JRF JOSEPH ROWNTREE FOUNDATION

AFTER THE COUNCIL TAX
IMPACTS OF PROPERTY TAX REFORM ON PEOPLE, PLACES AND HOUSE PRICES

Chris Leishman, Glen Bramley, Mark Stephens, David Watkins and Gillian Young

The Council Tax is widely discredited. Would taxing property values be fairer? Could such a tax help to reduce housing market volatility?

This report assesses the likely impact of a property value tax.
- A progressive property value tax would reduce the size of median gross bills by £279 a year compared to the Council Tax.
- Almost two-thirds of households would see bills fall by more than 10%, while fewer than one-quarter would experience increases of more than 10%.
- A progressive property tax would reduce gross median bills for the poorest tenth of households by £202, and increase them for the top tenth by £184.
- Bills for people living in London would rise across the income distribution, so London may have to be treated separately.
- A property tax could have a supporting role in reducing house price volatility.

INSPIRING SOCIAL CHANGE

CONTENTS

List of tables

List of boxes

EXECUTIVE SUMMARY

The Council Tax system is decaying and lacks credibility. In England it operates on property values that are more than two decades out of date. Since last assessed in 1991 property values have generally risen substantially, but they have done so at different rates between different parts of the country and within the same areas. Moreover, Council Tax is designed to tax a higher proportion of the value of cheaper properties compared to expensive ones. It is therefore widely regarded as being both unfair and anomalous between different places, and between people. The UK Government has provided grants to encourage local authorities to freeze Council Tax bills, but this is becoming increasingly expensive to fund, and some local authorities are now increasing the tax in any event.

This report investigates alternatives to the current Council Tax system, and aims to assess the costs and benefits of introducing a system of national property taxation. Four different systems are assessed: the existing Council Tax system, a revalued Council Tax system, a national property tax based on a fixed percentage of property values, and a progressive national property tax based on a higher percentage of the whole of property values over certain thresholds.

The project constructed a new database of property values ('PROPTAXMOD') based on the 2011 Census and records of seven million housing transactions. This provides estimates of values for every property in England and is therefore the most comprehensive dataset on property values to date. It is used to estimate the impact of tax reform between different parts of the country and the impacts of property taxation on house price volatility. PROPTAXMOD is not used to estimate the impact of tax changes

on households as it contains no information on household incomes. Instead the English House Condition Survey (EHCS) is used as it contains information on income, housing costs and on property values provided by professional valuers.

Tax reform was examined on the basis of three criteria:

- to ensure fairness between places;
- to pursue fairness between people; and
- to reduce house price volatility.

Fairness between places

The principal change in distribution between places implied by a shift from a revalued Council Tax to a flat rate property value tax (and a progressive property tax) is an increase in the tax burden in London (and, to a lesser extent, the South East) in favour of the rest of the country. Measuring the impact of property taxes in relation to gross value added (GVA) and gross disposable household income (GDHI) property taxes removes the apparent 'under-taxing' of London. The outcomes appear more progressive on GVA, although on the basis of GDHI per capita, the redistribution may appear to go 'too far' to qualify as being fair between places. It seems that some form of property value tax approach is required to create greater fairness between places. However, where the redistribution of tax burden this creates is large, any reform would need to be phased in.

Fairness between people

Overall, the introduction of a flat rate or progressive property tax would bring about a considerably more progressive distribution of tax burden. The reductions in gross liability for low-income households would be substantial and would be likely to facilitate a significant reduction in the need for rebates. Moreover, reductions in liability would also benefit middle-income households. Increases in liability are distributed towards the top of the income distribution. However, although there would be more gainers than losers, there would be losers across the income spectrum. Such households might be protected using some of the savings in rebates.

It is obvious that such radical changes would have to be phased in over many years, and even then it is likely that some of the end results would still be unfair. The principal problem is the 'London effect'. Such are the high levels of property prices in the capital, that increases in gross liability would affect some households across the entire income spectrum. Clearly, special arrangements would be needed to ensure that an appropriate balance between property tax and other notions of fairness were maintained. Indeed, central London would certainly have to be treated in another way or excluded from a scheme covering the rest of the country. A general conclusion is that a pure property tax would not be fair, to the extent that it would need to be related to income through another mechanism. There is a strong prima facie case for embedding such a mechanism within the structure of the tax itself, so that it becomes a hybrid income and property tax.

House price volatility

The econometric results found some support for the notion that property taxation represents a small, but statistically significant, component of house price change. The analysis may well underestimate the potential impacts of a property tax since they were obtained by analysing an inherently regressive system of taxation. The analysis also suggested that changes in

the distribution of prices are an important aspect of volatility, and that the relatively lower rates of property tax on expensive properties may contribute to this.

These findings provide some support for a progressive national system of property tax. Although it is unlikely that such a system would have a sufficiently powerful effect on volatility by itself, it could operate alongside other policy instruments, such as mortgage credit controls.

Key implementation issues

It is clear that in order to gain a fairer system of property taxation, it is necessary to move away from the Council Tax system of banded property values towards one that is more closely related to property values.

This report has shown that although a system of property taxation would be fairer between people and places, three principal problems emerge: the London effect, low-income losers and how to phase in the new tax.

London effect
On some measures, property taxation appears to tax London 'too much' due to its very high property prices. This is not only a question of transition, and it is likely that an upper limit on a property tax would be required in order to prevent an undue burden on low- and middle-income households.

Low-income losers
Although a property tax would bring about a better match between incomes and gross tax liability compared to Council Tax, there would be some low-income losers. The distribution of gainers and losers is such that low-income households in London would lose out, whereas well-off households in the North would gain. A tax based purely on property values without assessing the ability to pay would therefore be unfair.

Transition
Because some of the losses would be large, any system of property taxation would need to be phased in. The Joseph Rowntree Foundation (JRF) Housing Market Taskforce proposed a scheme of moving from Council Tax, to a 'point value' system, whereby the tax would be set on the basis of property values within each local authority area and the revenue that the authority needed to raise, and then gradually to a national system of property taxation through the adjustment of grant in response to house price changes. The Mansion Tax, now proposed by Labour as well as the Liberal Democrats, might also be a means by which a national property tax could be introduced and gradually extended. However, by itself the Mansion Tax sidesteps tackling the decayed system of Council Tax and many of the problems that arise from this.

Future steps

Ability to pay the tax from current income is often seen as a key test of fairness. Taking this as our starting point implies a shift away from property taxation and towards local income tax. There are, however, good social and economic reasons for ensuring that the tax base is diverse. In particular, property value taxes create desirable incentives when housing is scarce. They also tax a resource (housing wealth) that is often unearned. However, it is

practically, politically and ultimately ethically important that a property tax must also have regard to current income.

The answer may lie in the design of a property tax, shifting its emphasis away from the value of the capital asset towards the 'imputed' income that it may yield. Such a system existed in principle in the form of the old 'Schedule A' tax that taxed the rental value of property. It was abolished in the early 1960s after it had been allowed to wither in much the same way as the current Council Tax system. Some form of hybrid property and income tax might be developed from this idea. For example, the weight attached to measured property-related income might depend on current income. The attraction of such a hybrid tax would be that the income element would be inherent to it, rather than a separate corrective mechanism, as has been the case with the rebate schemes operated alongside the rates and Council Tax. However, such a hybrid income and property tax would itself need to be carefully designed and tested. It is to the practicalities of design and implementation that efforts should now focus.

1 INTRODUCTION

The system of Council Tax is decaying and lacks credibility. In Great Britain it has remained largely unreformed for more than 20 years. This report examines whether revaluation within the current Council Tax system, and a more wide-ranging move to a tax based directly on property values, could operate in a fairer way. The UK also has one of the most persistently volatile housing markets. Following one of the recommendations of the Joseph Rowntree Foundation's (JRF) Housing Market Taskforce (Stephens, 2011), this report also investigates whether property taxes might have a role to play in reducing the volatility of house prices.

Background: the current system of property tax

Historically, the taxation of residential and commercial property provided the tax base for local government. The system of domestic rates, under which the rental value of residential property was taxed, operated in Scotland until 1989, and in England and Wales until 1990, when it was replaced by the Community Charge (more commonly known as the 'Poll Tax'). The Poll Tax was a flat rate tax for which almost all adults were liable, although, as with the rates, there was a means-tested rebate system. It represented the abandonment of property taxation and had the character of a charge for local services. In response to its unpopularity and the increasing difficulty that local authorities had in collecting it, Community Charge was replaced by Council Tax throughout Great Britain in April 1993.

Council Tax is partly a property tax and partly a local service charge. This dual character arises because, although it is related to property values, people living alone are charged a lower amount, and reductions also apply if a property is a second home. Some properties, such as those occupied exclusively by students, are exempted.

As a result of exemptions and discounts, around 60 per cent of residential dwellings are liable for full Council Tax in England and Wales, and 55 per cent in Scotland (see Figure 1). Discounts, primarily due to single adult occupancy, account for around 35 per cent of properties in England and Wales and 40 per cent in Scotland. Fewer than 5 per cent are exempted in each of the nations.

The structure of the tax is established nationally, according to a banding system based on the value of properties on 1 April 1991 in England and Scotland, and 1 April 2003 in Wales. There are eight bands in England and Scotland, and a ninth was added in Wales in 2005. Grants from central government are in large part based on an assessment of the 'Band D' equivalent values of the residential properties in each local authority area. The distribution of properties between valuation bands varies greatly throughout the country (see Figure 2). For example, whereas one-quarter of dwellings in London are in Band D, in the North East fewer than one in ten properties are in this band. The assessment of Band D equivalents also takes

Figure 1: Residential properties liable for full Council Tax or with exemptions or discounts, by country
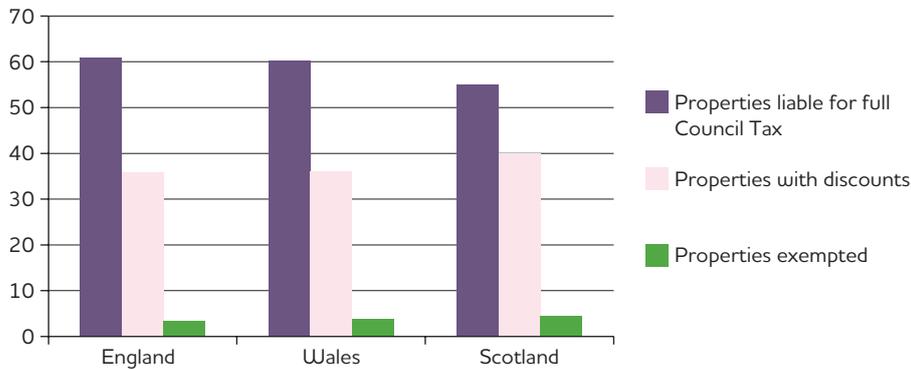
Source: DCLG (2013, Table 2.2j); Scottish Government (2013, Table 2.5); Statistics for Wales (2013, Table 4.2)

Figure 2: Distribution of properties between bands by region (England, 2013)
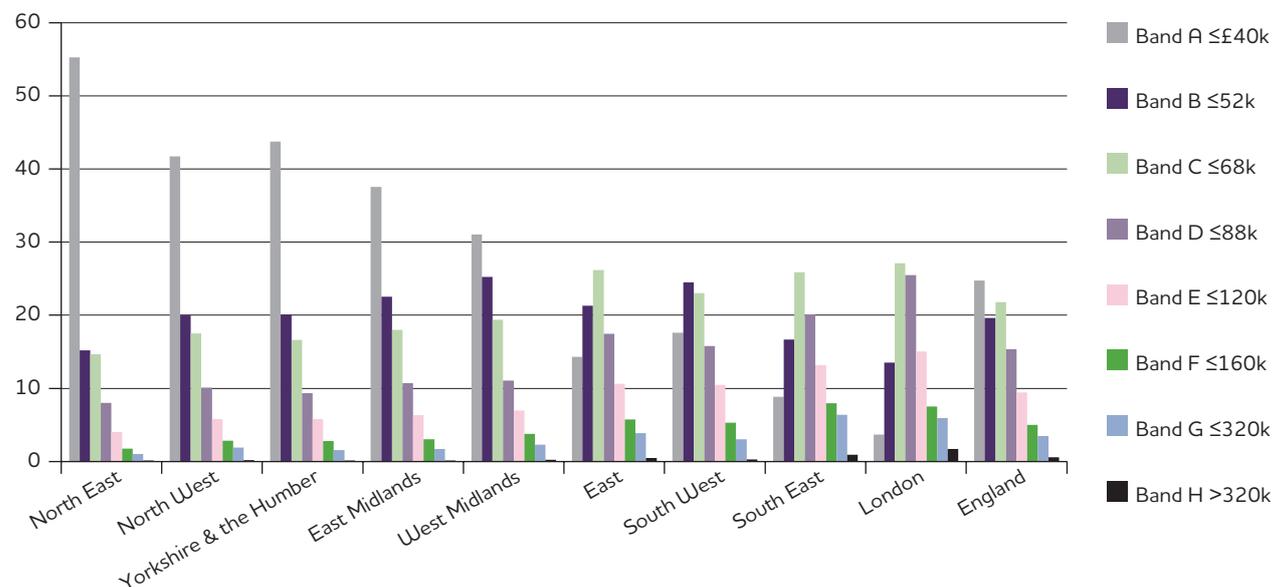
Source: VOA (2013)

into account the reduction in taxable base arising from dwellings subject to discounts and exemptions.

Council Tax bills are then set in relation to the sum of money that local authorities need to raise to pay for services. The total sum to be raised within each local authority is distributed between properties according to a ratio set nationally, depending on the band into which each property has been placed. In England around 80 per cent, and in Wales and Scotland three-quarters of properties lie within the four lowest bands. Less than 1 per cent of properties fall within the highest band in each of the nations.

In 2012/13 average Band D bills were £1,444 in England, £1,226 in Wales and £1,149 in Scotland. Average bills per property were lower, at £1,201, £1,063 and £985 respectively. These represented roughly 0.5 per cent of property values in England and Scotland and 0.66 per cent in Wales. Since it was introduced, Council Tax bills have risen ahead of inflation and earnings, but have lagged behind property prices. However, the real value of Council Tax bills has fallen in recent years. For example, in England Council Tax bills in 2012/13 had risen by 163 per cent since 1993/94, almost twice the rate of retail prices and two-thirds more than earnings (DCLG, 2013, Table 2.2e). However, house prices have run well ahead of Council Tax bills, so that the average bill in England has fallen from 0.7 per cent of average property value in 1993/94 to 0.5 per cent in 2012/13.

Council Tax raises in excess of £30 billion in Great Britain. It finances around one-quarter of current local authority spending in England, but less than one-fifth in Wales and Scotland. However, these amounts are effectively reduced by the availability of means-tested assistance for low-income households. Moreover, the Scottish Government has frozen Council Tax since 2007 and the UK Government has provided grants to English local authorities since 2011/12 in return for freezing the tax. However, the freeze is becoming increasingly expensive to fund, and some English local authorities are foregoing the grant in order to raise additional revenue through Council Tax.

As was the case with the systems of domestic rates and Poll Tax that preceded it, Council Tax was accompanied by a GB-wide rebate system funded by the UK Government. In February 2013, some 5.9 million households received Council Tax Benefit in Great Britain. More than one-third (35.5 per cent) of recipients were pensioners and 30 per cent had

Figure 3: Relative burden of Council Tax (England, 1993/94-2012/13)
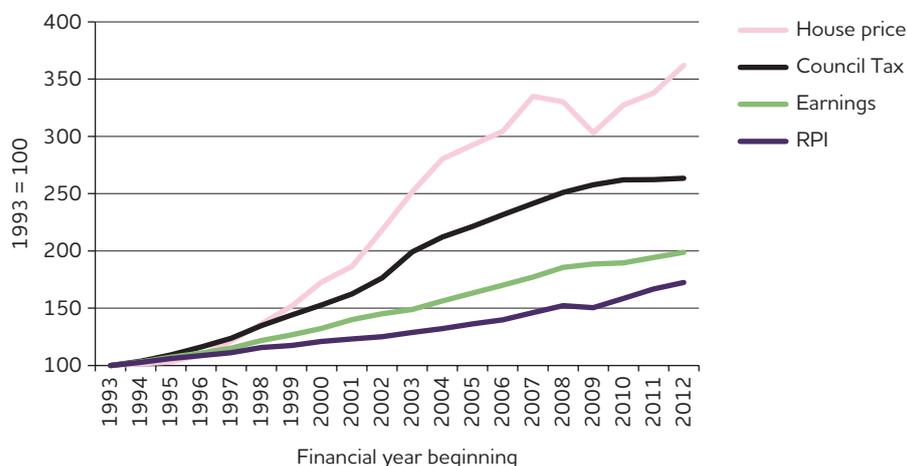
Source: Calculated from DCLG (2013); ONS House Price Index August 2013, Table 25 Mix-adjusted prices

dependent children. The total annual cost is around £4.8 billion, with an average award of £815 per year (calculated from DWP 2013).

However, as part of the localism agenda, the UK Government ended the national Council Tax Benefit scheme in April 2013. In England responsibility has been devolved to local authorities. These now receive only 90 per cent of previous funding from central government, although central government has insisted that pensioners be protected. Analysis by the New Policy Institute (2013) suggests that 82 per cent of local authorities are reducing the level of support primarily by introducing minimum payments. (A 20 per cent minimum contribution applied in the latter years of the rates system, and during the Poll Tax.) In Wales local authorities also operate their own schemes, but with only small areas of discretion. The Scottish Government has provided additional funding for the first year of the new Council Tax Reduction Scheme.

Weaknesses with the existing system

The Council Tax system replaced the unpopular Poll Tax that had, in turn, replaced the system of domestic rates. Council Tax marks a partial return to taxing property value, but this is muted through the banding system, discounts, exemptions, rebates and, as it has turned out, the infrequency (in Wales) or absence (in England and Scotland) of revaluations. The tax is therefore designed with some regard to property value, household structure, income and sensitivity to change. However, reforms could help to meet a wider range of objectives, including creating greater fairness between places, greater fairness between people and contributing to limiting house price volatility.

Fairness between places

Council Tax is also unfair between places. Although grants from central to local government reflect the local tax base, for the purposes of Council Tax, the banding system combines with exempted and discounted properties, to produce a tax base that does not fully reflect the value of property in an area. Again, the situation has been compounded by delaying revaluations, so relative changes in tax bases are not reflected in grant distribution. The JRF Housing Market Taskforce noted that Council Tax represented 0.65 per cent of property values in the North East of England compared to only 0.36 per cent in London.

Fairness between people

Fairness might be judged on the incidence of property taxation in relation to property wealth: those living in (although not necessarily owning) more valuable properties should pay more property tax than those living in less valuable ones. In this respect Council Tax is designed to be 'regressive relative to its base' (IFS, 2010, p. 382) – the more a house is worth, the lower the proportion of its value is taxed. The Lyons Inquiry (2007) produced evidence to suggest that unfairness has been compounded by basing taxation on property values that are more than 20 years old (in England and Scotland) and 10 years old (in Wales), so any change in relative property values is ignored.

However, Council Tax is also widely perceived as being unfair between people, because it is imperfectly linked to people's ability to pay – the problem of the so-called 'asset rich, but income poor'. The Lyons Inquiry into local government finance (Lyons, 2007) found that without Council

Tax Benefit, it would be highly regressive in relation to current incomes. Even with current levels of take-up, the tax remained slightly regressive. If full take-up had been attained, then it would have been slightly progressive across the bottom half of the income distribution, but slightly regressive over the top half. While a mis-match between current income and liability for property tax might be expected to occur on occasion, generally, the higher the value of a property, the higher the income of the household that lives in it (LGFRC, 2006).

Tackling housing market volatility

Within its existing structure it seems unlikely that Council Tax could exert anything other than a very modest counter-cyclical influence on the housing market (Stephens, 2011). As a local tax, Council Tax principally determines how the liability to raise a fixed sum of money is distributed between households in a local authority area. In principle, were it to take place, revaluation should cause the amount raised in high property price inflation areas to rise. However, it would also fall by a similar amount in areas where the market had been less buoyant.

A national property tax

A national property tax could help to moderate house price fluctuations because it would do two things that that the Council Tax cannot do, even if it were to be revalued regularly. A national property tax would tax all rises in property values while liability would fall if prices also fell. It would be open-ended, so that total revenue would rise when prices rose and fall when prices fell. Such a scheme was devised by John Muellbauer (2005) in which he argued that a national property tax would have a counter-cyclical effect on house prices by feeding into the 'user cost' of housing. Such a scheme would, by definition, be fairer between places and people, provided that the taxation of housing wealth was taken to be the criterion of fairness. It is not clear whether and to what extent a national property tax would better match people's ability to pay in terms of their current income. However, pensioners might be permitted to defer payment until death, at which point it could be paid through the sale of the property.

Is there much evidence, on the face of it, that property taxes should make a great difference to volatility? Figure 4 summarises median real house prices for English regions, together with the average property tax rate. The latter is a composite measure since it reflects revenue collected through the domestic rating system prior to 1989, and revenue collected through Council Tax from 1993 through 2010. The effective rate of property tax was zero during the Poll Tax years – 1989 through 1992.

The obvious trends evident in Figure 4 are that the overall property tax rate has fallen substantially between the early 1980s and 2010 – from around 1.2 per cent (of the median real house price) to somewhere between 0.6 and 0.7 per cent. The Lyons Review reported that a 0.64 per cent national property tax would be needed to replace Council Tax on the basis of revenue neutrality. However, it is worth pointing out that house prices are not generally accepted as being uniformly or normally distributed, and so these figures must be seen as quite crude approximations to a revenue-neutral national tax rate on property value. A second trend that appears quite clearly in Figure 4 applies to the divergent movement of median prices and the median tax rate from around the mid-1990s onwards.

Figure 4: Property tax and median house prices in England
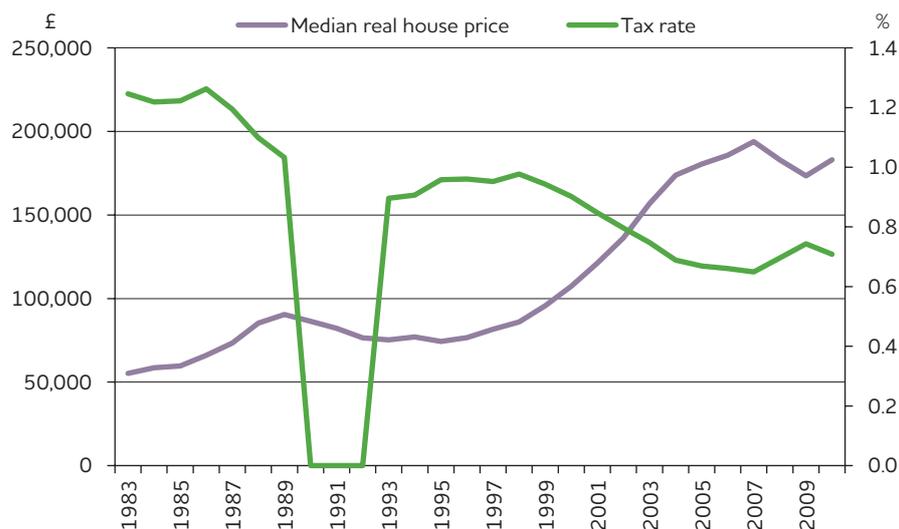
Source: CLG (Communities and Local Government) (median house prices); CLG (Council Tax take);
CIPFA (Chartered Institute of Public Finance and Accountancy) (domestic rating tax take)

Aims

This report aims to identify the costs and benefits of property tax reform.
It does so by testing the impacts of property tax reform on the relative tax
burden on different types of local authority area, between households, and
whether a system of property tax could reduce house price volatility. Due to
data availability, it is restricted to England.

Methods

The project required two principal exercises to be undertaken.

Estimation of property values

Knowing how much properties are worth is central to any exercise that
attempts to estimate the impact of revaluing properties under Council Tax,
or the introduction of a property value tax. However, existing surveys do not
contain information on sufficient numbers of properties, or estimate their
values with acceptable reliability. We therefore created a Tax and Property
Module ('PROPTAXMOD'), which contains estimates of the value of every
property in England.

PROPTAXMOD was constructed by using the details of every property
in Great Britain. These are contained in the 2011 Census. The location of
each property is then matched to a dataset that contains information on the
price paid on properties when they are bought and sold, using Ordnance
Survey addressing data supplied under licence. The dataset containing
information on the price of houses is made up of a combination of the actual
price paid on more than seven million transactions (obtained from HM Land
Registry), and estimates of property values obtained from the Regulated
Mortgage Survey and Nationwide Building Society. The information on the
size and location of every property allows us to estimate its value in mid–
2010 by relating these to properties that were actually bought and sold.
In other words, even if there are no sales data on a particular property, we
can estimate its value from the actual values of other properties and their

characteristics. This is a well-established technique known as 'hedonic regression'.

Since PROPTAXMOD contains estimated values of all dwellings in England, it has allowed us to conduct the most robust modelling of property tax reform yet attempted.

Due to the lack of census data for Scotland within the research timetable, however, we were only able to conduct this exercise for England.

Impact of property values on Council Tax

Having established property values in mid-2010, it is possible to estimate the impact of Council Tax revaluation on the distribution of grant between local authority areas. This required some updating of the band values from values suitable for 1991, to values suitable for 2010. The new bands reflect 2010 values, but are designed to ensure that there is a similar distribution of properties between bands. With new bands and new property values, it is possible to estimate the tax base of each local authority (expressed in the number of Band D properties), and to apply the formula that determines the level of government grant between local authorities, assuming that nationally there is no change in the level of grant or expenditure.

The impact of a shift to a property value tax on a revenue-neutral basis is relatively straightforward to estimate as the value of each property, unconstrained by bands, discounts or exemptions, is applied.

Estimating the impact of reform on households

In order to estimate the impact of reforms on households, we combined the essential parameters of taxation reform scenarios (based on the PROPTAXMOD database) with a secondary dataset. There were three leading choices for the secondary dataset: Understanding Society (previously the British Household Panel Survey), the Family Resources Survey (FRS) and the English House Condition Survey (EHCS). We carried out an exploratory analysis of each of these datasets and selected EHCS for a number of reasons. The house values in the EHCS are based on valuations undertaken by professional surveyors using a range of information including photographs, property details and outputs from the inspection survey. Meanwhile, the FRS does not include an internal estimate of house value, while the house value variable in Understanding Society is based merely on the occupier's self-assessment, with associated concerns over credibility and possible bias.

We used a pooled dataset with EHCS data from 2005 and 2006. Information on individuals' incomes was inflated to 2010 values using indices of regional medians. House values were inflated to 2010 values using DCLG mixed-adjusted house price indices. The PROPTAXMOD database provided information on the likely house value limits associated with each Council Tax band following a revaluation. Analysis of PROPTAXMOD provided the flat rate and progressive rates of national property tax that would be required to replace the system of Council Tax on a revenue-neutral basis.

Estimating the impact of property tax reform on house price volatility

This part of the analysis focuses on housing market volatility and involves further econometric modelling, but based on the net cost of acquiring a property, using a technical term known as 'user costs'. The 'user cost' of housing is a principal driver of house prices and house price growth (Muellbauer, 2005).

The main costs associated with buying a property are the mortgage interest payments (which depend on the value of the property, the size of the mortgage and the interest rate), the rate of depreciation of the property, the costs associated with buying it (Stamp Duty) and property taxes. On the other hand, we also have to take into account home-owners' expectations of future price changes. Expectations of future house price changes can be taken to be reflected in lagged house price growth rates (Muellbauer and Murphy, 1997). In other words, our expectations are formed by our observations of actual house price changes, but it takes a little while before a change in direction or speed of house price registers in our consciousness.

A final element in estimating the impact of 'user cost' on house prices arises from the cost of home-ownership *relative to renting*.

The impact of property tax on the user costs and prices was examined for English regions using data over the 27-year period 1983 to 2010.

Reforms to be modelled

Three reforms are modelled in this report:

- A revaluation of Council Tax taking place in 2012 on a revenue-neutral basis.
- The replacement of Council Tax with a national property tax charged as a standard percentage of property value on a revenue-neutral basis, implying a property tax of 0.65 per cent of property value.
- Establishing a progressive structure for the national property taxes, using rates that rise modestly as property values rise and that, together, combine to deliver an overall revenue-neutral alternative to Council Tax. The rates were 0.43 per cent on property value up to £110,000; 0.53 per cent on the whole of property value up to £160,000; 0.63 per cent on the whole of property value up to £230,000; 0.73 per cent on the whole of property value up to £400,000 and 0.83 per cent on the whole of property value thereafter.

The costs and benefits of these systems of taxation are assessed against the three criteria of:

- fairness between places;
- fairness between people; and
- tackling housing market volatility.

These assessments are made in Chapters 2–4 respectively, and conclusions are drawn in Chapter 5.

2 FAIRNESS BETWEEN PLACES

Council Tax was devised as a replacement for the deeply unpopular Poll Tax, and is best characterised as a hybrid tax. It is partly a tax on property value, but the banding system, the reduced bill for single people and various exemptions are designed to weaken this characteristic. It is also partly a service charge for local government services, something that is implied by reductions and exemptions. Finally, a concession to ability to pay from current income (and savings) is made through the rebate system.

Another dimension to 'fairness' is a spatial one — whether the system of taxation is fair between places. Council Tax has been criticised for being unfair in its distributional impact between places. Broadly speaking, its structure, which mutes the differences in property values between different local authority areas and its function as a source of local government revenue, means that properties are taxed more heavily in low-value areas than in high-value areas. This situation can be seen to be especially unfair because the areas of relatively low property values are also those that are less prosperous. Moreover, the situation is exacerbated by the long periods since revaluation last took place, so areas of relatively low house price growth might be seen as being treated unfairly compared to those experiencing more rapid house price growth.

The purpose of this chapter is to examine whether a national property tax would produce greater fairness between places compared with the Council Tax system. Implicit in the analysis is an assumption that it is fair to tax people in relation to the value of the properties that they inhabit. However, it is recognised that taxing property values without regard to other factors, notably income, might also be seen to be unfair. Similarly, the analysis of 'fairness between places' takes it as a given that moving to a system of national property taxes would be 'fairer' than Council Tax in terms of taxation reflecting property value. But it is also important to consider the impact

that reforms would have on the distribution of tax burden between places. In particular, do they better reflect a broad ability to pay, as well as a closer relationship to property value?

We present findings for the following regimes:

- the existing Council Tax system
- the existing Council Tax system based on revaluation
- a flat rate national property tax
- a progressive national property tax.

These four regimes yield four relevant comparisons:

- Scenario 1: Revalued Council Tax compared to existing Council Tax
- Scenario 2: Flat rate national property tax compared to revalued Council Tax
- Scenario 3: Progressive property tax compared to flat rate property tax
- Scenario 4: Progressive property tax compared to Council Tax.

The total tax take from Council Tax, flat rate national property tax and progressive national property tax by region is examined first. These show the scale of changes in tax take between regions. These shifts in tax take are not in themselves an indication of 'fairness'. If the starting position is very unfair, and the new systems are fairer, then we would expect to see large-scale redistribution. However, large and rapid changes in tax liability create practical problems and may in themselves be seen as a source of unfairness, implying that change would need to be gradual.

While a national property tax would, by definition, reflect a fairer taxation of the value of property in regions, the question remains whether taxing property in this way is also consistent with a broad ability to pay. Two measures are used to examine the broad ability to pay by region:

- Total tax take under the three regimes as a share of regional gross value added (GVA). Like gross domestic product (GDP), GVA is a measure of output, but also takes account of taxes and subsidies.
- Total tax take under the three regimes as a share of regional gross disposable household income (GDHI), which is a measure of the amount of money that the household sector has available for spending or saving.

In a refinement tax take per capita and GDHI per capita are compared under the three regimes.

All these scenarios are built around an assumption of revenue neutrality. Of course, over time, a national property tax would derive more or less revenue than at its starting point, depending on the movement of house values in the future.

Total tax take

The first part of the analysis examines the changes in tax take implied by moving first from a system of revalued Council Tax to a national property tax, and then to a progressive national property tax (Scenario 1).

Table 1 shows changes in the absolute level of taxation implied by such changes at a regional level. Revaluation in itself would increase the tax burden in London by £0.6 billion, which represents 2 per cent of the national tax take (or 14.6 per cent of the London tax take). This would be distributed

Table 1: Total tax take (£ billion)

Region	Council Tax	Revalued Council Tax	Flat rate national property tax	Progressive national property tax
North East	1.2	1.1	0.9	0.7
North West	3.6	3.4	2.7	2.3
Yorkshire & the Humber	2.7	2.6	2.2	2.0
East Midlands	2.3	2.2	1.8	1.6
West Midlands	2.8	2.7	2.3	2.1
East of England	3.5	3.5	3.4	3.4
South West	3.1	3.1	2.9	2.9
South East	5.3	5.3	5.7	6.0
London	4.1	4.7	6.7	7.7
ENGLAND	28.7	28.7	28.7	28.7

to the five Northern and two Midlands regions. There is little change in the South East, South West and East of England.

It is clear that shifting from a revalued Council Tax to a national property tax (Scenario 2) would entail substantial redistribution between regions. Five regions would see the level of property taxation fall when moving to a flat rate property tax and again from a national property tax to a progressive national property tax: East Midlands, North East, North West, West Midlands and Yorkshire & the Humber. Two regions would experience rises: London and the South East. A further two (East of England and the South West) would experience little change.

In total, some £2.4 billion (8.4 per cent of the total) of tax burden would be redistributed by moving from a revalued Council Tax to a flat rate property tax. A further £1.2 billion (4.2 per cent of the total) would be redistributed by moving to a progressive property tax (Scenario 3).

The comparison between a progressive national property tax and the unreformed Council Tax system (Scenario 4) would cause £4.3 billion of tax burden to be redistributed from London (£3.6 billion) and the South East (£0.7 billion) to the rest of the country. Tax liability falls the most (in absolute terms) in the North West (£1.3 billion), by £0.7 billion in Yorkshire & the Humber, West and East Midlands, and by £0.5 billion in the North East. Altogether, 15 per cent of the tax take would be shifted between regions when the progressive national property tax is compared with the current Council Tax.

Table 2 shows these changes in percentage terms.

Revaluation of Council Tax (Scenario 1) would lead to a 15 per cent rise in tax liability in London, no change in the South East and reductions in tax liability of between 1 per cent (East of England, South West) and 5 per cent (North West and West Midlands).

Scenario 2 (moving from a revalued Council Tax to a flat rate national property tax) would provoke much greater proportionate distribution between regions. Proportionately, the biggest gainer from Scenario 2 is the North West, followed by the North East and East Midlands (all roughly around 20 per cent). By far the biggest loser would be London, with a 43 per cent rise in tax take implied. A more modest rise of 8 per cent would be experienced in the South East. The increases in tax take implied by Scenario 3 is more modest in percentage terms: 15 per cent in London and

Table 2: Change in tax take (%)

Region	Scenario 1 Council Tax revalued vs Council Tax	Scenario 2 Flat rate property tax vs Council Tax revalued	Scenario 3 Progressive property tax vs flat rate property tax	Scenario 4 Progressive property tax vs Council Tax
North East	−3	−18	−22	−36
North West	−5	−21	−15	−35
Yorkshire & the Humber	−4	−15	−9	−26
East Midlands	−4	−18	−11	−32
West Midlands	−5	−15	−9	−27
East of England	−1	−3	0	−1
South West	−1	−6	0	−7
South East	0	8	5	13
London	15	43	15	85
ENGLAND	0	0	0	0

5 per cent in the South East. The North East would experience the largest proportionate reduction from this scenario.

Under Scenario 3 (progressive national property tax versus flat rate national property tax), London would experience a two-thirds increase in tax take, and the South East 13 per cent. The North East and North West would be the largest proportionate gainers, with a fall in tax take of one-third or more.

Under Scenario 4 (progressive national property tax compared to Council Tax), we see that tax liability in London and the South East would rise by 85 and 13 per cent respectively. Reductions of around one-third would be experienced in the North East, North West and East Midlands, and of around a quarter in Yorkshire & the Humber and West Midlands. Around 17 per cent of the rise in liability for London under Scenario 4 is caused by revaluation independently of the national property tax.

Tax as a share of regional gross value added

GVA is a measure of output, like GDP, but also takes into account tax and subsidies. It is an indicator of the prosperity of a region. On the basis that we might expect the more prosperous regions to contribute more to taxation than the less prosperous ones, one test of the fairness of the various scenarios is to examine the tax take implied by each regime with the GVA of a region.

Table 3 shows the value of property tax take as a proportion of regional GVA under the four regimes: unreformed Council Tax, revalued Council Tax, flat rate national property tax and progressive national property tax. It shows wide variations in the share of GVA accounted for by property tax between regions. London is the only region that contributes less than the national average under the Council Tax regime: 1.5 compared to 3.1 per cent in the South West and 3.0 per cent in the East of England, and a national average of 2.5 per cent. Only minor changes would occur as a result of Council Tax revaluation (Scenario 1).

A flat rate property tax has the effect of narrowing the range of contributions compared to the revalued Council Tax (Scenario 2). London

Table 3: Tax as percentage of gross value added (GVA)

Region	Council Tax	Revalued Council Tax	Flat rate national property tax	Progressive national property tax
North East	2.8	2.7	2.1	1.8
North West	2.9	2.8	2.2	1.9
Yorkshire & the Humber	2.9	2.8	2.4	2.2
East Midlands	2.9	2.7	2.2	1.9
West Midlands	2.9	2.8	2.4	2.2
East of England	3.0	3.0	3.0	3.0
South West	3.1	3.0	2.9	2.8
South East	2.7	2.7	2.9	3.1
London	1.5	1.7	2.4	2.7
ENGLAND	2.5	2.5	2.5	2.5

moves strongly towards the average, although is still below it. There is little or no change in the East of England and the South West, while the North East and North West fall from above to below the average.

A progressive property tax provokes a further redistribution compared to the flat rate property tax (Scenario 3). London moves above the average (by 0.2 percentage points), and the North East moves below it (by 0.6 percentage points).

These two regions make a good comparison for Scenario 4: the change from the Council Tax system to a progressive property tax. Under Council Tax, the figure for London is 1.5 compared to 2.8 in the North East. The progressive property tax produces an almost perfect mirror image: 2.7 in London and 1.8 in the North East. The swapping of differences between these two regions is relevant, because London has by far the highest per capita GVA in England (£35,638), and the North East the lowest (£15,842).

Tax and gross disposable household income

GDHI is another benchmark against which the fairness of taxes between regions might be judged. It is now often regarded as being a more meaningful measure of regional prosperity than GDP or GVA.

Table 4 shows tax take as a proportion of regional GDHI in the nine regions of England.

It can be seen that under Council Tax, the burden expressed as a proportion of regional GDHI is 2.5 per cent in London – much lower than elsewhere and the average of 3.3 per cent. Under the revalued Council Tax the share ranges from 2.9 per cent in London to 3.5 per cent in Yorkshire & the Humber, compared to a national average of 3.3 per cent. However, as we move to the flat rate property tax, London moves above the average, while the three northern regions and the East Midlands move below it. A flat rate property tax produces greater divergence from the average. The movement in tax burden from North to South continues under the progressive property tax.

Table 5 shows the changes implied by the four scenarios. It emphasises the tendency for there to be more gaining regions under the four scenarios than losers, with the result (notwithstanding size) that the rises in tax take in the principal 'losing' region (London) are much greater than the fall in tax

Table 4: Tax take as percentage of gross disposable household income (GDHI)

Region	Council Tax	Revalued Council Tax	Flat rate national property tax	Progressive national property tax
North East	3.3	3.2	2.5	2.1
North West	3.6	3.4	2.7	2.3
Yorkshire & the Humber	3.6	3.5	3.0	2.7
East Midlands	3.6	3.4	2.8	2.4
West Midlands	3.6	3.4	3.0	2.6
East of England	3.6	3.5	3.5	3.5
South West	3.6	3.6	3.4	3.4
South East	3.4	3.4	3.6	3.8
London	2.5	2.9	4.1	4.7
ENGLAND	3.3	3.3	3.3	3.3

Table 5: Scenarios: differences in share of tax as percentage of regional gross disposable household income

Region	Scenario 1 Council Tax revalued vs Council Tax	Scenario 2 Flat rate property tax vs Council Tax revalued	Scenario 3 Progressive property tax vs flat rate property tax	Scenario 4 Progressive property tax vs Council Tax
North East	−0.1	−0.7	−0.4	−1.2
North West	−0.2	−0.7	−0.4	−1.3
Yorkshire & the Humber	−0.1	−0.5	−0.3	−0.9
East Midlands	−0.2	−0.6	−0.4	−1.2
West Midlands	−0.2	−0.4	−0.4	−1.0
East of England	−0.6	0	0	−0.1
South West	0	−0.2	0	−0.2
South East	0	0.2	0.2	0.4
London	0.4	1.2	0.6	2.2
ENGLAND	0	0	0	0

take among the 'gaining' regions. (The rises in the South East are modest in comparison.)

In a refinement of the analysis, the regional GDHI per capita and the tax per capita are compared to the English average in Table 6. The first column shows that London has the highest GDHI per capita, which is also above average in the South East and just over the average in the East. The North East has the lowest GDHI per capita, at 83 per cent of the English average.

Under the current Council Tax, London is the only region whose tax per capita is lower than its GDHI per capita. Moreover, it is substantially lower (33 percentage points). In every other region, tax per capita is higher than GDHI per capita.

While this is the only one of our measures whereby London pays more tax than the average under the revalued Council Tax scenario, this does not reflect its full GDHI per capita. Yet under the flat rate property tax, London's tax share of GDHI per capita does rise above its general share of GDHI per capita, and rises further under the progressive option. In contrast, the

Table 6: Regional gross disposable household income per capita and tax per capita compared to the English average

	GDHI pc as % of English average	Council Tax	Revalued Council Tax	Flat rate national property tax	Progressive national property tax
North East	83	84	79	61	52
North West	89	95	91	72	62
Yorkshire & the Humber	85	94	89	76	68
East Midlands	90	95	91	74	64
West Midlands	88	94	91	79	70
East of England	102	110	108	107	107
South West	99	109	107	101	99
South East	111	113	113	121	127
London	126	93	110	154	177
ENGLAND	100	100	100	100	100

poorest region (the North East) begins by paying slightly more than the its GDHI per capita share, but substantially less under the flat rate property tax, and a still lower share under the progressive option.

'Fairness' here may depend on quite how 'progressive' one wishes the tax system to be. A progressive system implies higher proportions of resources are taken in tax as resources rise, and this is implied by the progressive property tax. Nonetheless, on this measure at least, Londoners might have a case for saying that this is a distribution 'too far'.

Conclusions

The principal change in distribution between places implied by a shift from a revalued Council Tax to a flat rate property tax and a progressive property tax is an increase in the tax burden in London (and to a lesser extent the South East) towards the rest of the country. On the measures of property tax in relation to GVA and GDHI, property taxes remove the apparent 'under-taxing' of London. The outcomes appear more progressive on GVA, although on the basis of GDHI per capita, the redistribution may appear to go 'too far'.

Of course this is a crude exercise. Property taxes tax property value, and that in itself can be seen as being 'fair'. If our over-riding wish was to base taxes on regional GVA or GDHI, then we would tax GVA and GDHI rather than hoping that property tax would be a useful proxy for them (although a mechanism would be required to translate these to the household level). However, what this exercise has shown is two things. First, property taxes redistribute the tax burden towards the most prosperous part of the country, and away from the less prosperous regions. But second, the redistribution is a large one, and this emphasises the need for any reform to be phased in.

However, 'fairness' and scale of the changes implied by property taxes will become much clearer when examined at the household level, which is done in the next chapter.

3 FAIRNESS BETWEEN PEOPLE

The reform and possible replacement of Council Tax with a system of national property taxation is bound to have significant and differential impacts on people. Property taxes tend to be especially politically sensitive due to their visibility, and because the voices of the losers are likely to be stronger than those of people who would benefit from reforms.

In this chapter, we examine the impact of four tax regimes on households:

- the existing Council Tax system;
- the existing Council Tax system based on revaluation;
- a flat rate national property tax;
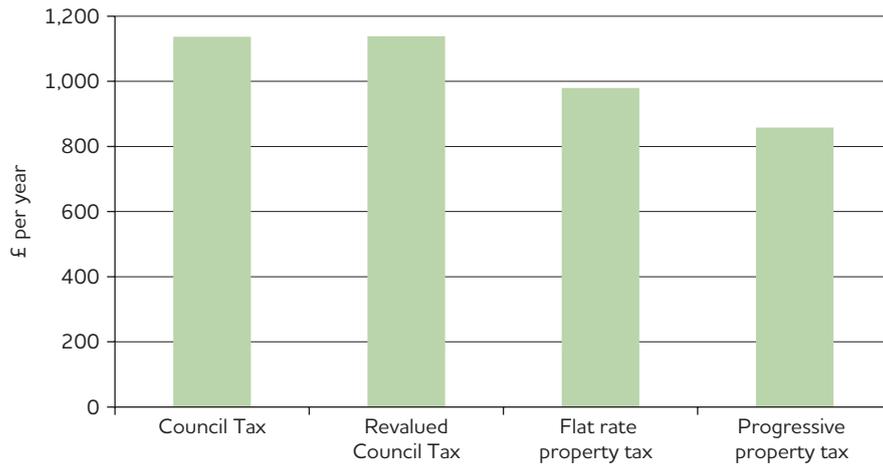- a progressive national property tax.

The chapter examines first, the impact of these regimes on households at a national level (England), then at a broad regional level, and at clusters of types of areas within broad regions. Finally, we examine the range of gains and losses.

Reforms are simulated on a revenue-neutral basis. All figures are gross and do not reflect the operation of the Council Tax Benefit scheme or its successors. The single person discount is reflected in Council Tax and revalued Council Tax figures, but is removed under the two national property tax regimes. Incomes are recorded at the household level. The ordering of households by income decile is based on incomes that are adjusted ('equivalised') for household composition, but tax bills are not.

National picture

A revaluation of Council Tax would have almost no impact on median Council Tax bills of £1,137 per year (see Figure 5). However, a shift to a flat rate property tax would reduce median bills by £158 and a progressive property

**Figure 5: Median tax bills under different tax regimes**

tax would reduce them by a further £122. Compared to the existing system, median bills would be £279 (25 per cent) lower under a progressive property tax than they are now.

Gross Council Tax liability is remarkably flat across the income distribution: the median bill for households in the top 10 per cent is 1.4 times higher than households in the lowest income decile. This differential rises to 1.5 when Council Tax is revalued, although absolute bills fall most for those in the middle income range. A shift to a flat rate property tax would reduce median gross bills across the income spectrum, apart from the top income decile. A progressive property tax would reduce bills further by a median of £133 across the bottom six income deciles, but would provoke a median rise only in the top 10 per cent.

When a progressive national property tax is compared with the current Council Tax, median bills are lower across the income spectrum, apart from the top 10 per cent (see Figure 6). Each reform increases the ratio of the gross bill for the top 10 per cent against the bottom 10 per cent: from 1.4 to 1.5 when we move from Council Tax to a revalued Council Tax. This rises to 1.7 under the flat rate property tax and to 2.1 under the progressive property tax. Compared with Council Tax, the bill falls by one-fifth for households in the bottom 10 per cent, and rises by 13 per cent in the top 10 per cent. However, the bill falls by one-third for those in income deciles 2–6.

Figure 6: Median tax bills across the income spectrum
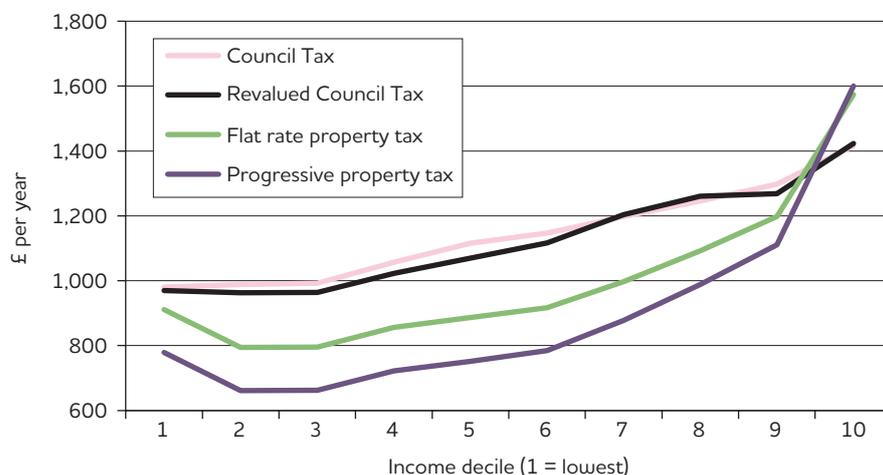
While at a national level the overall effect of the reforms is to redistribute the tax burden from the bottom to the top, it should be noted that each of these taxes is regressive in terms of the proportion of income that *gross* liability represents. Under Council Tax, median bills represent 16 per cent of net income for people in the bottom income decile compared to 2.7 per cent at the top. Revaluing Council Tax scarcely changes this, and even under a progressive national property tax, the bottom 10 per cent have gross median bills of 13 per cent compared to 3 per cent at the top. However, there is a marked lowering of the differences in gross bills as a proportion of income between the second lowest decile and the top two deciles. This suggests that gross property taxes are fairer than Council Tax, although undoubtedly still regressive.

Council Tax revaluation does not lead to marked changes in gross median bills between different household types (see Table 7). Compared to the revalued Council Tax, a national flat rate property tax would lead to lower median bills for every household type, within the context of the median total falling by £158. The groups with the largest median gains would be elderly couples and couples with children. Despite the removal of the single person's deduction under the property tax, single working-age households and single pensioners would experience slightly lower median bills under the flat rate property tax. Moreover, a move to a progressive national property tax leads to proportionally larger reductions in the gross bills for these groups.

Regional impacts

It is when we examine impacts at the 'broad' regional level that we see marked divergences in the impact of reforms (see Figure 7). The impacts on household median bills arising from Council Tax revaluation are relatively modest – rising by £97 in London and by £25 in the South, while falling by £75 in the North and £84 in the Midlands. Moving to a flat rate national property tax would, however, lead to median bills rising by a further £261 in London, but falling substantially in the other regions. A move to a progressive national property tax would reinforce this trend. Compared with the existing Council Tax, a progressive national property tax would lead to gross bills that were one-third higher in London, about one-fifth lower in the South and more than 40 per cent lower in the North and Midlands.

The marked differences in regional impacts can be demonstrated by comparing London with the Midlands, the two regions with the most divergent changes in median bills under the reform scenarios. Council

**Table 7: Median tax bills for different household types (£)**

	Council Tax	Revalued Council Tax	Flat rate property tax	Progressive property tax
Single	851	840	824	690
Lone parent	837	824	801	668
Couple, two adults	1,264	1,261	1,008	891
Couple with children	1,298	1,292	1,108	1,006
Multi-adult	1,192	1,208	993	873
Single elderly	874	855	828	694
Couple, two elderly	1,314	1,319	1,097	994
Total	1,137	1,138	980	858

Figure 7: Median tax bills for different regions

Legend: Council Tax, Revalued Council Tax, Flat rate property tax, Progressive property tax

Tax revaluation leads to increases in gross tax liability across the income spectrum in London, but to falls across the income spectrum in the Midlands. The median bill rises by £110 for households in the bottom tenth of the national income distribution in London under Council Tax revaluation, but falls by £33 for households in the top 10 per cent in the Midlands. Under a flat rate national property tax, gross median bills for the top 10 per cent in the Midlands fall by £165 (compared to the revalued Council Tax), but rise for the bottom 10 per cent in London by £244. The move to a progressive national property tax has less additional impact. The median gross bill for a household in the bottom 10 per cent in London under a progressive property tax would be £1,416, compared to £1,021 for someone in the top 10 per cent in the Midlands. Clearly, the national picture masks inter-regional transfers that are deeply regressive in terms of current income at the household level.

Figure 8: Median tax bills in the Midlands and London for top and bottom income deciles

Legend: Midlands bottom 10%, London bottom 10%, Midlands top 10%, London top 10%
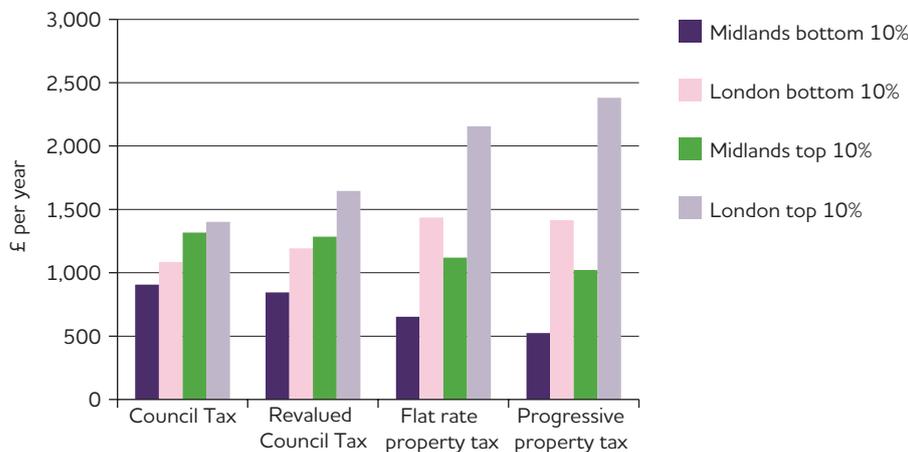
A similar pattern emerges when we compare household types. One example illustrates the pattern. The median Council Tax bill for lone parents in the Midlands is £772 compared to £940 in London. Under the flat rate national property tax, the median bill for London lone parents rises to £1,362, but falls for their Midland counterparts to £625. Under a flat rate national property tax, a pensioner couple in London would have a median bill of £1,882 compared to a median of £868 for pensioner couples in the Midlands. These patterns offend any principle of horizontal equity – equal treatment of people in similar situations.

Impacts on areas with particular characteristics

The regional impacts used above provide a broad picture of the way in which different property tax regimes would work across England. However, there are, of course, differences within regions. In this section we use Office for National Statistics (ONS) 'supergroups' to provide additional analysis at the sub-broad regional level. 'Supergroups' are clusters of local authority areas that share similar social, economic and demographic characteristics.

The first message is that the broad regional pattern is generally reflected in the sub-regional clusters. Taxes almost always rise or fall across a broad region, regardless of cluster. The second message is that there is little variation between clusters in the North and Midlands. Third, there is more variation between clusters in the South, and especially London. Fifth, within London, London centre stands out as experiencing especially large changes in tax liability under the property (as opposed to Council Tax) tax regimes.

Range of impacts

The impact of reforms in property taxes should take into account the range of impacts as well as the median. We use the following convention for describing the range of gains or losses:

- 'Little change' means an increase or decrease in tax liability of less than 10 per cent.
- 'Significant' means a gain or loss of more than 10 per cent.
- 'Extreme' means a gain or loss of more than 50 per cent.

Figure 9: Median tax bills for lone parents
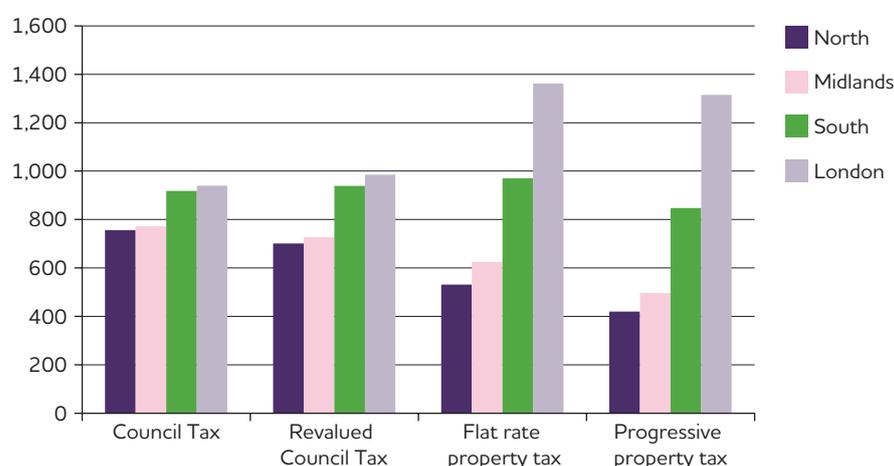
Table 8: Median tax bills by broad and 'super'-region (£)

	Super Name	Council Tax	Revalued Council Tax	Flat rate property tax	Progressive property tax
North	Cities and Services	1,008	930	663	533
	Coastal and Countryside	1,179	1,100	885	750
	Mining and Manufacturing	982	901	599	474
	Prospering UK	1,177	1,106	865	730
	Total	1,016	941	697	567
Midlands	Cities and Services	981	905	676	546
	Coastal and Countryside	1,056	974	728	597
	Mining and Manufacturing	1,060	907	616	488
	Prospering UK	1,231	1,161	898	763
	Total	1,096	1,012	756	624
South	Cities and Services	1,166	1,209	974	851
	Coastal and Countryside	1,193	1,305	1,065	956
	London Suburbs	1,066	1,125	886	751
	Mining and Manufacturing	1,119	1,305	1,144	1,048
	Prospering UK	1,277	1,290	1,194	1,106
	Total	1,254	1,279	1,131	1,034
London	Cities and Services	1,301	1,407	1,581	1,609
	London Centre	992	1,103	1,882	2,014
	London Cosmopolitan	1,116	1,248	1,540	1,554
	London Suburbs	1,304	1,400	1,588	1,618
	Prospering UK	1,279	1,328	1,369	1,324
	Total	1,217	1,313	1,574	1,600
Total	Cities and Services	1,039	1,002	799	666
	Coastal and Countryside	1,179	1,238	1,000	881
	London Centre	992	1,103	1,882	2,014
	London Cosmopolitan	1,116	1,248	1,540	1,554
	London Suburbs	1,298	1,349	1,540	1,554
	Mining and Manufacturing	995	909	616	488
	Prospering UK	1,258	1,243	1,095	992
	Total	1,137	1,138	980	858

Council Tax revaluation

Almost 70 per cent (68.7 per cent) of households would experience little change in their Council Tax bills as a result of revaluation. Although significant losers would outnumber significant gainers, there are almost no extreme losers.

However, there is a North–South divide. Whereas the proportion of significant net gainers is 17.3 per cent of households in the North and 22.4 per cent in the Midlands, in the South, the proportion of significant net losers is 22.9 per cent and in London this rises to 52.3 per cent. Fully one-quarter of households in London would experience a change in their bill of between £25 and £50. Four per cent of households would experience bills rising by more than 50 per cent.

If we subtract the proportions of significant losers from the proportion of significant gainers, the North (15.5 per cent) and Midlands (17.5 per cent)

Table 9: Percentage of households experiencing ranges of gains or losses under revalued Council Tax compared to Council Tax

	>−50%	−25−49%	−10−25%	+/−0−10%	10−25%	25−49%	>50%
North	0	1.2	16.1	76.1	4.3	2.0	0.2
Midlands	0	2.2	20.2	72.6	2.8	1.9	0.2
South	0	0.7	6.2	70.2	13.7	8.1	1.1
London	0	0.2	1.9	45.6	22.5	25.8	4.0
England	0	1.1	11.2	68.9	10.2	7.8	1.1

Note: Negative numbers = gains

register strong positive net proportions of significant gainers, the South (−16 per cent) and London (−50.2 per cent) strong net proportions of significant losers.

Flat rate property tax

Compared to a revalued Council Tax system, the introduction of a flat rate national property tax would have the following range of impacts. At a national level, about one-quarter of households would experience little change in their gross liability. More than half (52 per cent) of all households would be significant gainers, whereas just over one-fifth (21.7 per cent) would be significant losers. Although the proportions are relatively small, there are more extreme losers (5.8 per cent) than gainers (4.2 per cent).

The regional pattern is pronounced. The North (67.5 per cent) and Midlands (62.8 per cent) register very high levels of net significant gainers (that is, percentage of gainers minus percentage of losers). The proportion of significant gainers minus significant losers in the South is also positive (16.9 per cent), leaving London significant gainers minus significant losers at −50.6 per cent.

Progressive property tax

Measured against the flat rate national property tax, the progressive national property tax makes relatively little further difference. On this change, it is London that registers the highest proportion (60.3 per cent) of households with little change to their bills. Nonetheless, one-quarter of London households experience significant increases in bills. However, extreme cases disappear.

Combined package

If we moved from the current Council Tax system to a progressive property tax overnight, only one in ten (11.7 per cent) of households would experience little change. Significant gainers outweigh significant losers

Table 10: Percentage of households experiencing ranges of gains or losses under flat rate property tax compared to revalued Council Tax

	>−50%	−25−49%	−10−25%	+/−0−10%	10−25%	25−49%	>50%
North	10.6	42.2	22.2	17.4	3.9	2.2	1.4
Midlands	5.4	40.1	25.7	20.4	4.8	1.9	1.7
South	0.4	17.3	23.1	35.1	10.5	8.6	4.8
London	0.0	1.8	8.4	29.0	19.7	18.9	22.2
England	4.2	26.6	21.2	26.3	8.9	7.0	5.8

Note: Negative numbers = gains

Table 11: Percentage of households experiencing ranges of gains or losses under progressive property tax compared to flat rate property tax

	>−50%	−25−49%	−10−25%	+/−0−10%	10−25%	25−49%	>50%
North	0	0	81.3	16.3	2.1	0.3	0
Midlands	0	0	76.7	20.6	2.4	0.3	0
South	0	0	45.2	43.0	8.7	3.1	0
London	0	0	14.5	60.3	17.2	8.0	0
England	0	0	57.1	33.6	6.9	2.5	0

Note: Negative numbers = gains

Table 12: Percentage of households experiencing ranges of gains or losses under progressive property tax compared to Council Tax

	>−50%	−25−49%	−10−25%	+/−0−10%	10−25%	25−49%	>50%
North	37.5	37.6	11.1	6.0	2.5	2.3	2.9
Midlands	30.2	42.4	11.8	7.4	2.5	2.6	3.1
South	5.6	28.7	19.0	17.0	9.0	8.4	12.3
London	0.7	5.2	8.5	15.3	11.8	17.0	41.6
England	18.8	30.4	13.8	11.7	6.3	6.8	12.2

Note: Negative numbers = gains

by 63 per cent to 25 per cent. There is a smaller difference between the proportions of extreme net gainers (18.8 per cent) and extreme losers (12.2 per cent).

Perhaps such a change could be contemplated if the national picture was uniform. However, it manifestly is not. Whereas 37.5 per cent of households in the North are extreme gainers, 41.6 per cent in London are extreme losers. Nonetheless the numbers of significant gainers in the South, as well as in the Midlands and North, outweigh the numbers of significant losers.

It is London, where 70.4 per cent of households would be significant losers, and 41.6 per cent would be extreme losers, where the problem lies.

Conclusions

Reform of property taxes could lead to a very substantial redistribution of tax liability. The main findings are:

- Property value taxes would lead to a reduction in median bills, even under the assumption of revenue neutrality.
- Property value taxes would redistribute the tax burden from the bottom to the top end of the income distribution.
- These two factors imply that the cost of rebates to help low-income households should reduce, which, on a revenue-neutral basis, implies that money to ease transition would be available.
- Nonetheless, without a rebate system, property value taxes are invariably regressive in that they represent a higher proportion of a low income than a high one. They are simply less regressive than Council Tax.
- There is a very different distributional pattern across the country, however, which means that the reforms discussed would be unfair to many households. Property value taxes would redistribute tax liability to

the South, so that people on low incomes in London would, in effect, be paying for the taxes of prosperous people in the North to be reduced.

- The most powerful determinant of the distributive effect of the reforms discussed is broadly regional, rather than socio-economic and demographic. This general observation is most clearly true in the North and Midlands, but less true in London and the South, where there is more variation between clusters.
- Within London, the centre stands out as experiencing especially large increases in tax liability as a result of property value taxes.

Three broad conclusions arise from this chapter:

- At a national level, property value taxes are fairer than Council Tax or revalued Council Tax.
- The range of gains and losses are sufficiently wide to indicate that any movement from Council Tax to one based on property values would have to be gradual.
- If behaviour did not alter sufficiently over a phase-in period, clearly some of the end results would be unfair, even if phased in gradually. This implies two things:
  – central London would almost certainly have to be treated in another way, or excluded from a scheme covering the rest of the country;
  – a pure property value tax would not be fair, to the extent that it would be necessary to compensate people on low incomes. This could be done through a rebate system, but there is a strong case for embedding an income-related element into the tax itself, so it becomes a hybrid income and property tax.

4 HOUSING MARKET VOLATILITY

This chapter presents the findings of an economic modelling exercise that estimates the impact that property taxes have had on house price volatility, and the effects that a uniform property value tax would have had on house price changes in England between 2000 and 2010.

Although the JRF Housing Market Taskforce argued that volatility can be defined as 'rapid fluctuations in house prices', this definition is narrowed for the purpose of the econometric modelling summarised here. The working definition of volatility is therefore based on high rates of real house price change. However, it is worth noting that another measure might relate to temporal unevenness in the rate of price change. Both of these aspects of volatility are important – high rates of growth because they are associated with inter-generational injustice and a problem (accessing housing) that exacerbates over time, and temporal unevenness because this increases the importance of households timing when they enter the market. Those purchasing towards the end of a boom face more uncertainty and risk in terms of housing equity.

In this chapter we argue that there is a third important aspect to volatility, and this lies in the distribution of house prices and the way in which this distribution changes over time. It is generally known and accepted that the distribution of many economic variables will evolve, and correct, over an economic cycle. Notably, the gap between those with higher and lower labour market earnings generally increases during periods of strong economic growth, and falls back during recessionary periods and periods of low growth. It is also worth recalling the 1980s/1990s academic debate on the relationship between house prices in UK regions. In particular, a number of studies explored 'regional ripple effects' to test a number of hypotheses, including whether the phenomenon existed at all, whether regional differences in price growth rates were transitory or persistent, and whether regional ripples were likely to have been caused by migration

between regions, diffusion of information or were simply an artefact created by differing regional economic structures.

The important question in the context of this chapter is whether changes in the price distribution are transitory or permanent, and we raise this question for two reasons:

- Council Tax is widely recognised, and much criticised, for its regressive nature. Therefore, by its nature, it is not likely to have a uniform effect on price growth across the price distribution.
- The period from the late 1990s through 2010 is associated not just with deteriorating affordability, but also with polarisation between households able to access home-ownership, and those unable to do so. The period has also witnessed substantial growth in buy-to-let, presumably driven by those households already able to access home-ownership.

Figure 10 shows cumulative real house price indices for England, with lower quartile (lq), median (md) and upper quartile (uq) expressed separately. It is immediately evident that the price distribution widened considerably between the mid-1990s and around 2007, a year in which the distribution seems to have narrowed again. Between 2007 and 2010, there is a curious pattern in which lower quartile and median prices reduced at a greater rate than the upper quartile.

The potential significance of changes in the house price distribution to a definition of volatility is made clearer in Figure 11. Here, we express the upper quartile real house price for England as a proportion of the median. We can immediately see that the most recent period of house price growth (1995–2006) is also a period in which the upper quartile grew at a greater pace than the median of the distribution.

Modelling volatility

We specified and modelled house price growth as a function of the level and changes in household income, the user cost, the ratio of housing stock to population and the price to income ratio.

Clearly, we would expect higher levels of household income, and income growth, to be associated with higher levels of house price growth. We would

Figure 10: Prices at different points in the distribution
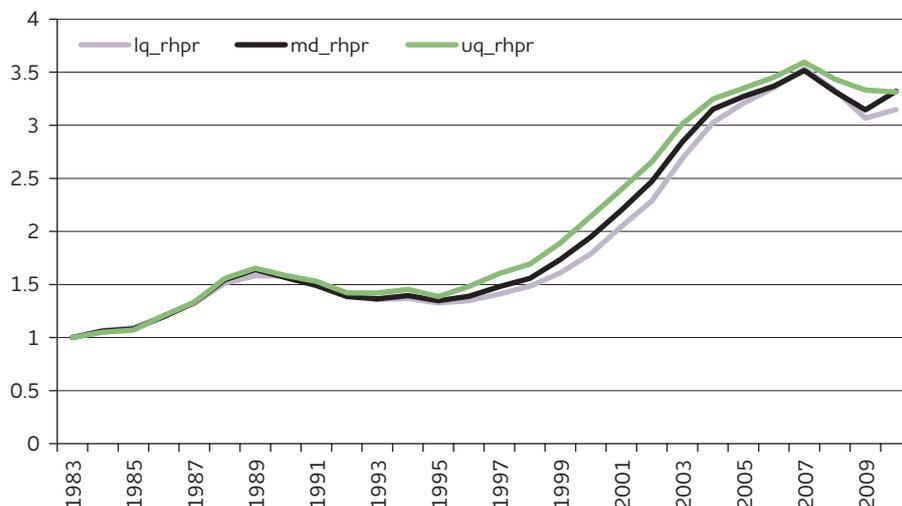
Figure 11: Ratio of upper quartile to median real house prices
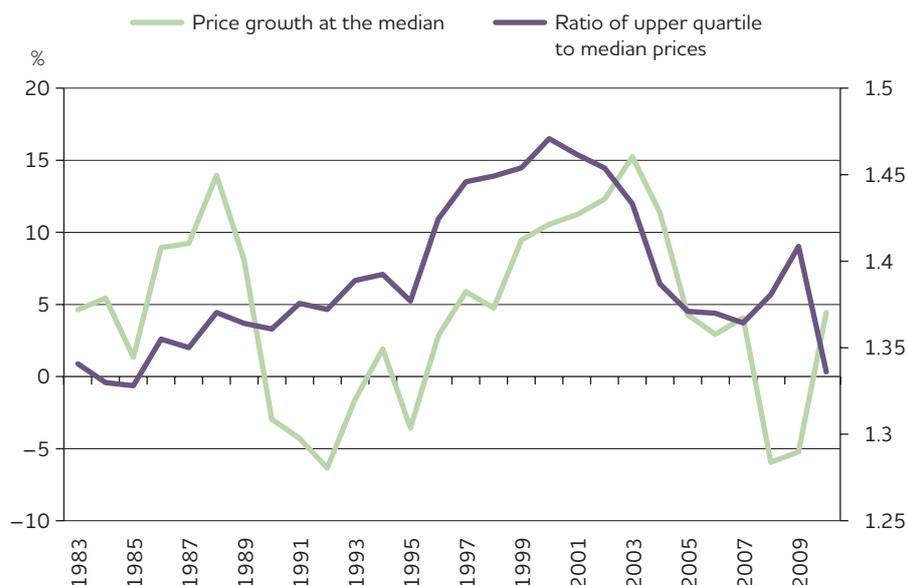
expect the price to income ratio to work in the opposite direction: as prices become higher relative to household incomes, rates of price growth should fall.

In most time series models of the housing market, the user cost term is a composite of mortgage rates, depreciation, transaction costs, property taxation and expected future price growth. However, in this study we included property taxation as a separate term rather than risk confounding the effect of this variable with the other elements of user cost. Our user cost term is therefore defined as shown in Box 1.

Box 1: Definition of user cost

$$UC_t = 0.90 \times MR_t + 0.025 - P^{he}/P^h$$

Where,

UC = user cost
MR = average bank and building society mortgage rate
P^{he} = log of expected future house prices
P^h = log of house prices

The dependant variable is the difference, in natural logs, of median real house prices. We also estimate the equation setting the dependant variable as the upper quartile of real house prices. In a variant of the latter, we also include an additional explanatory variable – the (lagged) ratio of upper quartile to median real house prices. As we explain above, our reasoning is that change in the distribution of house prices is an important aspect of housing market volatility. The formal specification of the model is shown in Box 2.

In order to capture spatial as well as temporal differences in the rate of property taxation, we estimate the models using annual data measured for English Government Office regions. Although the focus of the project is on Great Britain, we restricted this time series and volatility strand of the work to English regions to reflect the longer time series available in England.

Summary of the estimation results

Table 13 summarises the results of the economic modelling, with a fuller set of results provided in the Technical appendix at the end of the report. We experimented with three variants of the model to explore whether volatility is important at different points in the price distribution (specifically, the median and upper quartile).

The important points to note from Table 13, and the Technical appendix, are that the user cost and price to income terms are significant and negative in each equation, and the income terms and ratios of housing stock to households are significant and positive. The fact that these important predictors yield effects in line with our prior expectations, and are significant, reinforces the credibility of the model. In addition, we find that the two-period difference in log of the mortgage stock, a term suggested by Muellbauer (2005), is significant and positive in each of the equations. This variable was argued by Muellbauer to proxy for mortgage lenders' willingness to expand the supply of mortgages in the near future. Reflecting that the last variable referred to will not be a perfect proxy for mortgage

Table 13: Simplified modelling results

	Expected effect	Model 1	Model 2	Model 3
Constant	n/a	Y	Y	Y
Housing stock ÷ population	+	Y	Weak	Y
House price ÷ (2 × income)	–	Y	Y	Y
User cost	–	Y	Y	Y
Disposable income	+	Y	Y	Y
Growth in disposable income	+	Y	Y	Y
Growth in mortgage stock	+	Y	Y	Y
South East house price index	+	Y	Y	Y
Exchange rate (£:€)	+	Y		
Tax take	–	Y		
Ratio of upper quartile to median house prices				Y

market conditions, we also included the Sterling to Euro exchange rate as an additional proxy. However, we found that this was only significant in model 1.

How do the models perform in a predictive sense? The adjusted R squares range from 0.50 to 0.61, a range that we would argue to be at least acceptable[1] given that the dependent variable represents a difference term, or approximate growth rate. We can gain some further insight to the goodness of fit obtained from these models by examining the observed and fitted values (summarised in Figures 12 through 14 below).

Figures 12 through 14 summarise the goodness of fit for England overall, by showing regional figures aggregated, weighted for population. What is evident is that all three models capture the turning points in the housing market effectively, including the late 1980s boom, the subsequent recession, the 1997–2005 boom, and the downturn from 2007/08.

Having summarised the more routine or prior expected aspects of the results earlier, we now turn to the role of property taxation in the determination of price growth and volatility. In all three models the main variable of interest is labelled 'l_taxtake', or natural log of total tax take which is defined for pre-1990[2] observations as:

$$(\text{number of dwellings} \times \text{owner-occupation rate} \times \text{property tax rate at the median} \times \text{median price})$$

… and for post-1991 observations is defined as:

$$(\text{number of dwellings} \times \text{property tax rate at the median} \times \text{median price})$$

The variable is statistically significant and negative in the first of the models – the most important equation focused on the real median house price growth rate. The effect is small, but shows that independently of the user cost term, house price growth is depressed by higher rates of property taxation, as we might expect. The property tax term is significant in neither of the upper quartile equation estimations. However, a second variable is of interest in model 3: the ratio of the upper quartile to the median real house price. As shown in Table A2, this variable is statistically significant and positive. It suggests that, as the distribution of house prices widens, there is a further inflationary effect on house prices on the right-hand side of the distribution.
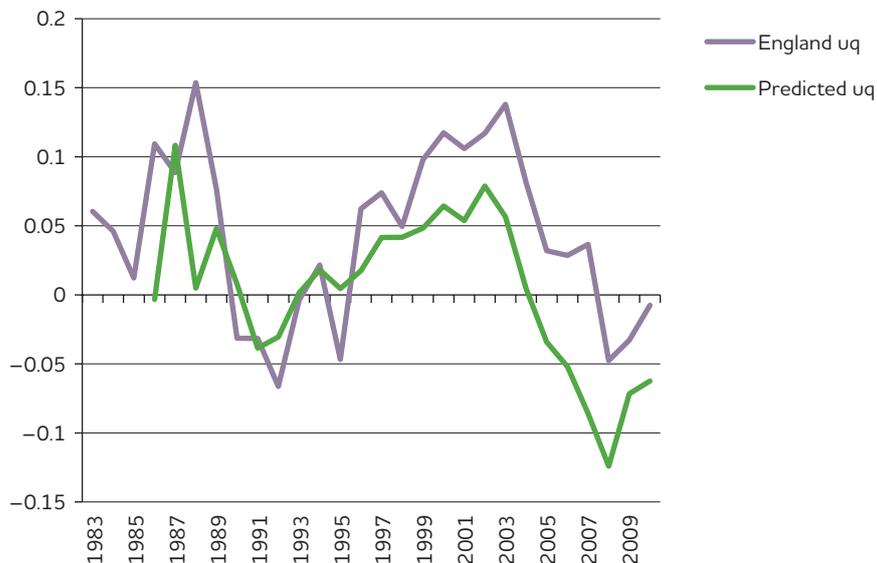
Figure 12: Observed and fitted values for model 1
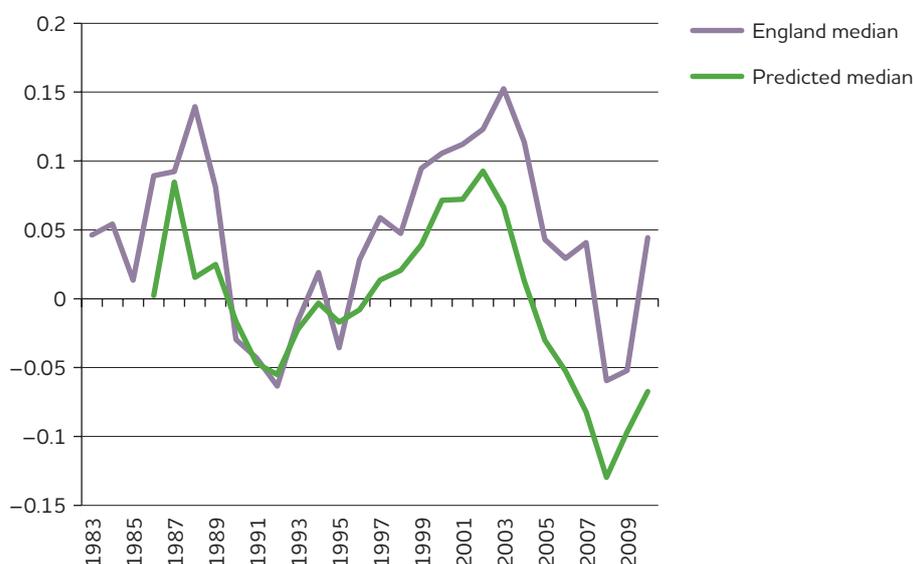
Figure 13: Observed and fitted values for model 2
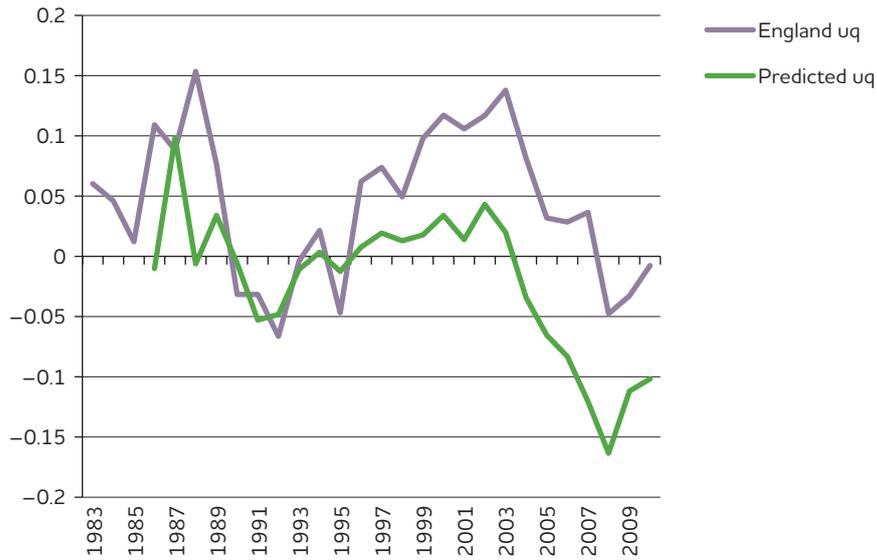
Figure 14: Observed and fitted values for model 3

We interpret this as support for the notion put forward earlier in the chapter that the tendency for price distributions to widen in times of growth is an important aspect of housing market volatility.

In summary, the economic modelling results indicate that low rates of property taxation encourage higher rates of price appreciation, and that polarisation between the upper end of the price distribution and the middle tends to encourage higher rates of price appreciation at the upper end of the distribution. Despite this, the magnitudes of these effects are not easy to interpret directly from the modelling results. We therefore conclude this section by presenting the results of a simulation in which the models summarised earlier are used to predict house price growth during the period 2000–10. We then adjust the property tax rates that prevailed in this period to obtain a revised set of fitted values. This revised set of values includes all relevant feedback effects (that is, as predicted price growth rates are revised,

there are knock-on effects to the user cost term because future expected price growth is posited as a function of past observed rates).

Does property taxation have a noticeable impact on volatility?

It is important to acknowledge that the simulation results shown below are based on a number of assumptions, out of necessity. The most important of these relates to the fact that the econometric results were obtained from an analysis of the interplay between rates of house price change and, among other things, property tax during three successive taxation regimes. The period 1983–88 is one in which taxation was levied on owned domestic property, at a relatively high rate compared with later in the study period. The 1989–91 period was a short period of nil property taxation given its timing between the abolition of the domestic rating system and the introduction of Council Tax (that is, the 'Poll Tax years'). Meanwhile, the period 1992 through 2010 is obviously the longest period within the study period, and reflects the uniquely regressive nature of the tax, and its declining tax take over time. Given the latter observation, we must accept that the underlying model, and any simulation based on it, can say very little about the role of regressivity/progressivity in housing market volatility. To put this another way, the simulation is necessarily based on a manipulation of total Council Tax-take, and this is quite different to the structure of the national property tax proposed in this report. In this simulation exercise we can say little about the likely effect of a more progressive tax system because the econometric estimates were derived from observing a system of taxation that is inherently regressive.

Nevertheless, the simulation results in Table 14 show that, even within the very narrow parameters described above, there is a weak relationship between the overall property taxation rate at the median, and house price change (so, volatility). Although the effect works in the direction we expected to find, and is statistically significant, it is also very small. Moving from an overall tax rate of 0.74 per cent (approximately the effective Council Tax rate at the median) to a 2 per cent tax rate at the median (which is an enormous increase) reduces the mean rate of price change from 5.15 per cent to 4.71 per cent. The effects of these simulated changes are also summarised in Figure 15.

Conclusions

The analysis in this chapter supports the notion that property taxation, working through the user cost of housing, is a determinant of house price change, hence volatility. In our econometric results the effect is very small, but there is reason for arguing that the effect reported here may be an

Table 14: The impact of property taxation on volatility: summary measures

	npt_0.74%	npt_1.0%	npt_1.50%	npt_2.0%
Mean rate of growth (%)	5.15	5.02	4.84	4.71
Maximum (%)	16.07	15.76	15.34	15.05
Standard deviation (%)	8.15	8.01	7.82	7.70

Figure 15: Simulated house price indices for England under different taxation scenarios
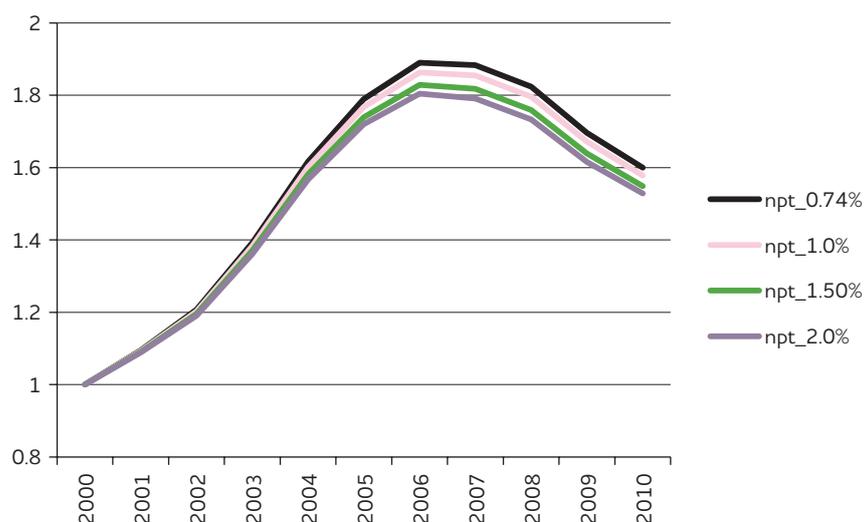
under-estimate given that it is obtained from an analysis of an inherently regressive system of taxation.

We also find support in the results for the idea that changes in the distribution of house prices over time is an important aspect of housing market volatility. There is a tendency for the price distribution to become wider during periods of growth. And since taxation reduces growth (although only marginally, according to the results in this chapter), and since growth widens the price distribution, it is also logically true that *lower rates of taxation at the higher end* of the price distribution further contribute to volatility.

5 CONCLUSIONS

The Council Tax system is not working properly. In England and Scotland it operates on property values that are more than two decades out of date. It is designed to be regressive, so that expensive properties are taxed much more lightly than cheaper ones. The banding system has the effect of reducing the tax base in areas with high property values, which results in properties in poorer parts of the country being taxed more heavily. It is also widely believed to be unfair in relation to people's incomes. But despite its deficiencies governments have shied away from reforming Council Tax, or even conducting revaluations.

The purpose of this report was to examine the costs and benefits of introducing a national property tax, examined on the basis of three criteria:

- to ensure fairness between places;
- to pursue fairness between people; and
- to reduce house price volatility.

Fairness between places
The principal change in distribution between places implied by a shift from a revalued Council Tax to a flat rate property value tax (and a progressive property tax) is an increase in the tax burden in London (and to a lesser extent the South East) in favour of the rest of the country. Measuring the impact of property taxes in relation to GVA and GDHI property taxes removes the apparent 'under-taxing' of London. The outcomes appear more progressive on GVA, although on the basis of GDHI per capita, the redistribution may appear to go 'too far' to qualify as being fair between places. It seems that some form of property value tax approach would be required to create greater fairness between places. However, where the

redistribution of tax burden this creates is large, any reform would need to be phased in.

Fairness between people

Overall, the introduction of a flat rate or progressive property tax would bring about a considerably more progressive distribution of tax burden. The reductions in gross liability for low-income households would be substantial and would be likely to facilitate a significant reduction in the need for rebates. Moreover, reductions in liability would also benefit middle-income households. Increases in liability are distributed towards the top of the income distribution. However, although there would be more gainers than losers, there would be losers across the income spectrum. Such households might be protected using some of the savings in rebates.

It is obvious that such radical changes would have to be phased in over many years, and even then it is likely that some of the end results would still be unfair. The principal problem is the 'London effect'. Such are the high levels of property prices in the capital that increases in gross liability would affect some households across the entire income spectrum. Clearly, special arrangements would be needed for the capital to ensure that an appropriate balance between property tax and other notions of fairness were maintained. Indeed, central London would certainly have to be treated in another way or excluded from a scheme covering the rest of the country. A general conclusion is that a pure property tax would not be fair, to the extent that it would need to be related to income through another mechanism. There is a strong prima facie case for embedding such a mechanism within the structure of the tax itself, so that it becomes a hybrid income and property tax.

Housing market volatility

The econometric results found some support for the notion that property taxation represents a small, but statistically significant, component of house price change. The analysis may well underestimate the potential impacts of a property tax since they were obtained by analysing an inherently regressive system of taxation. The analysis also suggested that changes in the distribution of prices are an important aspect of volatility, and that the relatively lower rates of property tax on expensive properties may contribute to this.

These findings provide some support for a progressive national system of property tax. Although it is unlikely that such a system would have a sufficiently powerful effect on volatility by itself, it could operate alongside other policy instruments, such as mortgage credit controls.

Key issues

It is clear that in order to gain a fairer system of property taxation, it is necessary to move away from the Council Tax system of banded property values towards one that is more closely related to property values.

This report has shown that although a system of property taxation would be fairer between people and places, three principal problems emerge: the London effect, low-income losers and how to phase in the new tax.

London effect

On some measures, property taxation appears to tax London 'too much' due to its very high property prices. This is not only a question of transition, and

it is likely that an upper limit on a property tax would be required in order to prevent an undue burden on low and middle income households.

Low-income losers

Although a property tax would bring about a better match between incomes and gross tax liability compared to Council Tax, there would be some low-income losers. The distribution of gainers and losers is such that low-income households in London would lose out, whereas well-off households in the North would gain. A tax based purely on property values without assessing the mean to pay would therefore be unfair.

Transition

Because some of the losses would be large, any system of property taxation would need to be phased in. The JRF Housing Market Taskforce proposed a scheme of moving from Council Tax, to a 'point value' system whereby the tax would be set on the basis of property values within each local authority area and the revenue that the authority needed to raise, and then gradually to a national system of property taxation through the adjustment of grant in response to house price changes. The Mansion Tax, now proposed by Labour as well as the Liberal Democrats, might also be a means by which a national property tax were introduced and gradually extended. However, by itself the Mansion Tax sidesteps tackling the decayed system of Council Tax and many of the problems that arise from this.

Future steps

Ability to pay the tax from current income is often seen as a key test of fairness. Taking this as our starting point implies a shift away from property taxation and towards local income tax. There are, however, good social and economic reasons for ensuring that the tax base is diverse. In particular property value taxes create desirable incentives when housing is scarce and tax a resource (housing wealth) that is often unearned. However, it is practically, politically and ultimately ethically important that a property tax must also have regard to current income.

The answer may lie in the design of a property tax, shifting its emphasis away from the value of the capital asset and towards the 'imputed' income that it may yield. Such a system existed in principle in the form of the old 'Schedule A' tax that taxed the rental value of property. It was abolished in the early 1960s after it had been allowed to wither in much the same way as Council Tax. Some form of hybrid property and income tax might be developed from this idea. For example, the weight attached to measured property-related income might depend on current income. The attraction of such a hybrid tax would be that the income element would be inherent to it, rather than a separate corrective mechanism, as has been the case with the rebate schemes operated alongside the rates and Council Tax. However, such a hybrid income and property tax would itself need to be carefully designed and tested. It is to the practicalities of design and implementation that efforts should now focus.

NOTES

1   The R square as a measure of 'goodness of fit' that is obtained from a model in which the dependent variable has been differenced cannot be compared with that obtained from a model in which the dependent variable represents a variable in levels, even after adjusting for inflation and/or transforming to logs.

2   These definitions reflect the fact that property taxes were not levied on rented properties under the pre-1989 domestic rating system.

REFERENCES

DCLG (Department for Communities and Local Government) (2013) *Local government financial statistics England.* No 23. London: DCLG

DWP (Department for Work and Pensions) (2013) *Housing Benefit and Council Tax Benefit summary statistics*, February

IFS (Institute for Fiscal Studies) (2010) *Tax by design: Mirrlees review*, Vol. 2. Oxford: Oxford University Press

LGFRC (Local Government Finance Review Committee) (2006) *A fairer way.* Edinburgh: LGFRC

Lyons, M. (2007) *Lyons inquiry into local government.* London: The Stationery Office

Muellbauer, J. (2005) 'Property taxation and the economy after the Barker Review', *The Economic Journal*, Vol. 115, pp. C99–C117

Muellbauer, J and Murphy, A (1997) 'Booms and busts in the UK Housing Market', *Economic Journal*, Vol. 107, Issue 445, pp. 1701–1727

New Policy Institute (2013) *Council Tax support update* (http://counciltaxsupport.org)

ONS (on-going) *House Price Index*, August 2013

Scottish Government (2013) *Scottish local government finance statistics 2011/12*

Statistics for Wales (2013) *Welsh local government financial statistics 2013*

Stephens, M. (2011) *Tackling Housing Market Volatility in the UK.* Report of the Joseph Rowntree Foundation Housing Market Taskforce. York: Joseph Rowntree Foundation (www.jrf.org.uk/sites/files/jrf/housing-markets-volatility-full.pdf)

VOA (Valuation Office Agency) (2013) *Council Tax valuation lists: Summary (England only)*, September (www.voa.gov.uk/corporate/statisticalReleases/130919_CTValuationListSummary.html)

TECHNICAL APPENDIX

In this short technical appendix we begin by providing a summary of the modelling approach involved in the construction of PROPTAXMOD. We also refer to the key datasets involved and, in part 2, reflect in more detail on the distribution of property values with respect to the distribution of incomes. Part 3 relates specifically to the time series economic modelling work summarised in the main body of the report.

Part 1

PROPTAXMOD was developed by creating a stock database with a record for every domestic residence in England, Scotland and Wales. The stock database was created using Ordnance Survey AddressLayer2 data, cross-checked against small area statistics on property types and sizes available from Census 2011.

Two distinct economic models were created and estimated in order to populate the stock database with estimates of market value, at 2011 prices, for every record in the database. The first of these models was designed to predict the number of bedrooms in each residence in PROPTAXMOD. As shown in the simplified flow diagram below, this was accomplished by adding 2011 Census variables and small area median prices from HM Land Registry sources to data derived from the Council of Mortgage Lenders (the Regulated Mortgage Survey for 2008 through 2009). These models were estimated regionally using a multi-level approach in which coefficients vary at the level of local authority, super output area and census output area.

The second type of model estimated was a multi-level hedonic model of house prices for England and Wales. As shown in the diagram below, this was estimated using HM Land Registry data on transaction prices for the period 2004 through 2011. The data include information on property type. To this, we added the predicted number of bedrooms for each residence in PROPTAXMOD and a number of additional small area census variables not previously used in the 'bedroom' models.
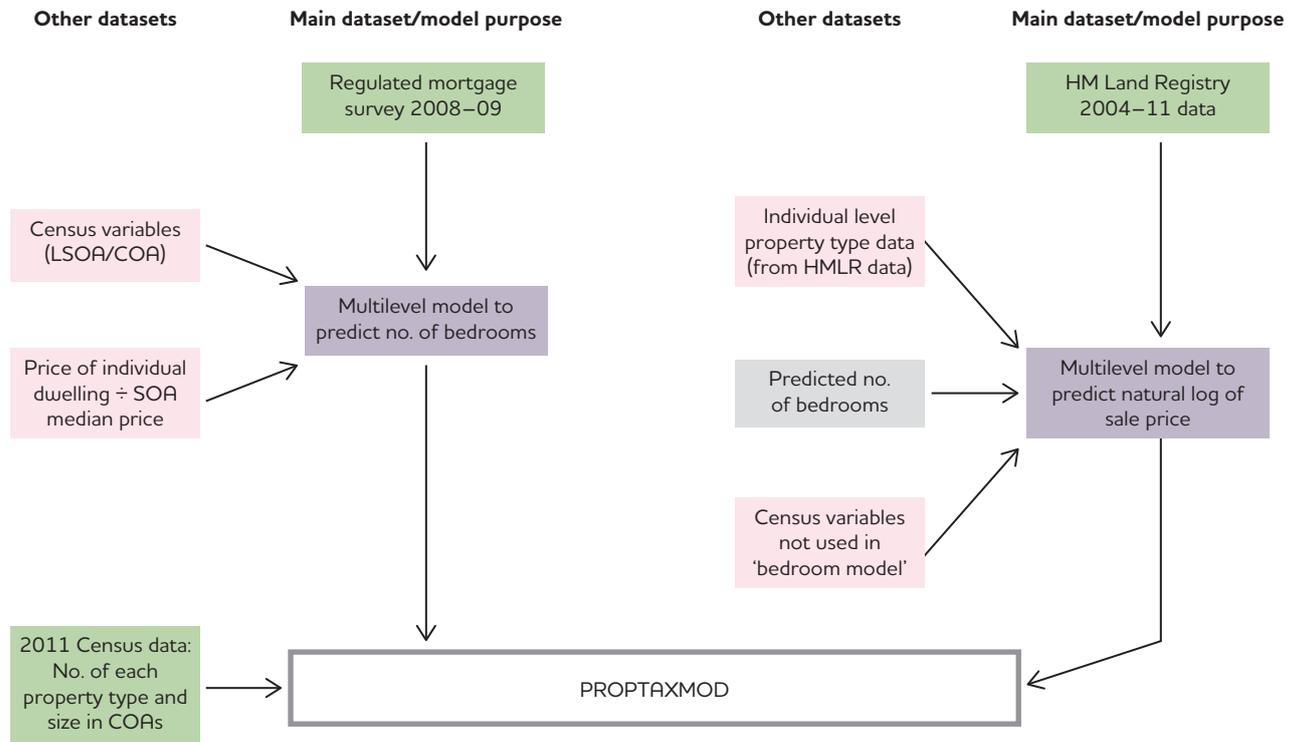
Table A1: Summary of multi-level hedonic price model results

l_price	Coef.	Std. Err.	z	P>z
constant	11.25649	0.0347062	324.34	***
leasehold	−0.0456913	0.0003174	−143.96	***
newbuild	0.0998782	0.0005723	174.53	***
type_deta	0.3205543	0.0007455	429.96	***
type_terr	−0.1241568	0.0005791	−214.41	***
type_flat	−0.4546135	0.0011504	−395.19	***
year2005	0.0019827	0.0004798	4.13	***
year2006	0.0635347	0.0004589	138.45	***
year2007	0.1480803	0.0004591	322.54	***
year2008	0.1197815	0.0005308	225.65	***
year2009	0.0093037	0.000525	17.72	***
year2010	0.0752915	0.0005249	143.44	***
year2011	0.0569205	0.000528	107.8	***
qtr2	0.014761	0.0003501	42.16	***
qtr3	0.0318677	0.0003434	92.8	***
qtr4	0.0306367	0.0003492	87.74	***
bedrooms	−0.0026124	0.0014204	−1.84	*
bedrooms2	0.0008126	0.0001379	5.89	***
DwelDetach	−0.003287	0.0000551	−59.64	***
DwelTerr	0.0003921	0.0000441	8.88	***
DwelFlat	0.0100732	0.0000586	172.03	***
Owned	−0.002294	0.0003485	−6.58	***
SocialRented	−0.0033621	0.0003663	−9.18	***
PrivateRented	−0.001659	0.000376	−4.41	***

(continued)

Table A1: Summary of multi-level hedonic price model results (continued)

l_price	Coef.	Std. Err.	z	P>z
DwellSmall	0.0128901	0.0004295	30.01	***
DwellLarge	0.0094528	0.0001139	83.02	***
DensDomDwell	0.0004208	0.0000251	16.79	***
Cars1	0.0075744	0.0001294	58.51	***
Cars2plus	0.0142666	0.0001089	130.96	***
COA level random effects				
Constant	0.3158175	0.0007343		
type_deta	0.1929296	0.0006814		
type_terr	0.1421681	0.0005822		
type_flat	0.2553624	0.0009532		
bedrooms	0.0311055	0.000557		
bedrooms2	0.0044915	0.0000475		
Residual	0.2832956	0.0000845		

N = 6165801; Groups = 153534; Wald χ^2 = 771637.44***

Part 2: A note on revenue neutrality and income distributions

In Chapter 3 we noted that median bills would be lower in 9 out of 10 income deciles under both a flat rate and a progressive national property tax (see Figure 6). How is this possible while maintaining revenue neutrality?

It is well known that household incomes and house prices are 'skewed' distributions. This means that the number of people earning exceedingly high incomes, or occupying properties that might be described as 'mansions', is very small. For this reason, median incomes and prices are lower than means (averages) in the distribution overall. However, what is perhaps more surprising is that the correlation between household incomes and property values is relatively low (0.39 in the English House Condition Survey dataset used in our analysis). This is confirmed by the Regulated Mortgage Survey for 2008 through 2009 which produced a very similar correlation (correlation=0.374).

Figure 16, below, demonstrates that our three scenarios (revalued council tax, flat rate property tax and a progressive property tax) are revenue neutral overall. Reductions in tax bills for some households are offset by increases for others.

With low correlation between incomes and property values, we would expect a skew in property values in each income decile. Consequently, median bills are below mean bills in all but the highest income decile.

Median bills fall throughout almost all of the income distribution, when each scenario is introduced for four reasons:

- The effect of revaluation means that the widening in the range of property values that has occurred since 1991 is taken into account, even if it is muted by the Council Tax band system and local government grant mechanism.
- However, removal of the Council Tax bands with the flat rate property tax lifts the cap on tax liability, so that the distribution of *tax liability* more closely matches the skewed distribution of property values.

Figure 16: Mean tax bills across the income spectrum
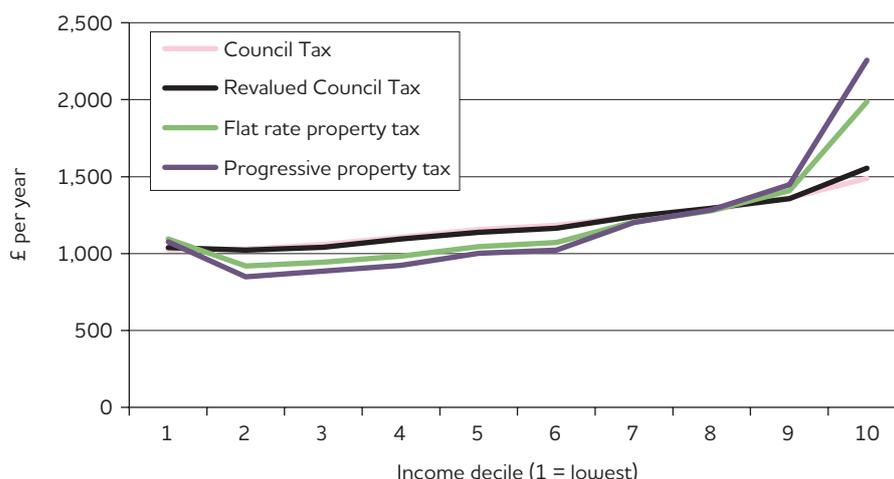
- The effect of the local government grant distribution system is removed by the shift to a national tax, again allowing variations in house values in different parts of the country to be reflected fully in tax liability.
- The introduction of higher property tax rates implied by the progressive property tax scenario reinforces the upward effect on the tax liability on expensive properties, so that more liability falls on the upper end of the 'skewed' distribution.

Overall, it is the combination of the skewed property values reflected in the tax base and the comparatively weak correlation between house values and incomes that allows median bills to fall throughout almost all of the income spectrum, while total revenue remains unchanged.

Part 3: Detailed economic modelling results on housing market volatility

As noted in Chapter 4, we estimated three variants of a time series model of house price growth rates. The model was estimated for nine Government Office regions in England and was a 'panel model' estimated using stacked cross-sectional/time series data. The estimation period was 1981–2010, but given that some variables were lagged or derived from lagged values of other variables (such as the user cost term), the effective estimation period was 1983–2010.

Table A2 provides a more detailed version of the summary table shown as Table 13 in Chapter 4. Coefficients are shown for each of three equation estimations, and their statistical significance noted to the right of each coefficient. In the first model, the dependent variable is the difference, in natural logs, of the median real house price. In the second and third models the dependent variable is the difference, in natural logs, of the upper quartile real house price. Models 2 and 3 differ in that the ratio of the upper quartile to the median housing price is included as an explanatory variable. In all other respects, the model estimation approaches are identical, with differences in the final specifications or lag structures simply reflecting optimisation decisions taken during the estimation process.

Table A2: Modelling results

Variable	Model 1	Model 2	Model 3
constant	−1.2979***	−2.0179**	−1.9858***
hspop(−1)		1.0739*	0.6102**
hspop(−3)	0.7933**		
pd2y(−1)	−0.0642***	−0.1182***	−0.0993***
ucc	−0.5539***		
ucc(−1)		−0.3644**	−0.3056***
l_r_hdi	0.0692***	0.1029**	0.1057***
dl_n_hdi(−1)	1.8642***	1.0584***	0.6878**
d2lnms(−1)	0.3107***	0.3215***	0.2786***
l_rhp_se(−1)	0.0918**	0.1742**	0.1214***
exch_po_eu	−0.0022***		
l_taxtake	−0.0063**	−0.0020	0.0011
r_r_uqmdhpr(−1)			0.2550***
Year1990	−0.1647***	−0.0879***	−0.0704**
sigma_u	0	0	0
sigma_e	0.0537	0.0509	0.0464
rho	0	0	0
N	225	225	225
Groups	9	9	9
R-sq overall:	0.501	0.520	0.609

Note: *** denotes significant at 1%, ** at 5% and * at 10%

ABOUT THE AUTHORS

Chris Leishman is Professor of Housing Economics in the Institute for Housing, Urban and Real Estate Research (IHURER), School of the Built Environment, Heriot-Watt University. He specialises in the application of statistical and econometric modelling methods to improve understanding of housing and labour market outcomes and behaviour. He served on the UK Government's Expert Panel on Housing Market Analysis and Planning and is currently Managing Editor of the academic journal *Housing Studies*.

Glen Bramley is Professor of Urban Studies at IHURER, Heriot-Watt University. He had research experience at Sussex University, Lambeth Inner Area Study and Bristol University's School for Advanced Urban Studies before moving to Edinburgh in 1994. His recent research has focused on planning for new housing, modelling the impact of planning on the housing market, housing need and affordability, low cost home ownership, poverty, deprivation and the funding and outcomes local services. From 2006 to 2010 he was on the Board of the National Housing and Planning Advice Unit.

Mark Stephens is Professor of Public Policy at IHURER, Heriot-Watt University. His research concerns the relationships between housing, labour markets, social security and poverty, and the comparison of housing systems between different countries. He served as academic advisor to the JRF Housing Market Taskforce and Lead Panel Member of the UK Government's Expert Panel on Housing and Surveys Analysis. He is currently an editor of the academic journal *Urban Studies*.

David Watkins is a research associate at IHURER, Heriot-Watt University. He is a specialist in the use of GIS, Census data, database management and the construction, handling and analysis of large scale datasets. He joined Heriot-Watt University ten years ago, having previously worked for Communities Scotland as Information Co-ordinator, and as a Planner in local government and the private sector.

Gillian Young is Director of Newhaven Research Scotland Ltd. Her research interests and activities focus on urban and rural housing markets, housing need, social housing, the housing and support needs of older people and welfare reform. Prior to becoming a consultant in 2003, Gillian worked for the voluntary sector, local government, Scottish Homes and Communities Scotland in a range of research, planning and policy roles.

JRF
JOSEPH
ROWNTREE
FOUNDATION

INSPIRING
SOCIAL
CHANGE