Macroeconomic Implications of Inequality and Household Debt: European Evidence

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A growing recent literature has examined the macroeconomic implications of household debt. Recent analysis has linked household debt to rising inequality across developed economies leading to stagnant or declining real incomes for middle and lower income households. Wages stagnated with their decoupling from productivity growth and rising inequality; households maintained consumption with falling savings and rising indebtedness. This consumption behaviour can be understood in terms of emulation of consumption patterns through a relative income effect. A range of authors have argued household debt was central to the global financial crisis. More generally it has been argued that with rising inequality aggregate demand was only been sustained by this process of rising household indebtedness before the crisis and since then recovery has been held back by limited growth in household incomes and such recovery as has been achieved has generated by renewed rises in household debt.

To date, though, specific studies of this have focused almost exclusively on the US, with some limited analysis of the British case. There are a number of reasons why it may be useful to extend this analysis to European economies, allowing comparative tests of key hypotheses in this field. Although wage inequality trends have varied across European economies, in general they have seen clear declines in wage shares as wage growth has become disconnected from productivity growth. In particular, stagnation of middle income households can be observed in European countries as well as the US. Household savings rates have fallen in many European countries and debt has risen. This growth in debt also reflects structural changes: household access to credit increased with financialisation and rising home ownership. Nevertheless, there are significant variations in these processes across European economies. Debt-led consumption booms are typically associated with worsening current account positions, and there are key differences in these developments between European economies. This paper provides a comparative analysis across European economies to test the key hypotheses here, examining how far changes in inequality across these economies can explain debt levels and how far aggregate demand was sustained by rising household debt.

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1. Introduction

Recently a number of accounts have claimed that the global financial crisis (GFC) had its origins in rising inequality across developed economies. Specifically, in response to stagnant or declining real wages households maintained their desired consumption levels by reducing net savings and increasing their debt levels. Increasing levels of household debt made them vulnerable to even relatively small worsening of conditions and, crucially, this had severe macroeconomic consequences.

More broadly it has been argued that with rising inequality trends aggregate demand has only been sustained by this process of rising household indebtedness. Wages stagnated with their decoupling from productivity growth and rising inequality; aggregate demand was only sustained as households maintained consumption through falling savings and rising indebtedness. Without this, expansion would be held back; since the GFC expansion has been held back as households consolidate.

Although a number of versions of this hypothesis have been proposed, much of the discussion has either been in very general terms or with specific reference to US evidence. Although broadly similar trends can be observed elsewhere, there are particular features of the US experience that mark it out and important variations between European economies in these trends.[1] To date, though, there has been little specific examination of the European experience.

Section two sets out the main hypotheses advanced here and notes evidence for the US case. Section three examines European experience in the light of the core hypotheses, particularly those recently advanced in the post-Keynesian literature. Section four concludes.

2. The Inequality-Consumption-Debt Hypothesis

A number of authors have hypothesised that inequality has led to higher household debt and ultimately financial crisis, although there are differences between versions and their underlying models. Former IMF chief economist Raghuram Rajan, who warned of these developments in the mid-2000s, has maintained a version of this hypothesis (Rajan, 2010, esp. ch. 1). Other IMF economists further developed such analysis, essentially of the US case (Kumhof and Rancière, 2010). Mian and Sufi (2015) find a clear household debt dynamic over the same period: mortgage credit was extended to increasingly marginal households and fuelled house price rises (see also Yamarik *et al*., 2016). This in turn led to increased borrowing out of house equity. The fall in US house prices from 2007 that precipitated the GFC led to a sharp fall in consumption as households deleveraged.

Although these analyses raise useful points, they have are a number of specific and generic limitations (cf. Palley, 2015). Accounts in terms of credit expansion to marginal households can effectively be seen as situating the GFC in terms of inappropriate lending policies (or government policies that promoted them). To the extent that these accounts that such accounts acknowledge that inequality could potentially lead to insufficient aggregate demand this is effectively in terms of possible problems from the zero lower bound. Effectively these approaches are modifications of standard mainstream macro modelling of the consumption

[1] Europe here refers to Western Europe – EU15 countries and Norway. There have been interesting parallel developments amongst Central and East European economies but for reasons of space these are not considered here.

function. The baseline mainstream macro model of a representative household agent with full access to capital markets has well-known and longstanding problems with empirical applications. Estimates of the resulting Euler equation fails to provide consistent results for the intertemporal elasticity of substitution and consumption appears to track income to a degree inconsistent with consumption smoothing. There have been some attempts to modify the baseline consumption function variously incorporating habit persistence, 'hand-to-mouth' households and credit constraints, but testing of these hypotheses is weak (e.g. Carroll, 2001; Canzoneri *et a*l., 2007). In some more developed versions households may be divided between net[2] savers and borrowers with the latter facing some credit constraints. Effectively the models here are modifications of standard mainstream and the broader implications of inequality for aggregate demand are downplayed or ignored. They remain inadequate as accounts for the fall in US household savings from the 1980s; changes in standard consumption function variables – changes in wealth and expected future income, demographic shifts, reduced levels of precautionary with financial innovation increasing credit availability – leave much of the fall in savings unexplained (Barba and Pivetti, 2009; Brown, 2008; Parker, 1999).

Rising inequality and stagnant incomes for lower and middle income households led to falling household savings and greater leverage as such households sought to maintain consumption levels in the context of rising house prices. Inequality was a key driver of falling savings (Iacoviello, 2008). The decline in the US savings can be traced to rising inequality – whilst savings rates remained stable for the highest income households, there was a sharp fall in savings by middle income households and dissaving by the lowest income households (Bunting, 2009). Thus, the evidence of higher debt income ratios in poorer and middle income households is not consistent with borrowing rising amongst higher net worth individuals and households, as standard consumption functions and some sanguine accounts indicate, but is consistent with the account sketched here.

A range of recent contributions have sketched out post-Keynesian models of consumer debt and aggregate demand. Setterfield (2013) argues that as growth in potential supply is approximately equal to the growth of labour productivity if real wage growth keeps pace with this (and thus the labour income share remains constant over time) steady growth with a stable level of unemployment will be maintained. Whereas this was approximately the case during the post-war 'Golden Age', during the 'Great Moderation' period a situation of 'latent fragility' developed with aggregate demand maintained in the face of stagnating household incomes amongst swathes of the workforce through lower savings and increased debt. As Setterfield notes, this is not a case of the wisdom in hindsight and these dangers were highlighted before the GFC (cf. Brown, 2004; 2008; Cynamon and Fazzari, 2013; Palley, 2002). A shift in the functional distribution of income from labour to capital, a pronounced rise in inequality and stagnation of household incomes would all ordinarily be expected to depress consumption through a shift in income from groups with relatively high propensities to consume to those with relatively low propensities. Indeed there is evidence that growing inequality in the US has acted to reduce the propensity to consume (Alichi *et al*., 2016). In the periods before the GFC household consumption was maintained through falling savings and rising indebtedness. There may be further effects of rising inequality here – in some accounts the increased concentration of income and wealth led to demand for new financial products that fuelled the growth of loans (e.g. Wisman, 2013).[3]

[2] This qualification may be important – in practice many households simultaneously both hold savings and have outstanding debts.

[3] This might appear to be a version of loanable funds, but it can be interpreted as rising inequality leading to rising demand for certain classes of assets rather than a general rise in savings; I owe this point to Jo Michell.

It is not simply the empirical weaknesses of standard models of the consumption function. Rather than modelling households as intertemporal optimising, post-Keynesian accounts stress the pervasive uncertainty faced by households and the role of rules of thumb and inertia (Stanley, 2000: ch. 6) in their decision making. Attempts to maintain consumption levels in the face of stagnant earnings may partly reflect this. Further, consumption here is conceived in social terms (Barba and Pivetti, 2009; Brown, 2008; Cynamon and Fazzari, 2013); household consumption takes social reference points, households are concerned with relative as well as absolute consumption levels. This consumption behaviour can modelled in terms of emulation of consumption patterns through a relative income effect in the context of the development of the US housing market (Zezza, 2008). Note that there are two effects here: households attempting to maintain consumption relative to historic norms in the face of stagnant or falling incomes; the effect of emulative consumption in the context of rising inequality so that households attempt to emulate consumption of household groups increasingly further away from them in real income terms. Before the GFC growth was dependent on debt-led consumption; since then recovery has been held back by limited growth in household incomes and such recovery as has been achieved has generated by renewed rises in household debt (Cynamon and Fazzari, 2015; 2016). This is contrast to earlier downturns, when private consumption played a more stabilising role. Whereas standard theories of the consumption function explicitly model it as smoothing consumption, here the reverse applies for large groups of households – it was only the richest households that appeared able to operate consumption smoothing. By contrast much of the household sector saw rising consumption-income ratios from debt before the GFC, whilst expansion since has been held back since as they have sharply cut back consumption and attempted to consolidate debts (Bartolini *et al*., 2014; Cynamon and Fazzari, 2016). Consumption by the richest households has been insufficient to maintain overall demand; this is despite historically low interest rates that would be expected to redistribute income from saver to debtor households. Such analysis has also been applied to the US during the Great Depression, another period preceded by rising inequality and widened access to credit (Brown, 2008: ch. 6; Wisman, 2014).

Kim (2013; 2016) found evidence of developments in the spirit of Minsky since the period of growth of debt with availability of credit from the 1980s. Before then in the post-war period, when real wage growth approximately tracked productivity growth, there was no evidence of negative effects of household debt on output; subsequently there is evidence that higher household debt levels have negative long run effects on output, with some evidence that new household borrowing boosts output in the short run. Thus the evidence for the US in the period of falling savings is broadly consistent with destabilising debt-led cycles of activity from the 1980s, i.e. the period of household income stagnation in the face of rising inequality. Kim *et al*. (2014) and Setterfield *et al*. (2016) set out in detail the conditions under which unsustainable debt accumulation followed by 'sudden stops' in household consumption.

3. European Evidence.

Although these hypotheses have been set out in general terms, the specific evidence advanced is overwhelmingly from the US. Key trends appear most pronounced for the US, with longstanding stagnation of wages for swathes of lower and middle income households, rising inequality and rising household debt. There are a number of reasons why it may be useful to analyse European economies more generally. Some studies highlight similar patterns of

Wisman (2014) argues similar developments occurred in the US over the 1920s in the years preceding the Great Depression.

household debt-fuelled consumption in both the United Kingdom (Coutts and Gudgin, 2015; Crouch, 2009; Hay, 2009) and Ireland (Hay, 2009). Pardo and Santos (2014) found evidence for these developments in Spain over the 2000s. Glick and Lansing (2010) found evidence of similar developments in other industrialised economies with falling savings rates associated with house price booms followed by deleveraging since the GFC, but they did not directly consider inequality or wage developments. Kumhof *et al*. (2012) found that inequality is associated with weaker current account positions across industrialised countries, consistent with greater inequality leading to greater debt-led consumption.

Baccaro and Pontusson (2016) effectively accept the Setterfield (2013) argument, but note that there have been a range of growth models amongst European economies. The UK and Ireland, as Crouch and Hay indicate, have followed a US-style route of debt-fuelled private consumption. By contrast Germany saw wage restraint – particularly over the 2000s – underpinning export-led growth. Other economies, such as Sweden, effectively operated a hybrid of the two, sustaining both export and private consumption growth. The essential stagnation problem identified by Setterfield remains, though; in particular, Baccaro and Pontusson (2016) argue that Italy effectively stagnated through being unable to sustain either export-led growth or private consumption growth.

There are a number of particular features of the US case which do not necessarily apply elsewhere. The dynamics of debt and consumption partly reflect the costs of health care and college education for many US households (cf. Mason and Jayadev, 2014; 2015). More broadly there are three areas where there are interesting variations between the European and US cases: the degree of disconnect between household incomes, the degree of household financialisation and the wider social and cultural determinants of consumption. Cultural attitudes to credit and conspicuous consumption may have differed between the US and Europe (as exemplified in apparent differences in income-leisure trade-offs). There have been clear differences in both the development of credit industries within countries and the emergent social and cultural attitudes to personal debt (Logemann, 2008; Trentmann, 2016). This is not to suggest that emulative consumption is unique to American consumer culture – far from it[4] - but the context still differs in key respects. For example, Wisman (2009) notes that Americans have an unusually strong (by international standards) belief in upward social mobility; Barba and Pivetti (2009) suggest that Italian households did emulate US behaviour despite stagnating incomes because of more cautious cultural attitudes to debt.

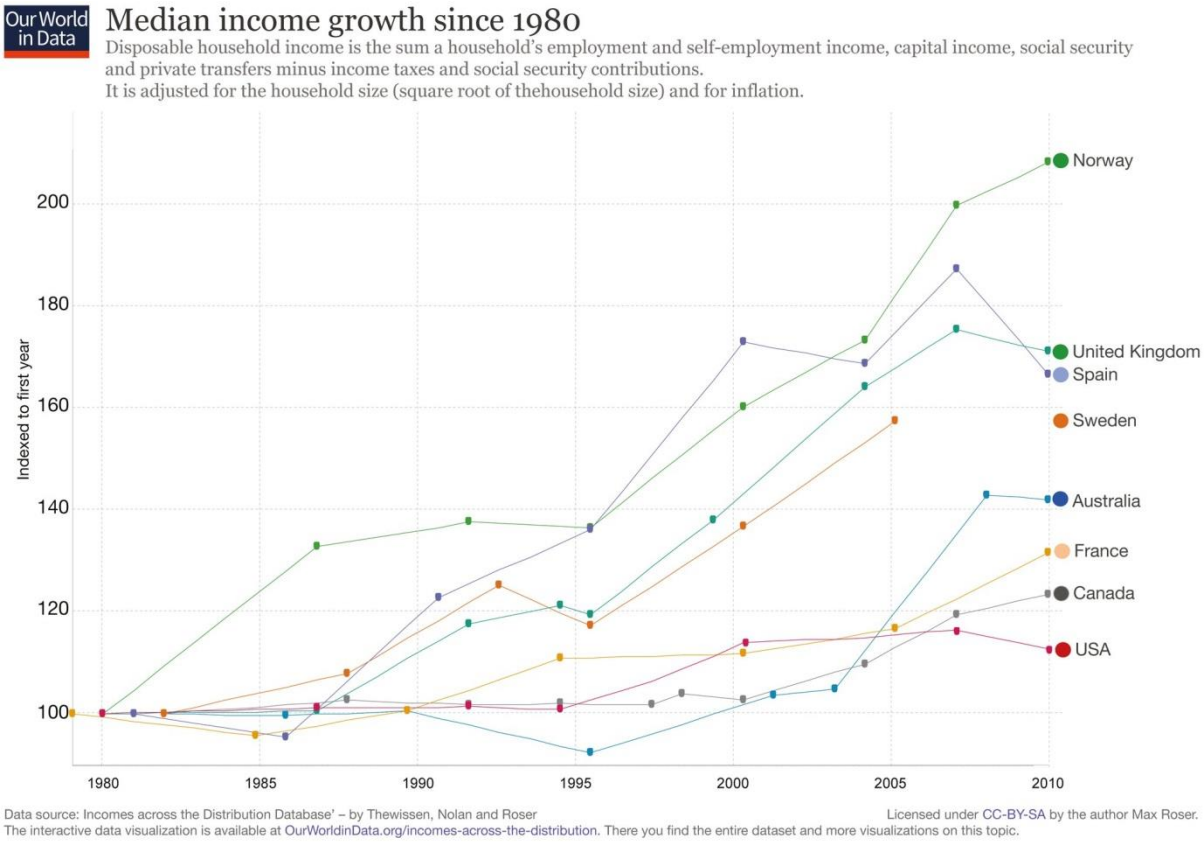
Real interest rates tended to fall through the 1990s and 2000s in general, with particularly pronounced falls in some euro-zone countries as a result of the formation of EMU eliminating exchange rate risk. Hay (2009) argues that the monetary policy framework of the period played a key role here: the general framework of inflation targeting led to a singular focus on headline inflation that downplayed developments in asset prices in general house prices in particular. This is particularly the case in the EU where HICP is used by both the ECB and, from 2003, by the Bank of England – a measure that excludes mortgage repayments.[5] Household access to credit tended to rise with financialisation and by 2007 in all euro-zone countries except Germany the majority households were owner occupiers (ECB, 2009). Although, Germany apart, European countries have majority home ownership there are still

[4] See Berlemann and Salland (2016) for evidence of such effects in Germany; more generally see, *inter alia*, Trentmann (2016).

[5] Sweden's Riksbank does target CPI, but also notes developments in CPIX, which excludes mortgage repayments. There is some evidence that the Riksbank has both monitored and responded to house price developments.

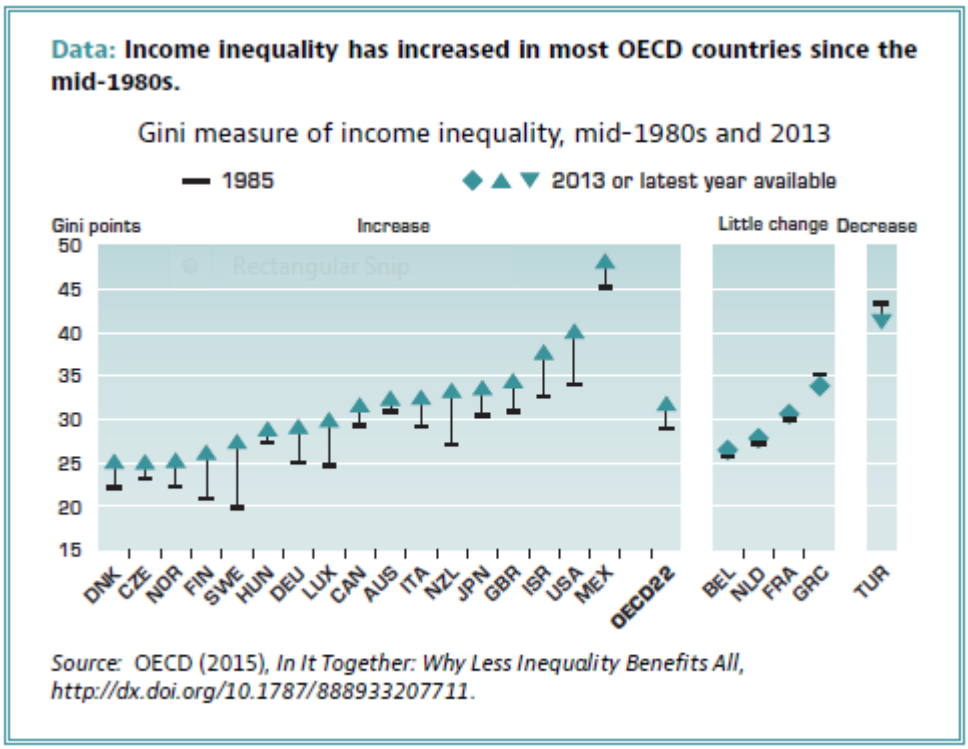
variations in the extent of this and the willingness and ability of households to borrow against this.

The first key difference is that the stagnation of median incomes is much less evident outside the US. As figure 1 below shows, until recently this was very largely a US phenomenon. A disconnect between median incomes since 1980 can be observed widely across developed economies, but the disconnect was greater for the US which also had an exceptionally low growth in median incomes over this period (Nolan *et al*., 2016). Further, whilst increasing inequality was a significant contributory factor in the US case elsewhere this was less prevalent elsewhere only affecting particular countries over certain period. Other factors – differentials between GDP deflators, changes in household size – also account for the observed disconnect.

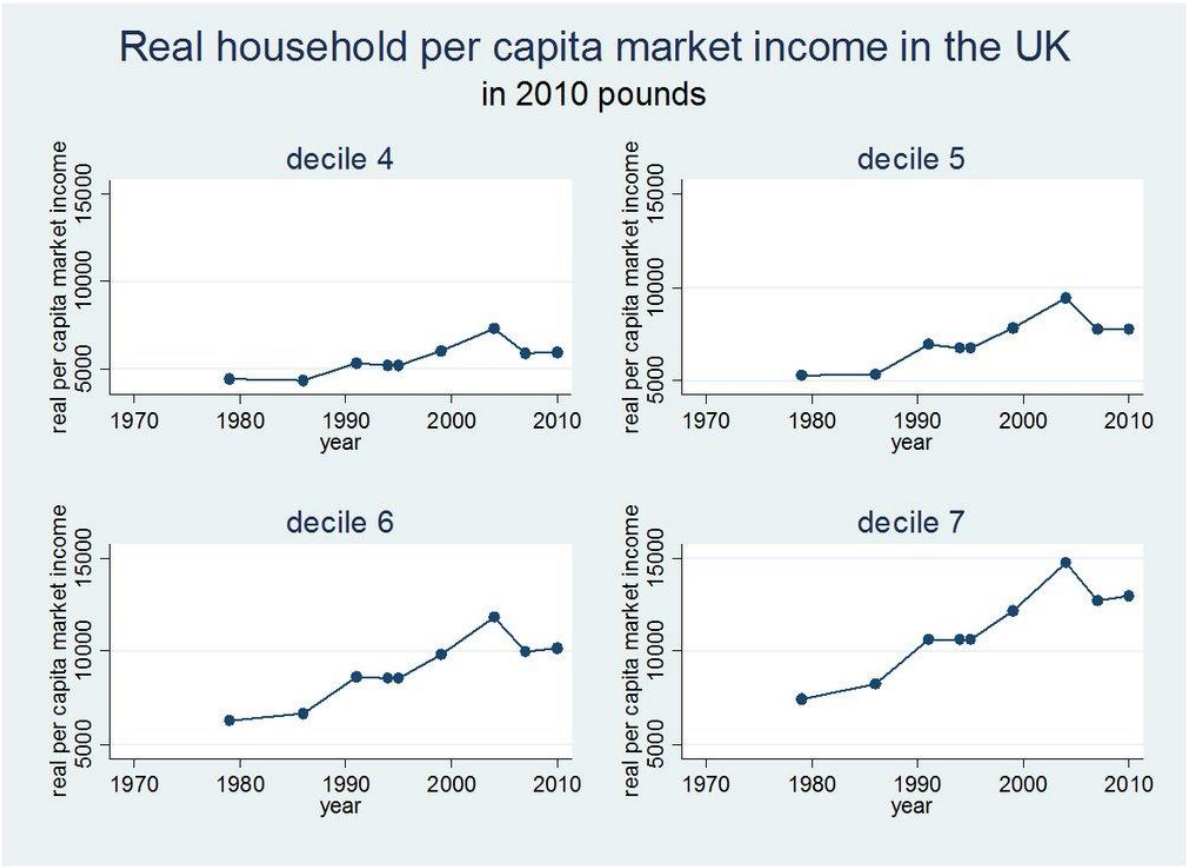


At first sight this appears paradoxical. Whilst the wage share does appear to have fallen in the US (Elsby *et al*., 2013), this has been more pronounced in many European economies; by definition, real wages have not kept pace with productivity growth. The link between a shift in functional income distribution and changes in household inequality is not necessarily straight-forward, but a fall in the wage share would be expected to lead to greater household inequality under current European conditions (Atkinson, 2009; Bengtsson and Waldenström, 2015; Molero-Simarro, 2016). Nevertheless, changes in inequality and the course of median household incomes cannot simply be read off directly from changes in functional distribution. There is clear evidence of a regime change from the 1980s with real wages becoming decoupled from productivity growth, reflecting declines in unionisation and the impact of globalisation, but this was still partially mediated through national institutions (Carter, 2007; Judzik and Sala, 2013). Although the falling wage share in European economies is well

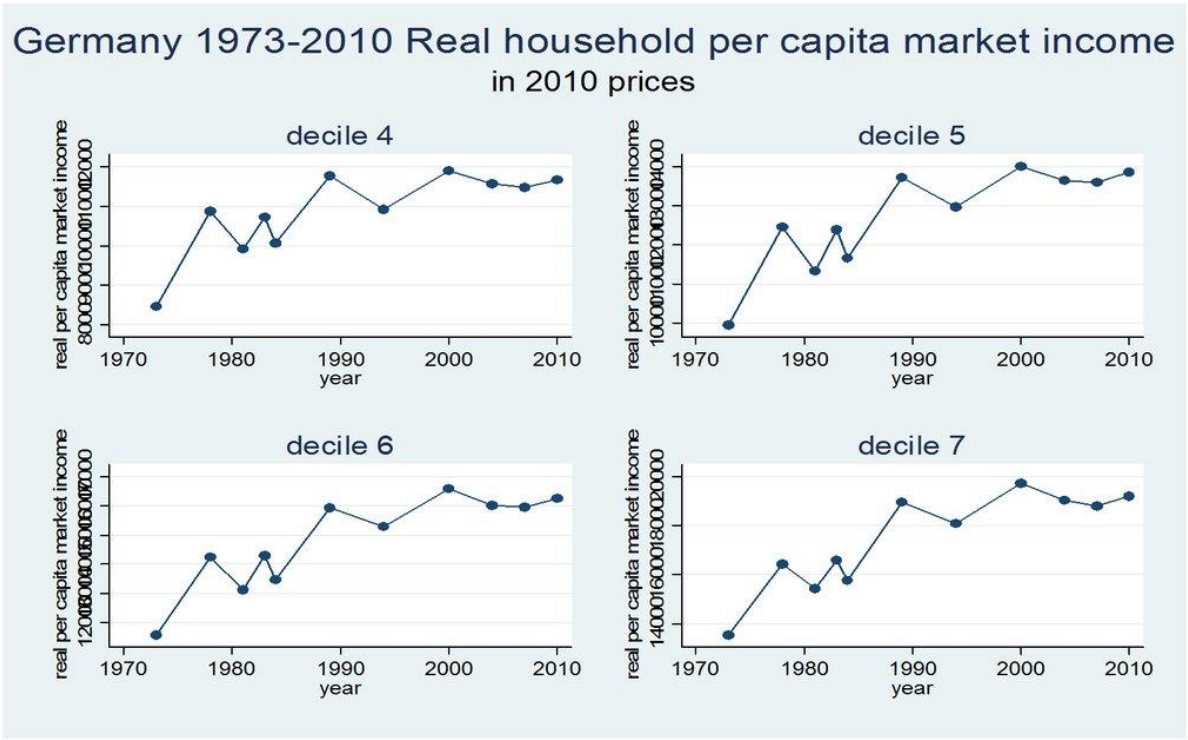
attested, the disconnect between GDP per capita growth and median household incomes is less pronounced than in the US. This is of course simply for median household incomes and obscures wage inequality developments. Further the periodisation is important here. Although there is limited evidence of general stagnation of household incomes over the 1980s and 1990s, widespread stagnation in household incomes has been observed across Europe since 2005 (McKinsey Global Institute, 2016). Whilst this is clearly affected by the GFC, in key cases the trend pre-dates the crisis – and has persisted even with recoveries in these economies. Thus, whilst in some extreme cases such as Greece where it is not a case of disconnect between productivity and wages given the fall in output elsewhere there is clear evidence of disconnect. The timing of stagnation of household incomes and disconnect from productivity growth occurred later in European economies than in the US, but has become widespread over the past decade. Within this there has been clear rises in inequality with the exceptions of



These trends can be examined with reference to some key examples in more detail. Over an extended period the UK saw stagnating incomes for groups during the 1980s, a phase of rising inequality. From the late 1990s there were general rises in household incomes across income groups during a period when overall inequality was roughly stable. However, across household income groups income growth stalled in the mid-2000s before falling with the GFC.



By contrast the German experience has clear evidence of stagnation of household incomes across groups through the 1990s and 2000s.

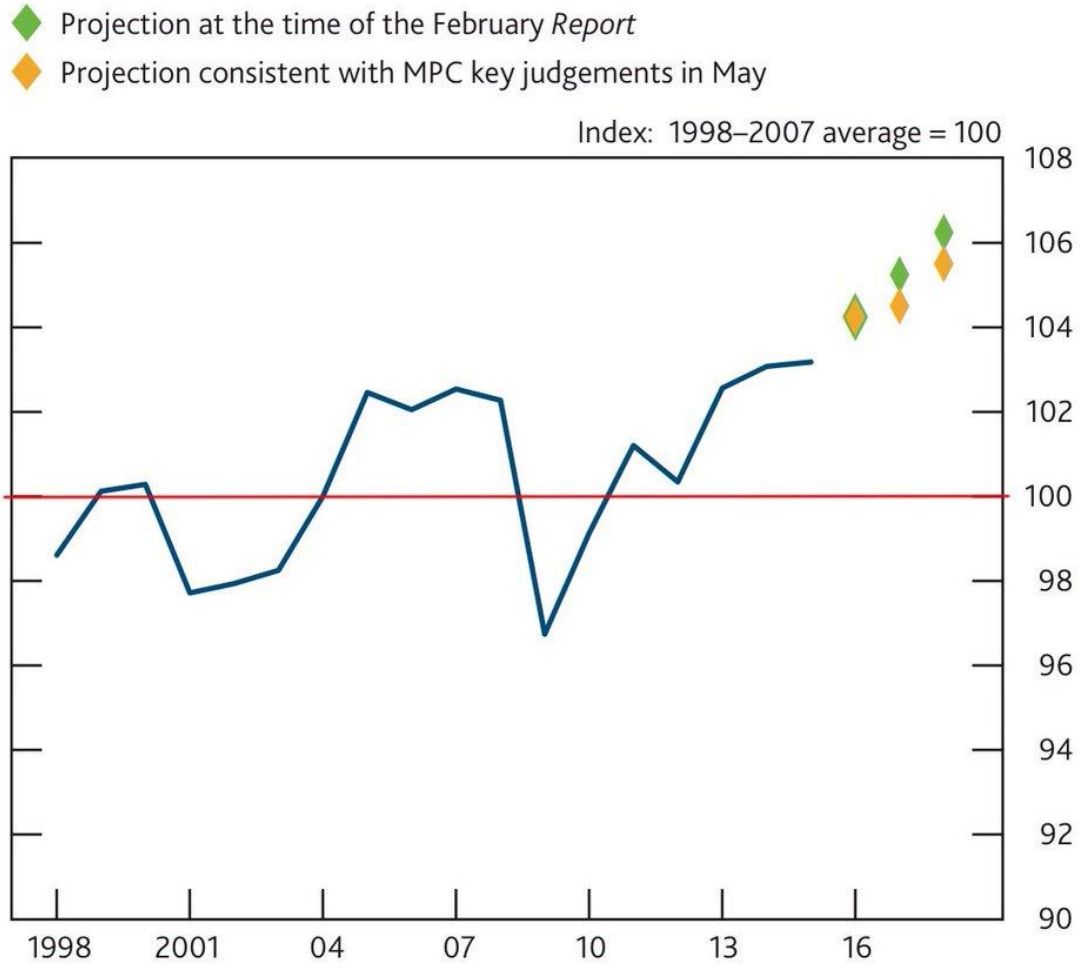


The flat-lining of German real wages in the context of a shift in the functional from labour to capital is well known. However, the response of households here was fundamentally different from the US and UK case. Differences in financial markets are long-standing between Germany and Anglo-Saxon economies (e.g. Frowen and Karakitsos, 1996); Germany had relatively low rates of home ownership and falls in house prices before the GFC (ECB, 2009).

Overall household savings rates have fallen across European economies from the 1980s with the key exceptions of France and Germany. In the former case, although there was a clear shift in functional distribution to capital overall income inequality fell or stabilised from the 1980s. Falls were also muted in Austria and Belgium and essentially only fell with the GFC.

Elsewhere developments fall into distinct groups. The British and Irish case, not surprisingly, is the closest case to the US although as noted the UK case is not a clear case of decoupling of wages from productivity; there were phases of such disconnect during rising inequality but not the sustained flat-lining of median household incomes observed in the US. Past phases of rising inequality also saw significant mortgage equity withdrawal to sustain consumption levels (Froud *et al*., 2011). The cyclical predictions are also borne out in these cases; the GFC saw sharp falls in household spending. The UK case is striking here, as illustrated in the figure below. The limited recovery since the GFC has essentially been driven by private consumption as initial rises in household savings have been reversed. Further, official projections expect these trends to continue – expansion driven by falling household savings and rising household debt. This is not a case of decoupling of wages from productivity in the period since the GFC, since UK productivity stagnated, but can be seen in terms of a low wage/low productivity economy with roots before the GFC but clear developments since. The fragility of this has been noted in a number of studies, given the dependence of this borrowing on historically low interest rates.

Chart 5.5 Consumption to labour income(a)

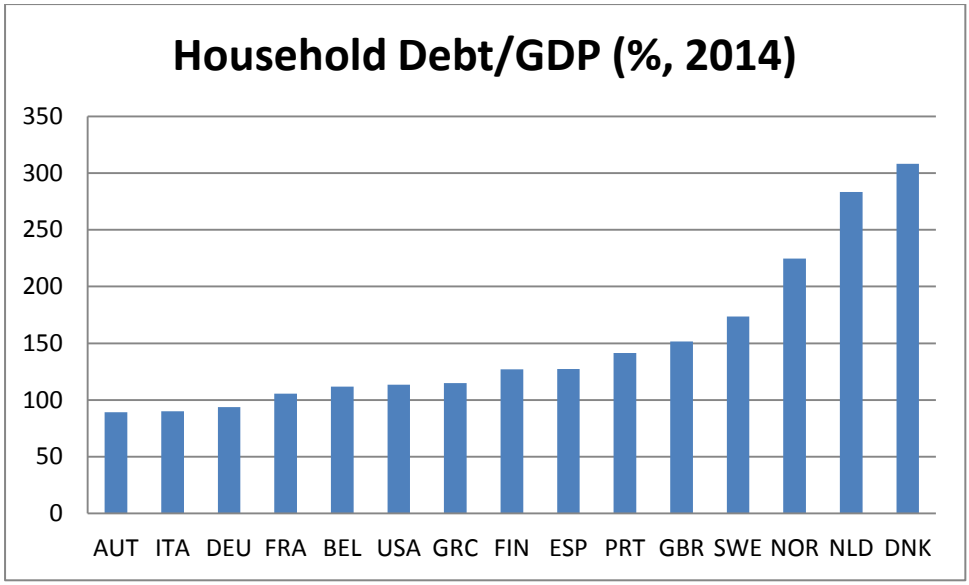


Sources: ONS and Bank calculations.

(a) Calendar-year average. Real consumption as a percentage of real labour income, where real labour income is defined as wages and salaries plus mixed income less taxes plus net transfers, deflated by the consumer expenditure deflator. Includes non-profit institutions serving households.

The second group that broadly fits the hypothesis here are the southern European countries that have been affected by the euro-zone crisis. Greece is clearly an extreme case, but both Spain and Portugal display patterns consistent with the broad hypothesis. In particular, the post-GFC pattern of household consolidation leading to sharply reduced consumption.

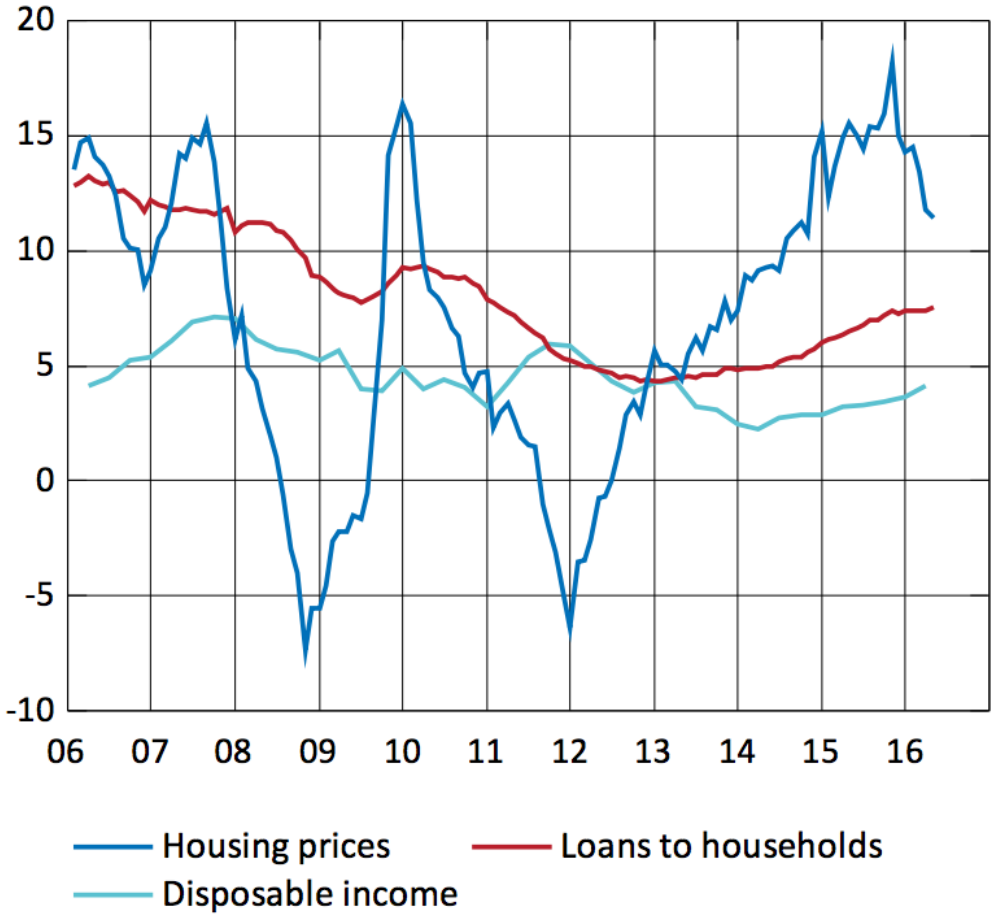
The final group consists of the Nordics and the Netherlands. It is this group that has seen the highest rises in household debt



The dynamics of this are centrally related to the housing market. Germany apart, European economies saw house price booms before the GFC. There is clear evidence of house price bubbles over this period (Engsted, *et al*., 2016). The key difference between this group and the previous groups is clearly the limited consolidation of household debt since the GFC. This can be illustrated below with developments in the Swedish case – an initial fall in house prices with the GFC, a recovery followed by a second fall after the Riksbank raised interest rates and a second recovery after it reversed. Throughout this income levels have grown at a consistent rate and loans to households have been sustained.

Chart 1:5. Housing prices, debt and income

Annual percentage change



Sources: Statistics Sweden, Valueguard and the Riksbank

This third group thus partially fits the hypothesis of consumption sustained through increased household borrowing against property. The key difference is that debt levels have been sustained and risen. Within this there are clear issues of the sustainability of the positions here.

4. Conclusions

Inequality has risen across European economies to varying degrees; wage growth had tended to become detached from productivity growth before the GFC. Although this has been related to the secular decline in the wage share, there is no simple relationship between this and changes in household inequality. As with the US case, it is not simply stagnation of income amongst the poorest groups leading to sub-prime lending but a more general stagnation of incomes including middle income households. (Sub-prime borrowers might be significant for bad loans, but would not be significant enough for the macro effects here). The growth of household inequality has been more pronounced in the US and the stagnation of household

incomes has also been more pronounced and longer lasting. Trends in wages and household incomes have been more variable across Europe since the 1980s. This has interacted with developments in housing markets to produce a range of developments. The major economies where household borrowing did not substitute for income stagnation were France, where inequality saw little change, and Germany where financial conditions mad such developments less likely.

Elsewhere there were developments broadly consistent with the hypothesis of stagnating incomes leading to households relying on debt-fuelled consumption. This can be seen in Anglo-Saxon economies and in Southern European economies. In the UK case initial consolidation similar to the US has now been replaced by a return to debt-fuelled consumption as an engine of growth. A parallel development has seen household debt rise to unprecedented levels in the Nordic economies and the Netherlands; thus far, sustained house price levels have meant that this group has not seen household consolidation seen elsewhere. The sustainability of this remains unclear.

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