Full Emp.	Full Emp.	Full Emp.	Ideology	Ideology	Ideology
	All Owners	Paid Off	Mortgage	All Owners	Paid Off	Mortgage
Δ House Price	-0.004***	-0.003**	-0.006***	-0.015***	-0.016***	-0.014***
	(0.001)	(0.001)	(0.002)	(0.002)	(0.003)	(0.003)
L. House Price				-0.020***	-0.021***	-0.022***
				(0.002)	(0.002)	(0.002)
Δ Education	0.000	0.030	-0.003	-0.047	-0.159	-0.028
	(0.029)	(0.062)	(0.033)	(0.039)	(0.103)	(0.041)
L. Education				-0.091***	-0.084***	-0.094***
				(0.011)	(0.016)	(0.013)
Δ Unemployed	0.063	0.071	0.055	0.280***	0.309*	0.307***
	(0.058)	(0.095)	(0.072)	(0.093)	(0.174)	(0.108)
L. Unemployed				0.398***	0.447**	0.433***
				(0.117)	(0.222)	(0.136)
Δ Self-Employed	-0.116**	-0.174**	-0.089	-0.388***	-0.346***	-0.399***
	(0.050)	(0.089)	(0.060)	(0.068)	(0.131)	(0.079)
L. Self-Employed				-0.458***	-0.514***	-0.430***
				(0.060)	(0.105)	(0.072)
Δ Retired	0.027	0.021	-0.085	-0.212***	-0.116	-0.200
	(0.046)	(0.059)	(0.096)	(0.066)	(0.087)	(0.136)
L. Retired				-0.369***	-0.226***	-0.309**
				(0.059)	(0.080)	(0.126)
Δ Income	0.002	0.003	0.003	-0.079***	-0.065***	-0.081***
	(0.008)	(0.018)	(0.009)	(0.014)	(0.023)	(0.017)
L. Income				-0.134***	-0.141***	-0.133***
				(0.016)	(0.031)	(0.019)
Gender	-0.016	-0.045**	0.002	0.115***	0.074	0.136***
	(0.013)	(0.023)	(0.017)	(0.034)	(0.055)	(0.041)
Age	0.002***	0.002**	0.003***	-0.002	-0.006***	0.004**
	(0.000)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
L. Ideology				0.507***	0.531***	0.506***
				(0.005)	(0.008)	(0.007)
N	39087	14436	24648	35465	12688	22774

Table 6a: House Price Changes for Varying Partisans: USA

	(1)	(2)	(3)	(4)	(5)	(6)
	GWB > 50	GWB< 50	Pro-Rep	Pro-Dem	Δ Rep	Δ Dem
Δ HP to 2004 US	-0.307**	-0.021				
	(0.143)	(0.191)				
Δ HP 2000-4 US			-1.328***	-0.507	-2.572***	-0.598
			(0.411)	(0.591)	(0.985)	(0.975)
N	634	393	316	293	133	137

Table 6b: House Price Changes for Varying Partisans: UK

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Cons Pensions	Lab Pensions	Cons Redist.	Lab Redist.	Cons Full Emp.	Lab Full Emp.	Cons Ideology	Lab Ideology
Δ HP 2001-6 UK	-4.626*	-1.486	0.970	-0.691				
	(2.662)	(1.469)	(1.791)	(0.515)				
Δ HP UK BHPS					-0.004*	-0.004**	-0.013***	-0.005*
					(0.002)	(0.002)	(0.003)	(0.003)
Lag HP UK BHPS							-0.019***	-0.008***
							(0.003)	(0.003)
N	196	235	813	998	11832	17665	10759	15669

Table 7: International Social Survey 2009: Should Government Reduce Income Gaps?

	(1) All	(2) Rent vs No Eq.	(3) All Owners	(4) All Equity	(5) Left+Ind	(6) Right
House Equity	-0.065***	-0.269**	-0.060**	-0.057**	-0.054***	-0.085***
	(0.025)	(0.106)	(0.026)	(0.029)	(0.019)	(0.030)
Own House	0.169**				0.069	0.319**
	(0.078)				(0.065)	(0.145)
Log Income	-0.152*	-0.002	-0.221**	-0.223**	-0.108	-0.277***
	(0.084)	(0.105)	(0.099)	(0.104)	(0.076)	(0.092)
Sex	0.203***	0.160**	0.204***	0.215***	0.144***	0.323***
	(0.049)	(0.065)	(0.050)	(0.050)	(0.054)	(0.062)
Age	-0.005	0.002	-0.006	-0.007*	0.001	-0.007
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Partisanship	-0.398***	-0.314***	-0.411***	-0.427***	0.042	0.774***
	(0.058)	(0.063)	(0.056)	(0.056)	(0.044)	(0.197)
Household No.	0.063***	0.016	0.081***	0.081***	0.048**	0.085***
	(0.022)	(0.044)	(0.018)	(0.019)	(0.024)	(0.030)
Religiosity	0.015	0.004	0.018	0.020	0.029	-0.008
	(0.042)	(0.037)	(0.043)	(0.044)	(0.034)	(0.050)
N	15839	3784	12765	12055	14414	5427

Country clustered standard errors in parentheses: * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$.

Dummies for education and employment status not reported.

Table 8: Social Policy and Housing Prices

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Total	Total	Transfers	Transfers	Pensions	Pensions	Pen RR	Pen RR	Unemp.	Unemp.	Un. RR	Un. RR
Δ House Price	-0.608	-0.352	-0.652	-0.097	-0.293	-0.064	-2.213	-2.684	0.130	0.047	1.914	-1.117
	(0.519)	(0.218)	(0.858)	(0.206)	(0.250)	(0.107)	(1.585)	(1.670)	(0.153)	(0.107)	(4.010)	(1.553)
Partisanship	0.002	-0.001	0.006	-0.000	0.001	0.001	-0.008	-0.013	0.001	0.000	-0.013	-0.004
	(0.004)	(0.002)	(0.004)	(0.001)	(0.002)	(0.001)	(0.015)	(0.019)	(0.001)	(0.000)	(0.046)	(0.015)
Δ H.P. X Partisan	-0.042***	-0.018**	-0.027**	-0.013***	-0.013***	-0.005*	-0.080*	-0.094*	-0.007	-0.006*	-0.198**	-0.049
	(0.009)	(0.007)	(0.011)	(0.004)	(0.003)	(0.003)	(0.044)	(0.051)	(0.004)	(0.003)	(0.082)	(0.033)
GDP p.c.	-0.045	0.084	-0.138	0.013	-0.018	-0.004	-0.119	-0.432	-0.026	0.033	0.330	-0.166
	(0.254)	(0.092)	(0.558)	(0.133)	(0.107)	(0.039)	(1.485)	(1.649)	(0.056)	(0.019)	(1.042)	(0.306)
GDP growth	-0.218***	-0.225***	-0.218**	-0.248***	-0.087***	-0.059***	-0.144	-0.025	-0.009	-0.056***	-0.529*	-0.188
	(0.044)	(0.032)	(0.087)	(0.018)	(0.019)	(0.012)	(0.227)	(0.209)	(0.013)	(0.009)	(0.301)	(0.145)
Log Population	10.252	2.560	3.178	1.903	-5.198	-1.167	12.997	14.212	1.731	0.548	43.995	-8.585
	(9.129)	(3.524)	(9.358)	(1.628)	(4.317)	(1.168)	(15.977)	(19.231)	(1.841)	(0.810)	(42.557)	(11.817)
Unemp. Rate	0.462***	0.020	0.243	-0.052	0.104**	-0.013	-0.536	-0.593	0.232***	0.075***	0.783	-0.251
	(0.109)	(0.044)	(0.181)	(0.035)	(0.036)	(0.013)	(0.562)	(0.623)	(0.033)	(0.021)	(0.611)	(0.169)
Interest rate	0.081	0.071***	0.078	0.086**	0.004	0.020*	0.076	-0.007	0.021	0.025***	0.512*	0.155
	(0.069)	(0.021)	(0.102)	(0.031)	(0.030)	(0.010)	(0.213)	(0.261)	(0.014)	(0.008)	(0.293)	(0.126)
Inflation	0.028	-0.004	-0.124	-0.053	0.020	0.012	-0.713*	-0.737	0.031	0.010	0.449	0.216
	(0.082)	(0.029)	(0.126)	(0.032)	(0.026)	(0.011)	(0.397)	(0.473)	(0.027)	(0.013)	(0.410)	(0.131)
Openness	-0.053	-0.022*	0.004	-0.001	-0.012	-0.003	-0.017	-0.050	-0.014**	-0.004	0.044	0.029
	(0.031)	(0.011)	(0.062)	(0.013)	(0.022)	(0.004)	(0.134)	(0.152)	(0.005)	(0.005)	(0.164)	(0.045)
Pop. > 65	-0.087	-0.010	-0.192	-0.050	0.222	0.040	1.811***	2.009***	-0.117	-0.070**	2.169	0.937
	(0.231)	(0.061)	(0.329)	(0.056)	(0.130)	(0.028)	(0.519)	(0.601)	(0.075)	(0.029)	(2.617)	(0.610)
Lag DV		0.826***		0.930***		0.858***		-0.077		0.708***		0.842***
		(0.040)		(0.026)		(0.050)		(0.070)		(0.063)		(0.030)
Constant	-148.366	-40.063	-33.784	-30.323	91.415	20.307	-169.621	-182.069	-26.540	-9.050	-707.907	139.853
	(152.261)	(58.631)	(159.118)	(26.679)	(70.018)	(19.145)	(259.207)	(311.827)	(30.968)	(13.496)	(696.989)	(194.033)
N	298	281	346	346	298	281	335	329	295	279	335	328

Clustered standard errors in parentheses: * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$. All models contain country and year fixed effects.

Table 9: Homeownership, Economic Regimes and Social Spending

	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	Low Own.	High Own.	Non LME	LME
Δ House Price	-0.410	-0.332	0.243	-3.050**	-0.194	-1.379
	(0.694)	(0.748)	(0.817)	(1.044)	(0.772)	(1.008)
Partisanship	0.003	-0.029	-0.008	0.013	-0.006	0.000
	(0.007)	(0.042)	(0.004)	(0.008)	(0.005)	(0.006)
Δ H.P. X Partisan	-0.044***	-0.046***	-0.045**	-0.091***	-0.043***	-0.046***
	(0.011)	(0.011)	(0.015)	(0.024)	(0.012)	(0.012)
Homeownership	-0.154	-0.155	-0.215**	-0.133		
	(0.102)	(0.106)	(0.069)	(0.132)		
Own. X Partisan		0.001				
		(0.001)				
N	246	246	112	134	175	123
Countries	15	15	7	8	11	7

	(7)	(8)	(9)	(10)	(11)	(12)
	No HELOC	HELOC	Not Securitized	Securitized	Capital Outflows	Capital Inflows
Δ House Price	-1.003	0.368	-0.592	0.570	-2.593***	0.599
	(0.732)	(0.887)	(0.614)	(1.054)	(0.859)	(0.687)
Partisanship	0.002	0.002	-0.000	0.003	-0.003	0.009
	(0.008)	(0.007)	(0.004)	(0.007)	(0.005)	(0.006)
Δ H.P. X Partisan	-0.045***	-0.044**	-0.037*	-0.044**	-0.023	-0.043**
	(0.013)	(0.017)	(0.017)	(0.013)	(0.020)	(0.017)
N	152	129	137	144	171	127
Countries	10	7	9	8	18	18

Clustered standard errors in parentheses: * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$.

All models contain country and year fixed effects and identical control variables to Table 8 (not reported).

Figure 1: Attitudes Towards Redistribution from the ISSP 2009

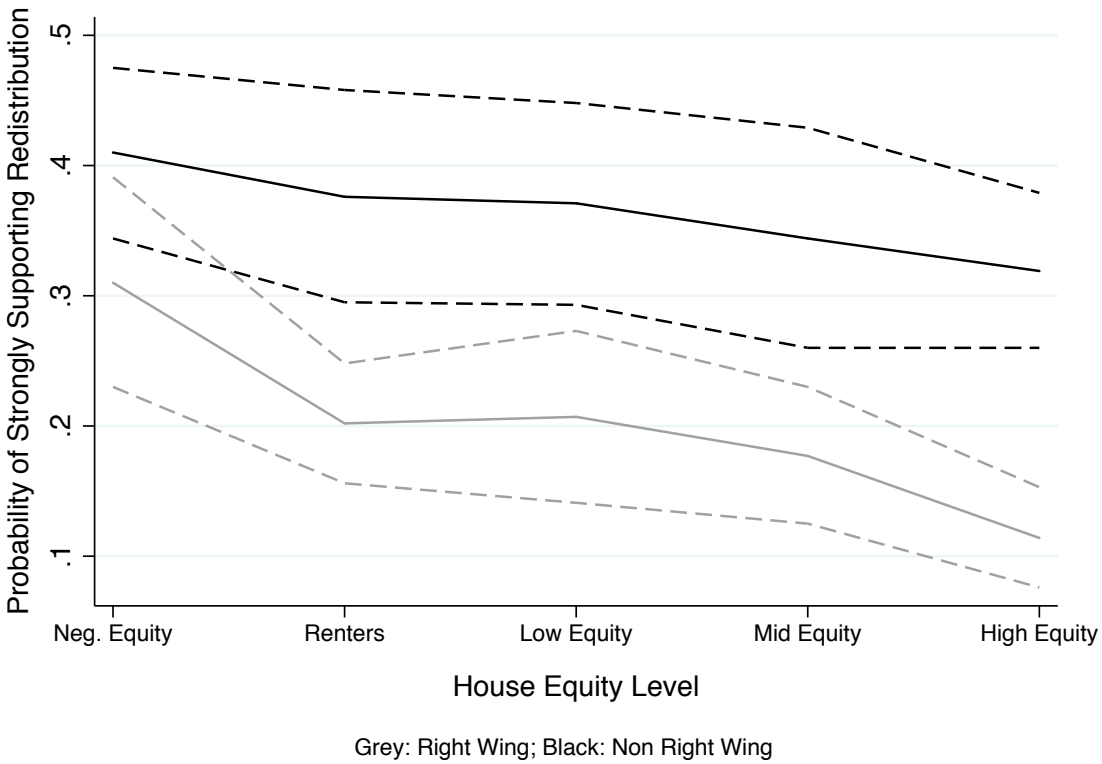

Figure 2a: Estimated Effects of House Price Changes on Social Spending

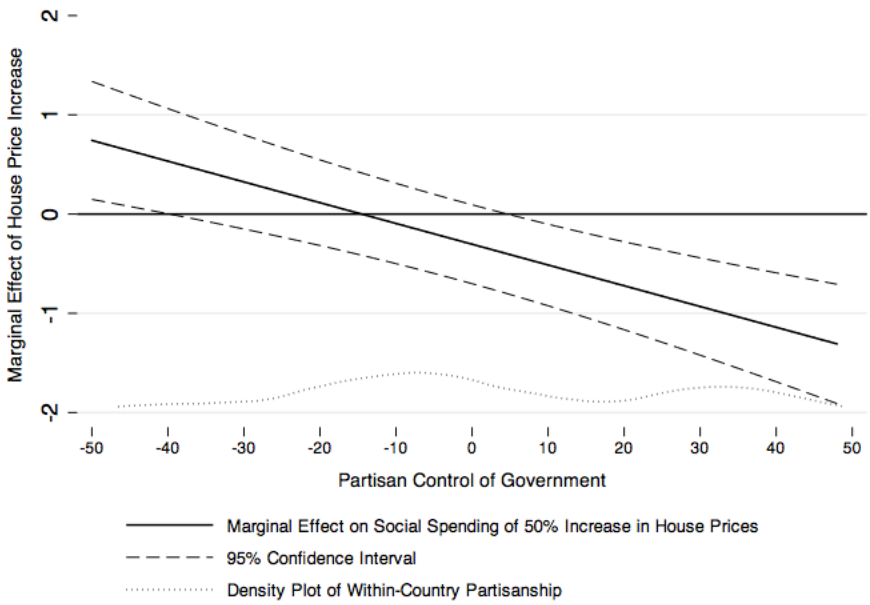
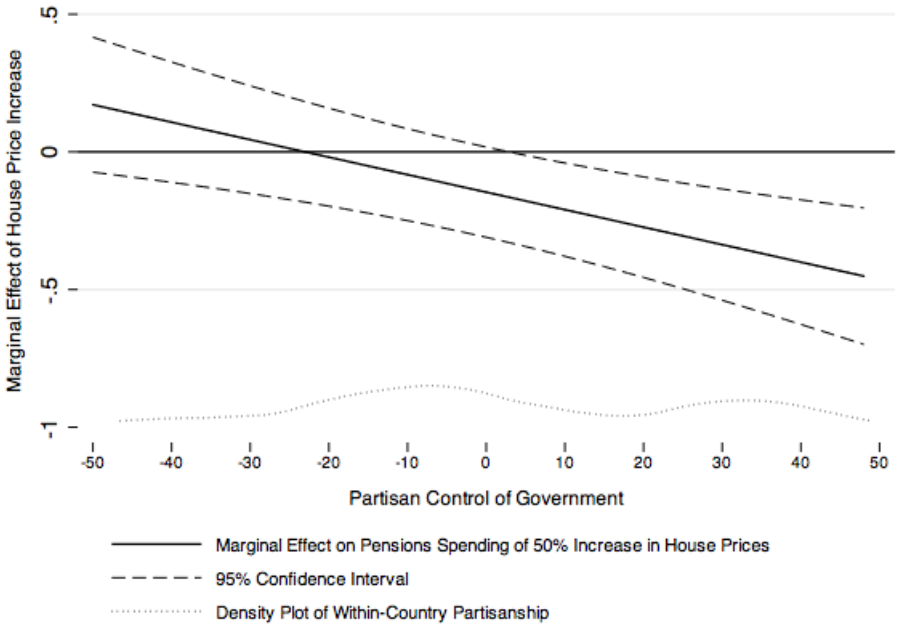
Figure 2b: Estimated Effects of House Price Changes on Pensions Spending