Entrenchment or Retrenchment: The Political Economy of Mortgage Debt Subsidies in the United States and Germany

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Abstract: Why do mortgage subsidies vary across countries? Until the 2000s, the U.S. and Germany provided large-scale subsidies for homeownership. Yet, their paths diverged when they faced deep economic crises at that time. While the U.S. doubled down on government support by quasi-nationalizing its mortgage market, Germany retrenched homeowner subsidies. This article argues that growth regimes shape coalitional logics that explain these contrasting outcomes. In the U.S. demand-led regime, where housing is key to growth, a bipartisan coalition entrenched mortgage subsidies to stimulate credit and consumption. Germany's export-led regime, where housing is less central to growth, produced a broad-based coalition that retrenched homeowner subsidies to boost competitiveness. Detailed case studies contrast the quasi-nationalization of U.S. government-sponsored enterprises with the retrenchment of the German "homeowner subsidy" (*Eigenheimzulage*).

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Introduction

"Home ownership," *The Economist* writes, "is the West's biggest economic-policy mistake."[1] Postwar government subsidies for financing private homes, the weekly argues, contributed to financial instability and bubbles, housing inequalities, and overinvestment in housing. Mistake or not, the sheer size of multi-trillion-dollar mortgage markets—which brought the global economy crashing down in 2008-09—and their role in facilitating private homeownership make them important sites for political contestation.[2] What *The Economist*'s hyperbole overlooks, however, is that mortgage subsidies vary greatly across nations. Some countries, such as the United States, provide extensive public support for financing private homes, while others, such as Germany, offer limited public support. Little research addresses the political foundations of this variation.

This article investigates the divergent housing finance policy paths in the United States and Germany. From the mid-twentieth century, both countries subsidized homeownership through sizable tax subsidies and/or public underwriting of mortgage debt. By the mid-2000s, however, they diverged. During the financial crisis of 2008-09, the United States doubled down on its *state-based* approach of providing generous mortgage subsidies. In response to the recession, U.S. policymakers quasi-nationalized large parts of the country's housing finance market by taking over Fannie Mae and Freddie Mac, two public-private or government-sponsored enterprises (GSEs) formerly traded on Wall Street. More than a decade later, they remain in the U.S. government's hands, including USD5.5 *trillion* in mortgage debt, or almost 50% of the residential mortgage market.[3] In contrast, German policymakers adopted *market-based* solutions of retrenching mortgage subsidies just prior to the 2008-09 crash, at a time when the country was considered the "sick man of Europe" and suffered its own housing crisis in the east. In 2006, Chancellor Angela

Merkel's grand coalition government eliminated the country's largest tax subsidy and housing program: the "homeowner subsidy" (*Eigenheimzulage*).

Why did the two countries adopt sharply opposing policy responses in the face of economic crises? I argue that differences in the structure of macroeconomic growth regimes,[4] and in the ways in which housing markets are embedded within these regimes,[5] shape the housing policy divergence in the United States and Germany. Housing is a major engine of the demand-led U.S. growth regime, where increasing house prices tend to stimulate consumption through wealth, credit, and capital flow channels. However, housing is not an engine of the German export-led growth regime. Stimulating house prices and credit creates frictions with the macroeconomic priorities of restraining prices, credit, wages, and domestic demand to secure cost competitiveness. These different economic linkages shaped distinct coalitional logics that led to the opposing policy responses when both countries faced deep economic crises in the 2000s. When the financial crash of 2008-09 threatened the U.S. growth regime, a bipartisan political coalition, supported by housing interest groups, adopted *state-based* solutions of entrenching mortgage subsidies so as to stabilize and stimulate household credit and consumption. Yet, when Germany's export-led regime suffered a deep economic crisis just prior to the Great Recession of 2008-09, a broad-based political coalition—supported by export-oriented interest groups but opposed by the housing lobby—adopted *market-based* solutions of retrenching mortgage subsidies to suppress domestic demand and boost competitiveness via fiscal consolidation and structural reforms.[6]

Puzzle and Existing Work

From the early twentieth century, both the United States and Germany offered sizable mortgage subsidies. In both countries, they originated during hard economic times: the Great Depression in the United States and the early post-WWII years in Germany. The American state has since provided sizable off-budget guarantees in the primary and secondary mortgage markets.[7] The latter worked through fully public agencies, such as Ginnie Mae, and the privately-operated, government-sponsored enterprises (GSEs), Fannie Mae and Freddie Mac.[8] Over time, the GSEs have grown in size and importance: by 2007, Fannie and Freddie guaranteed USD3.5tn in mortgage debt, or roughly 30% of the U.S. mortgage market.[9] As the U.S. government implicitly guaranteed these large amounts of mortgage debt via the GSEs, the result is a subsidy to homeowners—i.e., lower mortgage rates compared to rates in a fully private mortgage market—which the Congressional Budget Office estimated to have saved homeowners USD14bn in mortgage payments in 2003.[10] Moreover, homeowners received generous tax breaks, such as the mortgage interest deduction, property tax deduction, and capital gains exclusion, which saved them an additional USD110bn that year.[11]

To a lesser degree, Germany also adopted large-scale mortgage subsidies. In response to severe post-WWII housing shortages, decision-makers introduced tax subsidies and social housing programs for both homeownership and rental markets. One major program was the *Eigenheimzulage*, a tax break that subsidized the cost associated with homeownership.[12] Another was social housing that included subsidized loans for rental investors *and* homeowners.[13] While German politicians started scaling down social housing programs when postwar housing supply shortages subsided in the 1970s, the *Eigenheimzulage* outlived its original purpose and became a "sacred cow" in German politics.[14] The popular subsidy amounted to EUR11bn in 2004 and benefited 2.6m out of 38m households between 1996 and 2000 alone.[15] One notable difference between the two countries is that Germany's secondary mortgage market has not enjoyed the strong forms of government support found in the United States. The German covered bond (*Pfandbrief*) market is not only less developed (i.e., constituting 16% of the German mortgage market or EUR240bn in 2019) compared to U.S. mortgage-backed securities markets, but the German government also does not back these bonds.[16] Despite some differences, both countries have longstanding traditions of subsidizing homeownership.

Yet, when the two countries faced deep economic crises in the 2000s, their housing policy paths diverged sharply. Where the United States responded by entrenching already generous *state-based* mortgage subsidies, Germany did the opposite and adopted *market-based* solutions of retrenching mortgage subsidies. During the financial and housing crisis of 2008-09, the U.S. government *increased* the role of the state in the housing finance market by seizing control of the battered GSEs with one of the largest bailouts in the country's history in the amount of USD191.6bn.[17] Even though investors had long assumed that the U.S. government implicitly backed the GSEs in the case of catastrophic losses, owing to their ambiguous public-private status,[18] the move to quasi-nationalize the GSEs entrenched government support and made it explicit. One decade later, the two mortgage giants remain in government control, including USD5.5tn of their underwritten mortgage debt, a share of roughly 50% of the residential mortgage market.[19]

Germany faced a deep economic crisis just before the 2008 shock, plagued by slow growth, rising deficits and debt, and declining export competitiveness.[20] In addition, the country's East experienced a post-unification housing construction boom and bust in the late 1990s and 2000s, contributing to massive vacancies, depressed regional housing demand, and a "deep and protracted contraction of the German construction sector."[21] While U.S. policymakers stimulated housing in light of depressed demand and record-high vacancies during the Great Recession,[22] German policymakers retrenched homeowner subsidies in 2006 and did not revive them during the Great Recession of 2008-09. Today, German "subsidies for *homeownership* are much lower than in most other countries" and pale in comparison to their U.S. counterparts.[23]

Indeed, even in the broader context of rich democracies, the United States stands out in its generosity of extending mortgage subsidies and Germany in its restrictiveness. For instance, Johnston, Regan, and Fuller developed a mortgage credit index that measures the degree to which national mortgage regimes encourage or discourage mortgage credit through subsidies and other regulatory actions (note: lower index values indicate mortgage credit encouragement and higher values restrictiveness on a 0-10 scale). According to their index, the United States (0) encourages mortgage credit the most followed by the Netherlands (1), Ireland (2), the United Kingdom (2), and Spain (2), whereas Germany (9) ranked the most restrictive followed by Austria (8), Italy (8), and then France (7) in 2007.[24] While not a perfect proxy for mortgage subsidies, the index shows that the United States (and the demand-led United Kingdom) and Germany (and export-led Austria) occupy opposite ends of the spectrum when it comes to encouraging mortgage credit in advanced economies.

The variation in housing policy paths between the United States and Germany also presents theoretical puzzles. Much accepted wisdom about the two countries originated from the varieties of capitalism framework analyzing firm behavior in the economy, including in the financial system.[25] The United States is a quintessential liberal market economy, in which firms resolve coordination problems through market relations, price signals, and competitive arrangements. Germany is the archetypical coordinated market economy characterized by non-market relations to coordinate firm behavior. In the case of housing finance, a major part of the financial system, the opposite is the case. The United States offers generous public support for housing finance, constituting *state-based* solutions to resolve coordination problems while distorting price signals and market competition.[26] In contrast, Germany adopted *market-based* solutions by reducing market-distorting subsidies for housing finance.

The variation is also intriguing when considering Esping-Andersen's influential welfare state typology.[27] The United States is a liberal welfare regime with means-tested and minimal public benefits, relying instead on market solutions. While true for many parts of the American welfare state, it does not hold for homeownership, owing to sizable tax expenditure and government guarantees against mortgage default as part of the public-private or "hidden" welfare state.[28] Germany, in contrast, is a conservative welfare state characterized by generous public benefits to secure status, income, and traditional family life. Homeownership is an ideological mainstay of Christian Democrats, given their preference for conservative family life in single-family homes, the accumulation of private wealth, and "[p]rivately governed, but publicly financed welfare state arrangements."[29] It is therefore surprising that the Christian Democrats under Chancellor Merkel turned their back on homeowner subsidies.

The divergent paths also challenge influential accounts that emphasize the stability of the welfare state. Scholarship in this camp argues that social programs generate either strong constituencies, mass publics, or interest groups that would defend these programs.[30] Mortgage subsidies should be especially resilient as they benefit concentrated and powerful home-owning constituencies, appeal to mass publics, and enjoy interest-group backing (e.g., building societies in Germany or realtors in the United States). Yet, the United States and Germany embarked on divergent paths despite being home to powerful interest groups.[31] Are these policies the simple function of the power of home-owning constituents? Germany's current homeownership rate of

47% is indeed lower than 66% in the United States.[32] While homeownership rates are undoubtedly important political determinants, they do not pre-ordain policy outcomes. When both countries started subsidizing homeownership, renters constituted the majority in both countries. Indeed, the German homeownership rate was 30% in the 1950s, while the U.S. rate was 44% in 1940.[33] Similarly, Germany eliminated mortgage subsidies in the mid-2000s, when homeownership was at its peak.

Argument: Growth Regimes, Housing, and Policy Coalitions

The analytical starting point is the burgeoning growth model literature in comparative political economy.[34] The growth model perspective, as advanced by Baccaro and Pontusson, privileges the long-neglected demand-side drivers of the economy—i.e., the main components of aggregate demand, such as exports and household consumption. It advances upon earlier insights emphasizing economies' supply-side institutions of corporate governance, industrial relations, and vocational training.[35] Following Hall as well as Hassel and Palier, I use the term "growth regime" encompassing the interaction of the demand- and supply-side drivers of the economy.[36] The growth regime literature generally divides advanced economies into two camps—demand-led and export-oriented growth regimes—that solidified in the post-Fordist era of declining wage growth and Keynesian demand management. The U.S. economy is a demand- and credit-led growth regime that relies on private demand, wage growth, credit expansion, and consumption, whereas the German regime is export-led and characterized by cost competitiveness, wage restraint, savings, and repressed consumption. Since at least the 1970s, private consumption as a share of GDP has been much higher in the United States than in Germany, while the export share has been significantly larger in Germany than in the United States. In 2019, for instance, private consumption was 68% of GDP in the United States and 52% in Germany, whereas exports were only 12% of GDP in the United States and 47% in Germany.[37]

The growth regime literature thus far has given little consideration to the sectoral composition of advanced economies—that is, how different growth regimes depend on different sectors to promote growth.[38] Economists have demonstrated that housing is a key engine of growth in demand-led economies, such as the United States and the United Kingdom.[39] Changes in house prices can stimulate domestic demand through the wealth, collateral, and capital-flow channels. The wealth effect occurs when growing housing prices increase homeowners' sense of their own wealth and therefore their propensity to consume.[40] The credit and collateral effect occurs when growing house prices ease the credit constraints and increase the net worth of homeowners against which they can borrow, including second mortgages or home equity loans.[41] Global capital flows constitute a third effect. Demand-led economies tend to be deficit countries financed by foreign savings that can flow into housing markets.[42] These capital inflows stimulate mortgage lending, house prices, and household consumption. For these channels to be effective, housing finance markets need to have low transaction costs, liberal lending terms, high ownership and turnover, and a supply of a variety of mortgage products.

Housing is much less central to Germany's export-oriented growth regime, as the housing wealth, credit, and capital flow channels are less pronounced, if they exist at all. Economists have found no positive effect of increasing house prices on consumption in the country. Voigtländer, Kofner, and Geiger, Muellbauer, and Rupprecht all questioned the wealth and collateral effects, finding that higher house prices do not lead to higher spending, owing to high down payments requiring households to increase savings, the absence of home equity withdrawal, and a conservative housing finance system with lower levels of mortgage debt and ownership turnover.[43]

As a surplus country, Germany also tends to export excess savings, which until recently contributed to house-price stability.[44] The Bundesbank was furthermore avowedly hostile to recent house price surges in the country, fearing financial instability and asset bubbles.[45]

These macroeconomic imperatives then shape coalitional dynamics. Recent scholarship in political economy highlights continued partisan competition between the political left and right.[46] In the case of housing, scholars would predict that center-right parties are likely to favor mortgage subsidies, as they tend to represent homeowners, while left-of-center parties likely oppose them, given their non-owning constituencies.[47] These are sensible predictions, but they are not fixed across time and space. Instead, the political economy of growth regimes can trump left-right partisan divides and create an unexpected left-right consensus.[48] The key to understanding such broad-based coalitions lies in the different ways in which sectors are integrated in growth regimes.[49]

In the U.S. demand-led regime, where housing is a key domestic sector, these macroeconomic imperatives have created a bipartisan coalition in favor of fueling the housing-related wealth and credit channels via mortgage debt subsidies, a form of "mortgage Keynesianism."[50] Congressional leaders of both parties have incentives to stimulate housing in their districts to create jobs and profits in real estate, construction, and finance, as well as boost the housing wealth and asset-based welfare of their constituents in times of wage stagnation and austerity.[51] For Democrats, these subsidies are attractive tools to help low-income and minority households obtain wealth. While free-market Republicans tend to oppose government intervention on ideological grounds, they have repeatedly joined moderate Republicans in promoting mortgage subsidies benefiting their constituencies of affluent homeowners and the financial sector.[52] White

House administrations also have good reasons to stimulate the national economy through mortgage subsidies. As Acharya et al. note:

> This is what so far allowed successive presidential administrations to encourage ever-larger short-term consumption and spending during their tenures. It might seem odd that in a game between two political parties to get the seat, both would agree on a strategy to promote housing finance at successively higher levels over time.[53]

Well-organized interest groups in the housing sector—realtors, mortgage bankers, and homebuilders—are part of this coalition, as they benefit from subsidies stimulating housing.

When the Great Recession of 2008-09 threatened the U.S. growth regime, both parties favored a *state-based* policy response to resuscitate housing, credit, and consumption. Targeting housing killed two birds with one stone: stabilizing the battered housing sector and stimulating growth through the wealth, credit, and capital flow effects. Politicians can stimulate these housing-related channels by adopting fiscal measures, such as tax subsidies, or off-budget measures, such as government guarantees. These actions lower the cost of mortgage debt and stimulate house prices, mortgage credit, and consumer spending.[54] During the crisis, policymakers aimed to stabilize and stimulate housing by quasi-nationalizing Fannie and Freddie and adopting fiscal and off-budget measures that provided homeowner relief.[55]

In Germany, where the domestic housing sector is not a key sector of the economy, homeowner subsidies create frictions with the price-sensitive, export-led growth regime.[56] The German growth regime relies on restraints in credit, consumption, and wages to secure price stability and cost competitiveness through undervalued real exchange rates. These macroeconomic priorities are achieved by the country's wage bargaining system depressing mortgage demand,[57] strict fiscal and monetary policy,[58] restrictive and savings-oriented mortgage markets[59] and social housing programs that historically helped repress house prices.[60] One key friction is that homeowner subsidies tend to increase house prices, which can have detrimental effects on export activity. Égert and Kierzenkowski find that "a decrease in the relative price of real estate helped German exports, just as its increase in France represented head wind for French exports."[61] Rising house prices, and the associated profit-making opportunities, shift labor and capital from the productive sector to housing, construction, and real estate. This not only leads to upward wage pressures in profitable housing sectors, but also channels investments away from manufacturing hurting export competitiveness. A second friction is that homeowner subsidies tend to stimulate domestic demand, which has inflationary consequences. Yet, as Höpner notes, "[f]rom the point of view of the export sector, the best budgetary policy is the one that minimizes firms' cost pressures and, in general, any kind of inflation impulse."[62] The imperative is therefore competitive disinflation by repressing domestic costs and consumption to protect export interests and prevent appreciations of the real effective exchange rate.[63]

Such frictions might be somewhat "easy to forget" in good economic times,[64] but hard times can unravel political coalitions in support of subsidies. During the economically successful postwar period, a center-right coalition defended mortgage subsidies. Center-right parties, such as the Christian Democrats (CDU) and Free Democrats (FDP), traditionally supported homeownership subsidies to reinforce conservative, male-breadwinner values of traditional family life or to increase wealth and economic freedom.[65] These subsidies also benefit their core constituents of affluent households and strong interest groups, such as building societies. In contrast, the Social Democrats (SPD) and Greens tended to view homeowner subsidies as regressive, as they did not benefit their core constituents of non-owning renters, although some considered these subsidies as sound middle-class policies. Importantly, economic crises can reconfigure these constellations when policy-makers ponder what economic sectors to stimulate or sacrifice.

When Germany faced deep economic crises in the 2000s, an emerging coalition of center-left and center-right parties adopted *market-based* solutions of retrenching homeowner subsidies. Instead of stimulating domestic demand through housing, policymakers doubled down on export-oriented growth.[66] The imperative was to boost competitiveness through fiscal consolidation and structural reforms, priorities that soon "commanded a consensus across the center ground of German politics."[67] Fiscal consolidation, as Blyth notes, is intended to limit government deficits and debt, boost competitiveness, and deflate domestic costs and prices through public spending cuts.[68] Structural welfare, labor, and tax reforms are partly designed to channel capital back into the productive sector by reducing subsidies that attract capital into consumption-oriented sectors, such as housing. The Merkel grand coalition of Christian and Social Democrats—supported by export-oriented interest groups but opposed by domestic-oriented housing interest groups—sacrificed the *Eigenheimzulage* in the name of fiscal consolidation and structural reform.

Case Selection and Empirical Strategy

This article adopts a "controlled comparison" framework, which is appropriate for the analysis of historical divergences across countries.[69] It deploys *general variables* that are not uniquely context-specific—growth regimes and housing policy—and highlights some *representative variation* with testable implications for other demand- and export-led growth regimes. To that end, the conclusion briefly evaluates whether the argument travels to the demand-led United Kingdom and export-oriented Poland. Moreover, the selection of the United States and Germany is *theoretically informed*, as they are "cases whose variation simply cannot be accounted for by extant hypotheses" in comparative political economy.[70] The case selection also heeds the growing calls of scholars promoting the study of the U.S. political economy in comparative perspective.[71] To evaluate theoretical claims, I employ process-tracing methods aiming to "connect the hypothesized causes and outcomes."[72] Empirical analysis is based on 42 interviews with American and German politicians, bureaucrats, and interest group representatives as well as primary archival, congressional, and parliamentary records.

The difficult economic times of the 2000s provide fruitful testing grounds for evaluating crisis responses in the two countries. In this period, the United States and Germany experienced their deepest postwar economic crises up until that point. While the Great Recession of 2008-09 was the most severe recession since the Great Depression in the United States, Germany even experienced two major crises within a few years: an economic crisis in the early 2000s and the Great Recession shortly thereafter. In the United States, the financial and housing crash of 2008-09 resulted in dwindling domestic demand. In contrast, Germany suffered from declining competitiveness and a housing collapse in East Germany in the early 2000s,[73] after which the Great Recession of 2008-09 led to a dramatic decline in exports. While different in nature, these crises similarly threatened the foundations of each growth regime compelling policymakers to respond, including in the housing area.

The empirical section compares the trajectories of two major housing programs—the government-sponsored enterprise (GSE) subsidy in the United States and the "homeowner subsidy" (*Eigenheimzulage*) in Germany. While the U.S. subsidy is an off-budget policy—entwined with the larger financial system—and the German subsidy is a tax policy, they merit comparative investigation for a number of reasons. One is that both policies belong to the family of homeownership subsidies that reduce the cost of mortgage debt for households, having saved

U.S. homeowners USD14bn (2003) and German homeowners EUR11bn (2004) in homeownership costs. Another is that they constituted the most important forms of state activism in both countries' housing markets. In the United States, the GSE subsidy was the most sizable housing program next to tax subsidies, such as the mortgage interest deduction that I also briefly discuss in the empirical section to lend further support to the argument. Albeit smaller than its American counterparts, the German homeowner subsidy was the country's largest housing program of recent decades and also its single-largest postwar tax break. Whether off-budget or tax subsidies, as Pierson reminds us, homeownership programs tend to benefit affluent constituencies, which should make these subsidies "sacrosanct" and difficult to reform in both countries.[74]

Policy Entrenchment in the United States

Mortgage subsidies through the GSEs have existed since the Great Depression, but they took center stage only decades later. In a move away from demand management and wage growth since the late 1970s, the United States financialized its demand-led growth regime.[75] In what Green and Wachter call the "housing finance revolution," politicians of both parties transformed the country's deposit-based housing finance system into one based on the capital market—that is, on mortgage-backed securities issued by the GSEs.[76] Equipped with the implicit backing of the U.S. government that gave the GSEs an edge over fully private competitors, the GSEs increased their share of the overall residential mortgage market from 16% in 1980 to 40% in 2000.[77] To stimulate growth and homeownership, bipartisan efforts successively expanded the GSEs' reach into risky, low-quality mortgages, partly by relaxing underwriting standards and targeting underserved communities.[78] In the 15 years prior to the financial crisis of 2008-09, house prices doubled and, as Schwartz notes, "the U.S. housing finance system gave the U.S. economy above-average employment and GDP growth."[79] The GSEs became the heart of the U.S. mortgage market but also contributed to the looming housing crash. When the financial crisis threatened the demand-led growth regime, policymakers across the political spectrum responded by entrenching GSE mortgage subsidies to stabilize growth and promote economic recovery.

At the onset of the crisis, policymakers closed ranks around the bipartisan consensus of stimulating housing to stabilize consumption and economic growth. Between 2007 and 2009, the economy entered a deep recession, unemployment almost doubled to 10%, private residential investment halved to 3% of GDP as house prices collapsed and homeowner equity fell by USD5tn.[80] Policymakers identified the drop in housing prices, wealth, and residential investment as an impairment to the wealth channel of economic growth. As President Bush's economic report reads:

> The decline in value for housing wealth…[was] among the most important influences on consumer behavior during 2008. Changes in real wealth and real consumer spending are correlated.[81]

The administration believed that the housing wealth channel needed to be repaired in order to stabilize consumption and growth. This is especially important as residential fixed investment was the main driver of previous recoveries.[82]

One way to resuscitate growth through housing was to rescue the GSEs. When house prices collapsed in 2007-08, Fannie and Freddie faced bankruptcy, owing to the losses incurred from holding and issuing low-quality mortgage-backed securities. By 2007, the GSEs had become massive entities, guaranteeing USD3.5tn in mortgage debt.[83] The crisis made it impossible for them to pay investors their guaranteed principal and interest on the underlying mortgages. In a bipartisan effort, the Bush administration and the Democratic Congress adopted the Housing and

Economic Recovery Act of 2008.[84] The act gave the U.S. Treasury the authority to extend unlimited emergency lending to Fannie and Freddie as well as to seize control of the GSEs through a new regulator, the Federal Housing Finance Administration (FHFA). Then Treasury Secretary Paulson memorably stated that this new authority should calm investors: “[i]f you have got a bazooka, and people know you have got it, you may not have to take it out.”[85] But it was, as Tooze notes, paradoxical that: “[a] conservative, free-market administration led by businessmen was proposing unlimited state spending to nationalize a large part of the housing finance system.”[86] Indeed, the political economy of growth trumped traditional party ideologies.

However, these actions were insufficient to restore housing stability and growth, which led the Bush Treasury to use its authority to place the two companies in “conservatorship.” Conservatorship means that the U.S. governments collects the profits, chooses the leadership, and conserves the assets of the two firms, including (largely unexercised) warrants on 79.9% ownership in each firm, a number chosen to keep the GSEs off the government’s balance sheet. Just days before the collapse of Lehman Brothers, the U.S. government bailed them out with USD191.6bn. Republicans and Democrats agreed that Fannie and Freddie were too systemically important to fail.[87] In Paulson’s words: “Fannie Mae and Freddie Mac are so large and so interwoven in our financial system that a failure of either of them would cause great turmoil in our financial markets here at home and around the globe.”[88] Indeed, the GSEs attracted sizable foreign capital inflows into GSE mortgage-backed securities. International investors, particularly China, owned large amounts of GSE bonds, assuming that these were “safe assets” backed by the U.S. government.[89] If the U.S. government had allowed the corporations to fail, it would have faced the risk of losing creditworthiness, impairing global capital flows, and crashing the economy.[90] As one regulator noted in an interview:

> The economic generative power of the housing market just so outweighs anything else you can fiddle with. We have two things we pump up when we need to pump them up…The world wants to buy U.S. Treasuries and the world wants to buy agency [GSE] bonds.[91]

Economically, conservatorship not only stabilized housing credit and wealth, but also the flow of global capital. Politically, it entrenched government support for the GSEs and formalized the government's backing of the mortgage giants.

Unsurprisingly, the housing lobby supported the bipartisan consensus of bailing out Fannie and Freddie when the housing market deteriorated. The influential National Association of Realtors (NAR), for example, backed the Housing and Economic Recovery Act so as "to help the housing and mortgage industries and boost the U.S. economy."[92] When the GSEs almost went bankrupt, the NAR also supported bipartisan efforts to bail out the GSEs. However, policymakers did not need much convincing, as they would have bailed out the GSEs regardless, given the aforementioned macroeconomic concerns. Policymakers were primarily concerned with the systemic role of the GSEs for economic growth, while particular lobby interests or party ideology were secondary.[93]

After the crisis, policymakers kept the quasi-nationalized status quo of the GSEs, as the withdrawal of government support could have increased mortgage costs and hurt economic growth. Even though both parties felt uneasy about the state of quasi-nationalization, they realized that reducing the role of the government has one key consequence: "any GSE reform, no matter where it lands, will likely drive up mortgage rates."[94] Starting from a point of conservatorship means that reform would inevitably reduce government involvement and increase private market participation. As private markets would take on more credit risk, this could drive up mortgage rates, lower house prices, and result in lower household credit and spending.

The risk of higher mortgage costs, lower consumption, and reduced growth then contributed to stalling the reform process. First, the 2013 PATH Act, proposed by House Republicans, suggested the privatization of Fannie and Freddie. This proposal would have constituted a retreat of the American state, but was immediately dismissed by the Obama White House as well as Democrats and moderate Republicans in Congress, who viewed the proposal as an attack on mortgage prices and the 30-year, fixed-rate mortgage.[95] A second set of bipartisan bills suggested retaining a key role of the federal government by replacing Fannie and Freddie with a new federal entity, while somewhat increasing the role of the private market.[96] However, in an interview, an Obama Treasury official remarked that "[t]here was the overall concern that this would wind up being too expensive [for homeowners] relative to where things are now."[97] In an internal memorandum, Freddie Mac reckoned that "[t]here is no question that…mortgage rates would increase under the bill."[98] The incentives for reform further subsided, as house prices and mortgage lending recovered.[99] Consequently, the proposal did not garner sufficient support.[100] Another bipartisan bill was introduced by Representatives Hensarling (R-TX) and Delaney (D-MD) in 2018, which would have retained strong government guarantees through Ginnie Mae, while privatizing the operations of the GSEs. As one of the most vocal free-market Republicans, it was surprising that Hensarling sponsored a bill with strong government involvement, which, in his words, "does not necessarily represent my preferred policy, or optimal policy."[101] While the perceived importance of housing to economic growth even had the most free-market Republicans convinced that the American state is essential in housing finance, the bill stalled, for it still would have driven up mortgage costs. In 2019, the Trump administration proposed reforms combining the privatization of the GSEs with strong government guarantees to support them.[102] Yet, the plan was expected to increase mortgage costs and therefore also faced congressional resistance.[103] In sum, and in contrast to the sweeping Dodd-Frank financial reforms that took on the powerful banking industry, comprehensive housing finance reform stalled owing to the fear of increasing mortgage costs, hurting housing wealth, and reducing growth.[104]

The housing lobby fiercely opposed the complete privatization of the GSEs and instead voiced support for proposals that retained a strong role for the government. Early on, in 2013, the NAR condemned the Republican PATH Act, as "consumers will pay much higher mortgage interest rates and mortgages may at times not be readily available."[105] Even without these demands, however, it is unlikely that the bill would have passed Congress lacking the necessary political support. More recently, the housing lobby—including the NAR, Mortgage Bankers Association (MBA), National Association of Home Builders (NAHB), and the American Banking Association (ABA)—endorsed comprehensive housing finance reform that would slowly release the GSEs from conservatorship, while retaining explicit government guarantees on mortgage debt via the GSEs.[106] In principle, many policymakers on both sides of the aisle agreed with these calls for reform; in practice, however, politicians' macroeconomic concerns that reforms could produce higher mortgage costs, entail market disruptions, and hurt growth have thus far "locked in" the quasi-nationalized status quo of the American mortgage market.

Does the argument also hold for the mortgage interest deduction (MID)? Once obscure and miniscule, the MID became one of the most expensive and sacred items in the tax code.[107] It faced its first critical test during President Reagan's Tax Reform Act of 1986, as the subsidy was a thorn in the side of Treasury officials, owing to its size, regressive nature, and market-distorting effects. Yet, despite reforming other important tax breaks, the Reagan administration quickly scrapped the Treasury's recommendation of reforming the MID. While housing interest groups lobbied for the preservation of the MID, they found an eager ally in President Reagan in the context of high interest rates and a generally unstable housing market. Internal records from the Ronald Reagan Presidential Archives demonstrate that the president's housing commission of 1982 had already recommended "continuing the current tax deduction for mortgage interest," while the administration explored "ways to achieve an effective 'countercyclical stimulant' for the economy: a program to get housing production going and create jobs."[108] Even without interest group pressure, it is thus likely that the Reagan administration would have declared the MID off limits, as it was considered an effective way to stimulate growth and support the middle class. Several Congressional leaders similarly expressed concerns that reforming the MID could hurt house prices, housing wealth, and economic growth. The entrenchment of the MID made it a third-rail issue for years to come.

The housing crash of 2008-09 provided another opening for reform, when the Obama administration briefly considered limiting the MID to reduce the deficit. But it did so only half-heartedly. Mettler provides a sensible but incomplete explanation for why the administration did not use much political capital: "the political power possessed by the organized groups that benefit from such provisions, starting with the real estate lobby."[109] While the housing lobby stood ready to defend the MID, most policymakers were already behind the MID. As then Housing Secretary Shaun Donovan conceded: "Anything that would change the system substantially now [could create] a real risk of stopping the momentum that we have in the housing market."[110] Policymakers and interest groups therefore pursued the same objective of promoting a strong housing market, which then further entrenched the MID.

It should be noted that President Trump's Tax Cuts and Jobs Act of 2017 *temporarily* (until 2025) reduced the previously "untouchable" MID after the economy and housing market recovered from the Great Recession. The reform capped the deduction at USD750,000 in principal value (previously one million). Scholars consider the MID reform as a political attack on coastal blue states where house prices are high and a move to finance corporate tax cuts.[111] The 2017 Trump reform therefore constitutes a temporary and partial exception to the otherwise deeply entrenched policy legacy of the MID. Despite the reform, however, the MID continues to be one of the largest expenditures in the tax code and—barring additional legislative actions—will automatically return to its pre-2017 status in 2025. President Biden already signaled support for continuing mortgage subsidies through the tax code, including a plan to adopt a progressive tax credit for low- and middle-income homebuyers to complement the regressive MID that favors high-income households, a demand-led growth strategy to stimulate the first-time buyer market in times of surging house prices.[112]

Policy Retrenchment in Germany[113]

Homeowners enjoyed large-scale tax breaks and subsidies as part of social housing programs from the early postwar years. German policymakers subsidized both homeownership *and* rental markets in times of housing supply and capital shortages after the war. Yet, housing played a minor role when the German export-oriented regime adapted to the post-Fordist era by reinforcing its export strengths.[114] As housing shortages came to an end by the late 1970s, social housing programs no longer delivered the benefits of alleviating shortages from earlier decades and were successively scaled down. While the *Eigenheimzulage* defied this trend and grew into the country's largest housing program and tax subsidy by the mid-2000s, the economic crisis at that time exposed the deeper frictions between the subsidy and the reeling export-led growth regime. These frictions gave rise to a broad-based coalition that retrenched the subsidy to reinvigorate export strength via fiscal consolidation and redirect capital from housing into export-oriented sectors.

The reason for the initial growth of the subsidy lies not in its potential to generate growth, but in the hegemonic position of the Christian Democratic Union (CDU) in postwar Germany. It was the CDU-led Adenauer government that created the subsidy to alleviate housing shortages, considering homeownership as an ideological mainstay of Christian Democracy, with a preference for private solutions, ownership, and self-responsibility.[115] A number of important domestic-oriented housing interest groups—building societies, construction industries, and mortgage banks—supported the center-right political coalition. Until the late 1990s, homeowner subsidies were protected by center-right forces in the context of a strong postwar economy.

However, when the German growth regime faced its deepest postwar crises in the 2000s, the CDU begrudgingly entered a broad-based coalition of sacrificing the *Eigenheimzulage*. Reunification was a shock to the German economy soon plagued by stubborn unemployment, rigid labor markets, sluggish growth, and a public finance crisis.[116] At the same time, the country faced an unusual period of current account deficits from 1991 until 2001, reflecting the loss of competitiveness.[117] The *Eigenheimzulage* was perceived to be part of these structural economic problems, which eventually resulted in a broad-based political consensus favoring the subsidy's retrenchment. Going after the subsidy was not necessarily "good politics," as it was popular among voters (i.e., opinion polls reckoned that 71% of respondents supported the *Eigenheimzulage*).[118] Yet, underlying the consensus was the belief that eliminating the subsidy would improve deficits, labor market flexibility, and competitiveness by redirecting capital into productive areas.

Despite a short-lived ideological defense by the Christian Democrats, a growing broad-based coalition and consensus of retrenching homeowner subsidies emerged in the early 2000s. When the country experienced its first center-left government, the Schröder government (SPD-Green, 1998-2005) started going after the subsidy to counter labor market rigidities and improve fiscal deficits. First, it proposed to reduce the subsidy as part of a tax reform in 2002. With an unemployment rate approaching 10% in 2002,[119] a Schröder cabinet member criticized that the tax break reinforced a sclerotic labor market in an interview:

> If you have the necessity for firms to restructure and people have to look for new jobs, and they might also have to relocate, and then a high rate of ownership is a hindrance for more flexibility.[120]

In spelling out the link between rigid labor markets and homeownership,[121] the proposed retrenchment of the *Eigenheimzulage* is thus linked to the Hartz labor market reforms. While it did not pass the Bundesrat where the CDU blocked the bill for ideological reasons, the subsidy was on borrowed time. Second, in a sign of growing bipartisanship in 2003, Peer Steinbrück (SPD) and Roland Koch (CDU), then the minister-presidents of North-Rhine Westphalia and Hesse, proposed to cut *all* subsidies in the tax code by 12% to balance the budget, including the *Eigenheimzulage*.[122] As the country's largest tax break, the *Eigenheimzulage* was a source of irritation for the center-left government, at a time when Germany experienced a "financial crisis of the state"[123] and started violating the Maastricht criteria by generating fiscal deficits in excess of 3% in 2001.[124] The Schröder government then successfully passed a budget bill based on the bipartisan proposal, reducing the homeowner subsidy.

The SPD-Green coalition launched another retrenchment attempt in 2004, emphasizing the detrimental effects of the subsidy on economic growth. Germany just experienced two consecutive years of economic recessions and declining competitiveness in 2002 and 2003.[125] In a draft bill, tellingly entitled: "law for the financial support of innovation through the elimination of the Eigenheimzulage," it proposed to shift public funds spent on the homeowner tax subsidy toward innovation, research, and education to boost competitiveness and growth. As the bill reads:

> The goal of the federal government is to increase economic growth in Germany…An international comparison shows that policymaking is most successful in achieving this goal when the distorting exceptions and subsidies in the tax code are reduced.[126]

The draft bill makes the contradictions between the growth regime and the homeowner subsidy explicit. First, the bill describes the subsidy as a hindrance for growth, owing to its market distortions. Indeed, one Bundestag member (SPD) mentioned in an interview that the rationale of retrenchment was to shift funds from the unproductive housing sector to productive areas, such as education or research, in order to spur growth.[127] As the CDU continued to defend the subsidy, the political left questioned the CDU's commitment to the growth regime—traditionally based on public commitments to education as opposed to homeownership[128]—provocatively asking whether public funds should be spent on: "bricks or education?"[129] Second, the bill criticized the subsidy's undesired effect of raising the cost of housing. Indeed, German economists recommended the elimination of the *Eigenheimzulage* because of its "price-inflating" effects[130] in times of already "saturated" housing markets,[131] which underlines that economists viewed the subsidy as working against the priority of keeping domestic costs and prices down. While the measure passed the center-left Bundestag, it was still blocked by the CDU in the Bundesrat.

The CDU's ideological opposition faded in light of mounting macroeconomic pressures to sacrifice the *Eigenheimzulage* in order to balance budgets and enhance competitiveness. The federal states accelerated the CDU's preference shift, as they co-financed 42.5% of the subsidy, while experiencing their own public finance crises, competitiveness deficiencies, and housing problems.[132] In the East, housing markets were still reeling from an unwinding housing, investment, and construction boom that left the region with large-scale vacancies, demolitions, and grim demographic projections. Investment incentives, such as the *Eigenheimzulage*, had produced "a notable stream of West German private capital into the East German housing market."[133] The new federal states, including the CDU-led Saxony and Saxony-Anhalt, became increasingly open to eliminating the *Eigenheimzulage* to both reduce deficits and enhance competitiveness by redirecting spending and capital into productive sectors. One SPD Bundestag member characterized the *Eigenheimzulage* as misdirected spending, as it reinforced vacancies and depopulating city centers in the East.[134] In the West, deficit-ridden states, including CDU-led Saarland and Hamburg, followed suit. The federal states viewed the *Eigenheimzulage* as a drain on public funds in light of fiscal crises and as partly holding back investments in productive sectors.

The first Merkel grand coalition (CDU-SPD, 2005-2009) then eliminated the *Eigenheimzulage* in 2006, which solidified the broad consensus of fiscal consolidation and structural reform. Despite the country's continued poor economic performance, policymakers did not consider the subsidy as a tool to stimulate the economy. Had policymakers done so, they would not have retrenched the subsidy at a time of weak domestic demand and fragile growth. In an interview, a CDU Bundestag member pinpoints how the German growth regime influenced economic policymaking in hard economic times:

> we don't usually emphasize the demand side of economic policy in Germany, but we instead emphasize the supply side…That's why I don't share the American view of stimulating the economy as a cure for an itch.[135]

The macroeconomic priority of balanced budgets trumped the CDU's ideological attachment to the subsidy. As Bernhard, a CDU Bundestag member, expressed:

> I have made clear that it was not easy for me to let go of the subsidy…Given the financial situation, we unfortunately don't have room for maneuver. That is why we have to cut back completely, in order to balance the budget.[136]

The *Eigenheimzulage* was then sacrificed in the name of deficit reductions and structural reforms to reinvigorate the German export regime. Then economy minister Wolfgang Clement explicated the link between export competitiveness and the retrenchment of the subsidy, stating that "the Eigenheimzulage must go" to free up investments in innovation and technology in order to increase the competitiveness of the auto industry:

> The example of the German auto industry illustrates the far-reaching consequences of these developments for our export industries…If we do not widen our technological advantages vis-à-vis China—or at least retain them—and do not invest in research and innovation at home, then we will have nothing to laugh about when it comes to Chinese cars in 10 or 20 years.[137]

Retrenchment thus reinforced the export-oriented growth regime mainly via fiscal consolidation and repressing demand (indirectly), but also via redirecting public funds to innovation and technology benefiting export industries (directly).[138] In retrospect, the Council of Economic Experts agreed that retrenching the homeowner subsidy was justified, owing to its price-inflating and market-distorting effects.[139]

Despite strong efforts, housing interest groups were unable to save the subsidy. The housing lobby formed a "homeownership initiative" that included 18 powerful interest groups to defend the subsidy.[140] The initiative included building societies (*Verband der Privaten Bausparkassen*), property owners (*Haus & Grund*), and mortgage banks (*Verband der Hypothekenbanken*). They reckoned that the elimination of the subsidy would result in slowing housing demand and 220,000 lost jobs.[141] Their inability to prevent retrenchment was not due to the lack of mobilization. Instead, arguments about stimulating demand are inherently less effective in export-oriented Germany than in the demand-led United States. In an interview, one SPD Bundestag member stated that housing policy just does not have the same economic salience as labor market policy, which made it easier to retrench the subsidy.[142] One housing interest group representative added:

> Even if we see house prices decline by 20%, then this is covered by equity [high down payments]…so that banks do not have to be concerned about this at all.[143]

Moreover, unlike in the United States, concerns about global capital flows did not feature into German reform debates. Economic actors in Germany's export-led growth regime tend to export capital abroad rather than import it.[144] The German housing market, for example, attracted less global capital than foreign markets at that time, as it was less financialized and more conservative, and correspondingly has not witnessed surging house prices and mortgage debt from the mid-1990s until the Great Recession.[145] While the German homeownership subsidy did not attract capital from abroad—unlike U.S. GSE subsidies—it channeled domestic capital into housing and away from export-oriented sectors. All these economic realities weaken housing interest groups, as they could not convincingly argue that eliminating the subsidy would significantly hurt the German growth regime. Outside housing, the influential export-oriented *Bundesverband der Deutschen Industrie* (BDI) welcomed the retrenchment of the subsidy to boost competitiveness, while the domestic-oriented *Deutscher Gewerkschaftsbund* (DGB) lobbied for the preservation of the subsidy to support the construction industry.[146]

It should also be noted that the German government did not restore mortgage subsidies to promote domestic demand as a recovery strategy during and after the Great Recession. Instead, it relied on subsidized short-term work schemes to preserve skilled labor and stimulated the export-oriented car industry with cash-for-clunkers programs.[147] When Germany enjoyed an economic renaissance *after* the Great Recession, the CDU pushed for reintroducing homeowner subsidies, but was only marginally successful. While the first Merkel government adopted a subsidized homeownership pension savings scheme (*Wohnriester*) in 2008, the measure is modest in size, having amounted to merely EUR420m in 2014.[148] The second and third Merkel governments (CDU-FDP, 2009-2013; CDU-SPD, 2013-2017) discussed the reintroduction of the subsidy, but met the resistance of fiscally conservative Social and Christian Democrats. In 2018, the current Merkel government (CDU-SPD, 2017-) introduced a temporary and miniscule subsidy for first-time homebuyers with children (*Baukindergeld*) to help them climb the property ladder in times of rising house prices partly caused by ultra-low interest rates and demographic developments.[149] However, the new subsidy is a shadow of the former *Eigenheimzulage*, amounting to a total of EUR10bn over three years, is criticized for "price-inflating" effects, and expired in March 2021.[150] Finally, the continued rise of housing prices in rental and owner-occupied markets sparked a major national debate about how to slow price growth.[151] In Germany, rising housing costs are considered a problem and not the solution for stimulating the economy.

Conclusion

When it comes to government support for homeownership and mortgage debt, the United States and Germany are polar opposites. Even though both countries subsidized homeownership from the mid-twentieth centuries, their policy paths diverged sharply. When faced with deep economic crises in the 2000s, the United States adopted state-based policy solutions of quasi-nationalizing its multi-trillion-dollar mortgage market, whereas Germany adopted market-based solutions of retrenching subsidies. This article argued that growth regimes, and the different ways in which housing markets are integrated into them, shape the politics of housing finance. Housing is a key engine of the U.S. demand-led growth regime, creating a longstanding bipartisan coalition to fuel household credit and consumption through generous housing subsidies. Housing occupies a less central position in the export-led German regime, facilitating a broad-based coalition to repress domestic consumption and boost competitiveness through retrenching homeowner subsidies in the name of fiscal consolidation and structural reforms.

This is not to argue that policymakers necessarily succeed in reinvigorating their growth regimes. Doubling down on housing-based growth in the United States may have yielded diminishing returns in the post-2008 economy. Rising house prices in times of stagnating wages, tightened financial markets, and insecure employment have excluded households from the housing ladder and exacerbated housing wealth and racial wealth inequality that is itself the result of decades-long discrimination against racial minorities in real estate markets and federal housing programs. [152] Policymakers are also confronting the limits of further ratcheting up subsidies before exhausting the housing credit and wealth channels. Doubling down on export-led growth in Germany poses its own vulnerabilities, including global demand shocks and perpetually weak domestic demand. Yet, the larger point is that American policymakers expanded government support in housing to boost growth through domestic demand; their German counterparts reduced support for housing to stimulate growth through enhancing competitiveness and suppressing domestic demand.

One theoretical contribution is that growth regimes, and how socio-economic sectors are integrated into them, are key determinants of the welfare state. Scholarship on the welfare state often treats the competing partisan preferences of the left and right as fixed. Instead, the macroeconomic imperatives of growth regimes can help produce broad-based coalitions and converging preferences between the political left and right, even despite otherwise ideological or political differences.[153] Under conditions of economic crisis, these dynamics are particularly pronounced, as politicians might find common ground regarding what sectors to stimulate or sacrifice. The focus on macroeconomic features explains the astonishing degrees of bipartisanship in the United States and Germany in the 2000s that have led to sharply contrasting housing policy responses. In the United States, the political left and right considered housing stimulus a growth strategy to tackle the Great Recession and promote economic recovery. In Germany, policymakers on the left and right had a common interest in sacrificing housing subsidies to reinvigorate export growth in hard economic times.

The findings of this article also contribute to important debates on economic models in comparative political economy. First, this article promotes a sectoral perspective of growth regimes.[154] Identifying the core sectors of the economy is key for understanding why policy-makers form broad-based coalitions to stimulate (or sacrifice) certain sectors over others. Core sectors of growth regimes often enjoy a privileged position in a country's political economy, whereas other sectors enjoy fewer privileges that are also vulnerable to retrenchment. Second, it contributes to scholarship on economic policy-making in hard times.[155] Where Mandelkern identifies the "striking similarity in macroeconomic policy responses to the Great Recession," this article shows that crisis responses in the United States and Germany were more varied than often assumed.[156] Different growth regimes rely on different economic sectors for economic growth, which led U.S. policymakers to stimulate housing, while German policymakers repressed the domestic housing market to boost export competitiveness.

The argument has portable implications for other cases. The United Kingdom is another demand-led economy in which housing is a key sector for the economy.[157] Much like the United States, the United Kingdom adopted subsidies to stimulate housing in response to the Great Recession. The Cameron government legislated a series of mortgage subsidies, such as guarantee schemes, subsidized equity loans, and first-buyer incentives under the 2013 “Help to Buy” program. The goal of the program was to recover growth by stimulating housing demand, credit, and domestic demand.[158] In contrast, Poland is another export-oriented growth regime, although one dependent on foreign direct investment, in which housing is not a key driver of the economy.[159] Much like Germany, Poland subsidized mortgage loans through a popular “Family’s own home” program. When the country experienced an economic slowdown and housing market problems after the financial crisis, it sacrificed the program in light of a deepening “public finance crisis” in 2012.[160] Future research might further explore these and other cases as well as the COVID-19 pandemic.

[1] *The Economist*, "Home Ownership Is the West's Biggest Economic-Policy Mistake," January 16, 2020.

[2] Chloe Thurston, *At the Boundaries of Homeownership: Credit, Discrimination, and the American State* (New York: Cambridge University Press, 2018); Andreas Wiedemann, *Indebted Societies: Credit and Welfare in Rich Democracies* (New York: Cambridge University Press, forthcoming); Mertens, Daniel, "Borrowing for Social Security? Credit, Asset-Based Welfare and the Decline of the German Savings Regime," *Journal of European Social Policy*, 27 (2017), 474-490; Ben Ansell, "The Political Economy of Home Ownership: Housing Markets and the Welfare State," *American Political Science Review*, 108 (2014), 383-402.

[3] Housing Finance Policy Center (HFPC), "Housing Finance at a Glance: A Monthly Chartbook: February," Urban Institute, Washington, D.C., 2021.

[4] Lucio Baccaro and Jonas Pontusson, "Rethinking Comparative Political Economy: The Growth Model Perspective," *Politics & Society*, 44 (2016), 175-207; Anke Hassel and Bruno Palier, eds. *Growth and Welfare Reforms in Global Capitalism: How Growth Regimes Evolve* (Oxford: Oxford University Press, 2021); Kathleen Thelen, "Transitions to the Knowledge Economy in Germany, Sweden, and the Netherlands," *Comparative Politics*, 51 (2019), 295-315; Dorothee Bohle, "European Integration, Capitalist Diversity and Crises Trajectories on Europe's Eastern Periphery," *New Political Economy*, 23 (2018), 239-253.

[5] Atif Mian and Amir Sufi, *House of Debt: How They (and You) Caused the Great Recession, and How We Can Prevent It from Happening Again* (Chicago: University of Chicago Press, 2014); Michael Voigtländer, "The Stability of the German Housing Market," *Journal of Housing and the Built Environment*, 29 (2014), 583-594.

[6] Darius Ornston and Mark Vail. "The Developmental State in Developed Societies: Power, Partnership, and Divergent Patterns of Intervention in France and Finland," *Comparative Politics*, 49 (2016), 1-21. These authors might label such responses "statist" versus "market-oriented."

[7] Thurston, 2018; Sarah Quinn, *American Bonds: How Credit Markets Shaped a Nation* (Princeton: Princeton University Press, 2019); Helen Thompson, "The Limits of Blaming Neo-Liberalism: Fannie Mae and Freddie Mac, the American State and the Financial Crisis," *New Political Economy*, 17 (2012), 399-419.

[8] Fannie Mae (Federal National Mortgage Association) was created as a public agency during the Great Depression. In 1968, it was "privatized" but retained its status as government-sponsored enterprise, while Ginnie Mae (Government National Mortgage Association) was created as a fully public agency. In 1970, Freddie Mac (Federal Home Loan Mortgage Corporation) was created as another "privatized," government-sponsored enterprise. Fannie and Freddie buy mortgages from banks, bundle them together as mortgage-backed securities, and sell them to investors (guaranteeing investors the principal and interest payments from these mortgages in exchange for a fee), while Ginnie offers guarantees on mortgage-backed securities consisting of loans backed by the U.S. government.

[9] HFPC, 2021.

[10] Congressional Budget Office, "Updated Estimates of the Subsidies to the Housing GSEs," Washington, D.C., April 8, 2004; Wayne Passmore, "The GSE Implicit Subsidy and the Value of Government Ambiguity." *Real Estate Economics*, 33 (2005), 477. Passmore even estimates that the GSE subsidy saved homeowners an average present value of USD33bn on their mortgage payments based on projections over 25 years.

[11] Source: Joint Committee on Taxation,

https://www.jct.gov/publications/2002/jcs-5-02/.

[12] The tax break subsidized the construction and financing costs of owner-occupied homes and was called paragraph "7b" in the income tax code from 1949-1986 and "10e" from 1986-1996, as well as *Eigenheimzulage* from 1996-2006.

[13] Social housing programs supported 2.6 million homeowners from the 1950s until 2006. Source: own calculations based on *Bundesbaublatt*.

[14] Roland Stimpel, *Der Verbaute Markt* (Frankfurt: Fischer, 1990), 62.

[15] Bundesamt für Bauwesen und Raumordnung, "Bericht zur Inanspruchnahme der Eigenheimzulage in den Jahren 1996-2000," Bonn, September 2002; Federal Finance Ministry, "20th Subsidy Report of the Federal Government," Berlin, March 2006.

[16] European Mortgage Federation (EMF), "Hypostat: A Review of Europe's Mortgage and Housing Markets," Brussels, September 2020.

[17] The Federal Reserve also launched monetary support, having bought more than USD2tn in GSE bonds since 2008. See Alexander Reisenbichler, "The Politics of Quantitative Easing and Housing Stimulus by the Federal Reserve and European Central Bank, 2008–2018," *West European Politics* 43 (2020), 464-484.

[18] Kimberly Morgan and Alexander Reisenbichler, "Riding the Tiger: Managing Risk in U.S. Housing Finance and Health Insurance Welfare Markets," *Socio-Economic Review* (2021).

[19] HFPC, 2021.

[20] Mark Manger and Thomas Sattler, "The Origins of Persistent Current Account Imbalances in the Post-Bretton Woods Era," *Comparative Political Studies,* 53 (2020), 631-664.

[21] Wendy Carlin and David Soskice, "German Economic Performance: Disentangling the Role of Supply-Side Reforms, Macroeconomic Policy and Coordinated Economy Institutions," *Socio-Economic Review*, 7 (2009), 69.

[22] Dean Baker, "The Housing Bubble and the Great Recession: Ten Years Later," Center for Economic and Policy Research, Washington, D.C., 2018.

[23] Stefan Kofner, "The German Housing System: Fundamentally Resilient?" *Journal of Housing and the Built Environment*, 29 (2014), 263. Minor programs include those by the German development bank and some German *Länder*. Homeowners are also exempt from paying capital gains taxes on the sale of homes if they owned their home for at least three years.

[24] Alison Johnston, Gregory Fuller, and Aidan Regan, "It Takes Two to Tango: Mortgage Markets, Labor Markets and Rising Household Debt in Europe," *Review of International Political Economy* (2020). Their index averages mortgage interest subsidies, property transfer costs, the size of the secondary mortgage market, loan-to-value ratios, and interest rate restrictions.

[25] Peter Hall and David Soskice, *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage* (Oxford: Oxford University Press, 2001).

[26] Herman Schwartz, "Covering the Private Parts: The (Re-)nationalization of Housing Finance," *West European Politics*, 43 (2020), 485-508.

[27] Gøsta Esping-Andersen, *Three Worlds of Welfare Capitalism* (Princeton: Princeton University Press, 1990).

[28] Christopher Howard, *The Hidden Welfare State* (Princeton: Princeton University Press, 1997); Thurston, 2018; Quinn, 2019.

[29] Kees van Kersgergen, *Social Capitalism: A Study of Christian Democracy and the Welfare State* (New York: Routledge, 1995), 190.

[30] Paul Pierson, *Dismantling the Welfare State? Reagan, Thatcher and the Politics of Retrenchment* (Cambridge University Press, 1994).

[31] Howard, 1997; Björn Egner, Nikolaos Georgakis, Hubert Heinelt, and Reinhart Bartholomäi, *Wohnungspolitik in Deutschland: Positionen, Akteure, Instrumente.* (Darmstadt: Schader Stiftung, 2004).

[32] Sources: U.S. Census Bureau; German Federal Statistics Office.

[33] Sebastian Kohl, *Homeownership, Renting and Society: Historical and Comparative Perspectives* (New York: Routledge, 2017).

[34] Baccaro and Pontusson, 2016; Hassel and Palier, 2021; Thelen, 2019; Bohle, 2018; Alison Johnston and Aidan Regan, "European Monetary Integration and the Incompatibility of National Varieties of Capitalism," *JCMS: Journal of Common Market Studies*, 54 (2016), 318-336; Colin Hay, "Good Inflation, Bad Inflation: The Housing Boom, Economic Growth and the Disaggregation of Inflationary Preferences in the UK and Ireland," *The British Journal of Politics and International Relations*, 11 (2009), 461-478; Lucio Baccaro, Mark Blyth and Jonas Pontusson, "Rethinking Comparative Capitalism," unpublished ms.

[35] Hall and Soskice, 2001.

[36] Peter Hall, "The Electoral Politics of Growth Regimes," *Perspectives on Politics*, 18 (2020), 185-199; Hassel and Palier, 2021.

[37] Sources: OECDstat; World Bank.

[38] Lukas Haffert and Daniel Mertens, "Between Distribution and Allocation: Growth Models, Sectoral Coalitions and the Politics of Taxation Revisited," *Socio-Economic Review* (2019).

[39] Edward Leamer, "Housing is the Business Cycle," NBER Working Paper 13428, National Bureau of Economic Research, Cambridge, MA, 2007; Frederic Mishkin, "Housing and the

Monetary Transmission Mechanism," NBER Working Paper 13518, National Bureau of Economic Research, Cambridge, MA, 2007.

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[41] Alan Greenspan and James Kennedy, "Sources and Uses of Equity Extracted from Homes," *Oxford Review of Economic Policy*, 24 (2008), 120-144.

[42] Herman Schwartz, *Subprime Nation: American Power, Global Capital, and the Housing Bubble* (Ithaca: Cornell University Press, 2009); Ben Ansell, Lawrence Broz and Thomas Flaherty, "Global Capital Markets, Housing Prices, and Partisan Fiscal Policies," *Economics & Politics,* 30 (2018), 307-339; Gregory Fuller, *The Political Economy of Housing Financialization* (Newcastle: Agenda Publishing, 2019).

[43] Voigtländer, 2014; Kofner, 2014; Felix Geiger, John Muellbauer and Manuel Rupprecht, "The Housing Market, Household Portfolios and the German Consumer," ECB Working Paper 1904, European Central Bank, Frankfurt, May 2016.

[44] Ansell, Broz and Flaherty, 2018; Fuller, 2019.

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[124] General government debt increased from 62% in 2000 to 72% of GDP in 2005. Source: OECDstat.

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