

The Future of Rural Policy: Lessons from Spatial Economics

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Rural Policy: Lessons from Spatial Economics

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Executive Summary

This policy paper is concerned with rural policy. It spells out the lessons for rural policy that emerge from recent SERC research.

Urban and rural economies increasingly interlinked: The division between ‘rural’ and ‘urban’ is no longer as useful for thinking about the economic disparities and policy. Agricultural markets are internationalised, lower travel costs allow people to live further from where they work and rising incomes have increased the demand for rural amenities (environmental, ecological and recreational). This means that the economies of rural and urban areas have become interlinked – with important implications for policy. To understand interlinked economies, spatial economics focuses on how households and firms choose locations by trading-off economic opportunities, living costs and amenities.

Wage disparities: our research finds that **area disparities are highly persistent** from 1998 to 2008, despite many policy interventions to try to address them. However, **who you are is much more important than where you live in determining earnings** (and other outcomes). Small area effects can be reconciled with large area disparities by noting that people sort across areas so people with “bad” characteristics tend to live in “bad” places. Even so, area effects play a small role in overall wage dispersion.

Rural areas pay lower wages than urban areas: in Britain the **urban-rural premium is around 2.5%**. Sorting across rural areas is slightly less pronounced than for urban areas but the difference between “good” and “bad” rural places is less pronounced. As a result, on balance, place is no more important in explaining rural outcomes than it is in explaining urban outcomes. Regardless, individual characteristics matter far more.

Spatial Disparities in Cost of Living and Quality of Life: Spatial earnings disparities are uninformative about differences in wellbeing unless we take account of differences in the costs of living and the availability of local amenities. Across Britain, our research shows **increased living costs (particularly of housing) tend to completely offset increased wages** for the average household. In the lowest wage areas, which are mostly rural, differences in amenities drive the cost-of-living versus wage tradeoff. In (mostly urban) higher wage areas, differences in firm productivity drive the results.

Rural mainstreaming: The previous government used “rural mainstreaming” to ensure that the needs and interests of rural communities were addressed. DEFRA measured performance against these objectives by comparing indicators of outcomes (number of GCSEs, employment rates, etc) to UK averages. **This provides little information on whether policy is meeting the needs of rural communities.** When who you are is much more important than where you live, observing better educational outcomes for rural areas tells us little about whether policy is delivering for rural communities. In terms of the impact on rural communities, the crucial questions for central government concern the effective provision of

public goods (e.g. broadband, schools) and other policy interventions (e.g. employment policy) in low density areas.

Addressing “underperformance”: Rural areas pay lower wages than urban areas and some rural areas pay particularly low wages relative to house prices. **Should policy support economic growth in rural areas with the lowest performance? In light of the evidence this policy makes little sense.**

First, rural areas always tend to have lower wages than urban – why would firms pay city rents otherwise? Second, much of the reason why wages are lower in rural areas is because of lower skills employed in those areas. Policy may want to address these low skills (e.g. in tourism or agriculture). Third, many rural areas are attractive for non-economic reasons. Rural areas that pay low wages but have high house prices offer good local amenities. If anything, as these amenities are highly valued, policy that emphasises quality of life should protect them rather than worry about the “performance” of the local economy.

Fourth, tackling high house prices requires expanding supply – improving performance with fixed supply simply raises house prices further. Expanded housing supply may not be attractive when high amenity values reflect the fact that an area is not very developed. If the worry is about house prices relative to wages for particular workers then policy either needs to increase their relative wage (e.g. by targeted skills policy) or increase housing supply for those workers (e.g. through ‘key worker’ homes). Most economists argue it would be better to try to tackle the income problem directly. In the context of increased local powers this raises questions about fiscal incentives for development (supply) and local employment and skills policy (wages).

The wider impacts of rural policy: Environmental and farm policy have effects far beyond rural areas. In a mobile world, household and firm decisions link outcomes across areas, so this is true of “rural” policy more generally. **Thinking of households trading off wages, costs-of-living and amenities helps clarify the impacts of different policies.**

For example, rolling out rural broadband may have several effects. It provides a public good to rural communities. It may affect the productivity of firms in rural areas. It may allow people who live in urban areas to move to rural areas and keep working. For national government, concerned with rural communities, the first of these effects is far more important than the other two. The effect on existing firms is likely to be small and why should the government care about the composition of particular places? Of course if broadband makes rural areas more attractive, this will exacerbate local cost of living issues if housing supply is unresponsive.

The fact that places are linked also complicates questions around housing. **Local homes for local people may address concerns about social capital and apparent inequities but at the expense of being ‘unfair’ on other dimensions.** Such policies are good for people born in high amenity areas, bad for those who are not and would like to move in.

Conclusions: The way in which households and firms trade off economic opportunities (wages, income), living costs (housing) and amenities has profound implications for rural economic policy. Because area effects in earnings are small, not very much affected by policy, and offset by living costs, observed area disparities offer a poor guide to policy.

Instead of targeting disparities, rural policy should focus on effective provision of public goods and services in rural areas, and on the wider impacts of rural policy.

Introduction

This policy paper is concerned with rural policy. It spells out the lessons that emerge if we examine rural policy through the lens of spatial economics. Spatial economics is concerned with the nature, causes and consequences of spatial disparities. Examining rural policy using this lens leads us to question the objectives and effectiveness of existing policy.

Historically, when thinking about spatial disparities it was often helpful to think about the economy as divided between rural and urban economies. Rural economies were characterised by low population densities and the predominance of agriculture. Urban areas were high density and the centre of manufacturing and services. These economies were, of course, intrinsically linked. Rural agricultural goods fed urban residents in exchange for the provision of farm machinery, household goods etc, manufactured in the cities. People also moved between the two areas with rural-urban migration driving the great population expansion of cities during the industrial revolution. Despite these links, the agricultural focus of rural activity meant that the urban/rural division was useful for thinking about the formulation of public policy.

It is increasingly recognised that the (somewhat arbitrary) division into rural and urban is no longer as useful for characterising key features of the spatial economy. Falling transport costs for goods and people, combined with rising incomes have increasingly blurred the distinction. Falling transport costs for agricultural goods broke the link between farmers and their neighbouring urban populations. Markets for many agricultural goods have become not just nationalised, but internationalised. Lower travelling costs allow people to live further from where they work and to change locations over time without completely severing links to their original communities. Rising incomes have increased the demand for amenities provided by nature and most recently, to the increasing recognition of the wider “services” provided by ecological systems.

These factors, and other changes, have meant that the economies of rural and urban areas have become increasingly interlinked. When it comes to better understanding interlinked economies, spatial economics emphasises the need to focus on the way in which households and firms trade-off economic opportunities (wages, income), living costs (housing) and amenities. Viewed through this lens, we argue that a number of existing policy objectives make little, if any sense. This short policy paper discusses relevant empirical evidence concerning this three way trade-off and provides further discussion on the implications for policy drawing on recent SERC research.

Spatial Wage Disparities

Places throughout the UK - regions, cities and neighbourhoods - appear very unequal. This is true if we look at average earnings, employment, education and almost any other socio-economic outcome. Take Gross-Value-Added per person, potentially a good indicator of the living standards in different places. In 2005, the highest ranked (NUTS 3) regions in the UK were West Inner London and Berkshire with GVAs of £44050 and £39850 respectively. The

lowest ranked were Liverpool and Blackpool, with GVAs that were half of those in London and Berkshire: £19800 and £21050. These individual examples are representative of a broader trend – the top ranked 10% of UK (NUTS 3) regions have GVA at least 50% higher than the bottom ranked 10%.

Spatial policy at all scales is largely based around concerns about these kinds of disparities. But these figures are simply aggregates of the outcomes for people who live and work in these places. Without further information, we do not know whether the economic outcomes for people currently living in Cumbria would be any different if they lived and worked in Manchester. We have no way of knowing if the productivity of Cumbria and Manchester would change if these movements of people actually took place. Similarly, we do not know whether replicating the economic, policy, institutional and environmental regime of Manchester in Cumbria would change anything without moving people. In short, it is hard to work out what these differences mean in terms of the economic advantages and disadvantages that a place offers to the people who live and work there. It is also easy to assume from looking at these aggregated figures, that disparities between places are big drivers of individual disparities. But this clearly need not be the case. For individuals, the differences within the local area could far exceed the differences between different areas.

In recent work (Gibbons, Overman and Pelkonen, 2010) we present new empirical evidence on the nature, scale and recent evolution of economic disparities in Britain. We focus our attention on disparities in individual wages, because wages are linked to productivity, and are an important cause of variation in living standards. We also have very good individual (micro) data on wages. Using this micro data we assess the extent and persistence in wage disparities across the labour market areas shown in Figure 1. We examine to what extent these area differences arise because of differences in the characteristics of people who live in different places (sorting) versus different outcomes for the same types of people living in different places (area effects). We also consider the extent to which these differences across areas contribute to overall wage disparities.

Area disparities are highly persistent: For each of our 157 areas, Figure 2 plots hourly wages in 1998 against hourly wages in 2008. Wages are normalised by dividing by the average wage in the respective year so that areas with values below 1 have below average wages in that year (and vice-versa). If relative average area wages were completely persistent across time then all the dots would sit on the 45 degree line drawn in the figure. The dashed line (which shows the results from regressing 2008 normalised wages on 1998 normalised wages) shows that this is not quite the case. On average, areas with the lowest wages have done slightly better, while areas with the highest wages have fallen back although, clearly, the effect is not very pronounced. Further, if we compare the degree of dispersion in the two periods (using a standard measure such as the coefficient of variation) then we see that it has actually increased. Overall we see a small amount of churning (changes in the rankings of areas) accompanied by a very slight increase in the overall disparities across areas. In short area wage disparities are persistent over time.

Area effects are much smaller than raw disparities: We can use regression analysis to examine to what extent these area differences arise because of differences in the characteristics of people who live in different places (sorting) versus different outcomes for the same types of people living in different places (area effects). In essence this involves comparing the wages for similar people in different places (e.g. comparing wages for high skilled workers) and in seeing what happens to people’s wages as they move about over time (e.g. how do the relative wages compare for a person who one year lives in Cumbria, the next year in Manchester). Table 1 reports the percentage change in wages when we move between different parts of the distribution: from the worst to the best area, from the area 15th from bottom to the area 15th from top and from the area 40th from bottom to 40th from top.¹ In the first row we present the comparison based on simple area averages. In the second row, we make the comparison using similar individuals as they move over time.²

Table 1

	Worst to best	15 th from bottom to 15 th from top	40 th from bottom to 40 th from top
Area averages	61.6%	22.0%	10.6%
Effect for similar individuals	17.4%	7.4%	3.8%

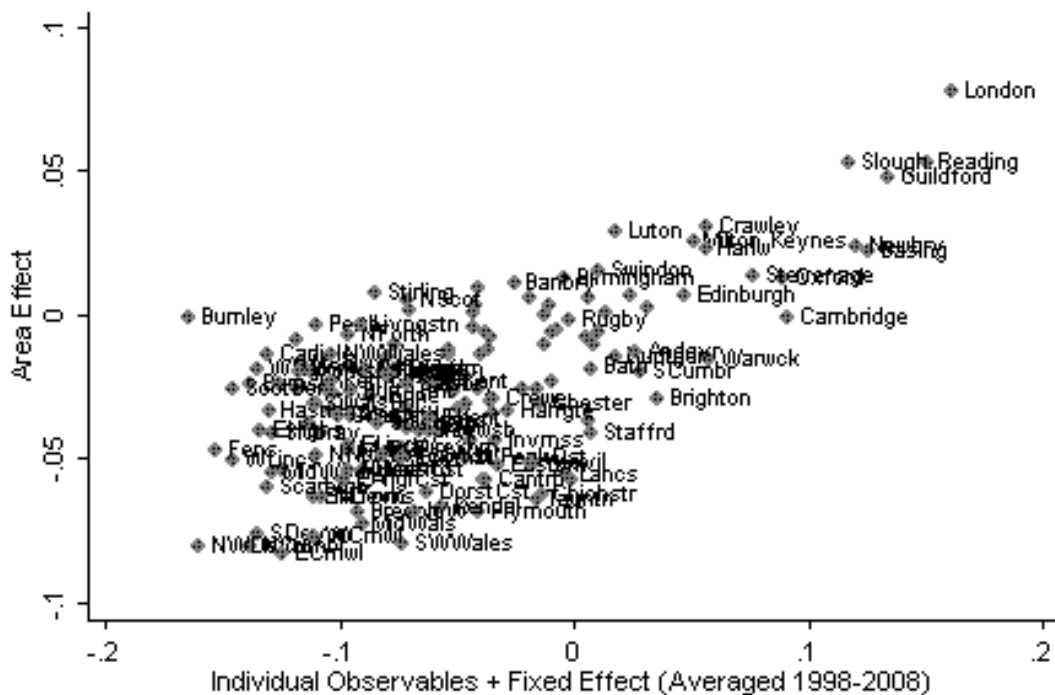
The first row shows how easy it is to make area effects look large. Simply ignore the fact that different types of people live in different places and compare the worst place to the best place. Doing this, it appears that moving from the worst to the best place would increase your wages by 62%. In fact, as the second row shows for any given person, moving from the worst to the best place would actually only increase wages by 17.4%. This number still seems quite large but this is partly driven by the fact that we are comparing *extremes*, i.e. the worst area to the best area. When we move to make more meaningful comparisons we see that area effects imply much smaller increases in wages, below 10% for the comparison in column 2 and below 4% for the comparison in column 3. In short, raw area disparities are much larger than area effects.

People sort across labour markets so people with “bad” characteristics tend to live in “bad” places: Ignoring the role of sorting on area differences overstates area effects by a factor of three. Figure 3 illustrates this by plotting average wages predicted purely based on the individual characteristics of people living in different areas against the area-effects. The figure shows us that London pays higher wages to all workers regardless of their individual characteristics (the area effect is positive) but that London also has a disproportionate share of workers who would earn higher than average earnings anywhere (so the average individual effect is positive). In Britain as a whole, the positive correlation demonstrates that people with the best characteristics end up in the best paying places and vice-versa.

¹ That is we compare minimum to maximum, the 10th to 90th percentile and the 25th to 75th percentile.

² That is we present the estimates of area fixed effects from panel data controlling for both observed characteristics and individual fixed effects.

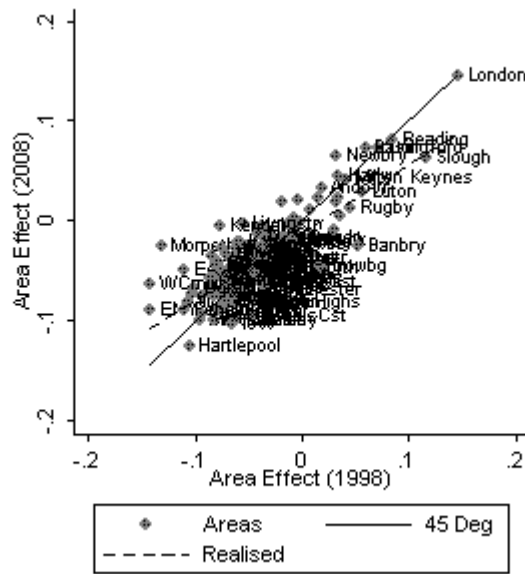
Figure 3



Area effects play a small role in explaining overall wage dispersion: We might worry that area effects and the positive correlation between area effects and beneficial individual characteristics mean that area effects play an important role in exacerbating individual wage disparities. After all, people who would be highest paid where-ever they live, actually live in the best areas so get paid even higher wages. It turns out that this effect is not very important. Even if we assume that area effects are the underlying driver of all observed area differences (both in terms of wage differences *and* differences in individual characteristics) area disparities only explain 6% of the overall variation in wages. More realistically, we might assume that individual characteristics are determined largely independently of area and that people then sort across areas according to their individual characteristics. In that case area effects explain around 1% of the overall variation in wages. Quite simply, differences between areas play some role in determining overall wage disparities but that role should not be over-estimated. Individual characteristics (e.g. low skills) are much more important.

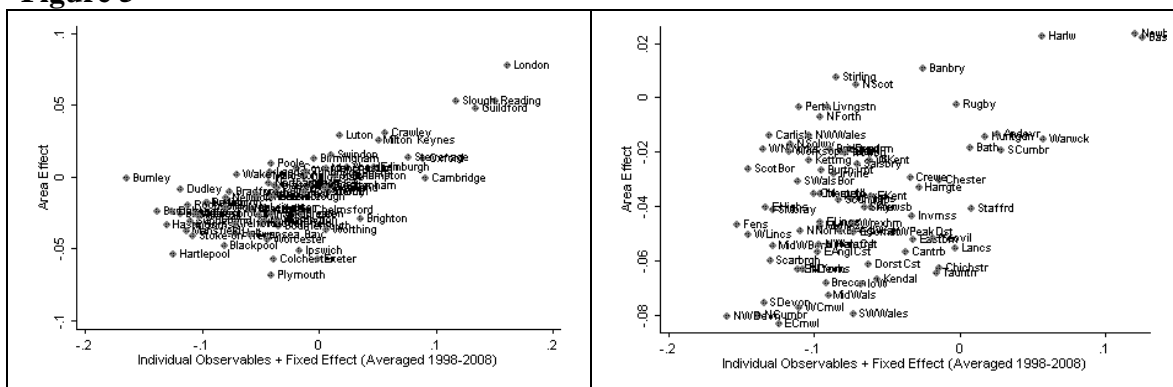
Area effects are persistent over time: Even if area effects are considerably less important than individual characteristics in understanding overall wage disparities, it is still the case that considerable policy effort has gone in to trying to reduce the impact of these area effects. However, Figure 4 shows that, just like observed area disparities, these area effects have proved highly persistent over time. As in figure 2, the 45 degree line shows what would have happened if there were no changes in the distribution of place-based effects, while the dashed line reports a regression line showing what actually happened. We see that, as for the overall area means, there is some churning (i.e. changes in rankings), but the patterns are quite stable. Once again, (with the exception of Slough) this stability is particularly pronounced for those areas at the upper end of the area effects distribution.

Figure 4: Area effects in 1998 and 2008 across 157 areas



Rural areas are different, but not that different: On average, between 1998 and 2008 wages in rural labour market areas (those marked in green in figure 1) were around 6.5% less than wages in urban areas. Just as with differences across all areas, a lot of this rural-urban difference is driven by the sorting of people with different characteristics across areas. When we look at what happens to the same individual when they move between urban and rural labour market areas we find an urban premium of only 2.4%. That is, observed area disparities overstate the effect on people of moving between rural and urban by a factor of around 3 (just as was the case for overall area differences as discussed above). The correlation between area effects and individual characteristics is less pronounced for rural than for urban areas as is evident in figure 5, which simply replicates figure 3 but now dividing areas according to whether they are urban or rural.

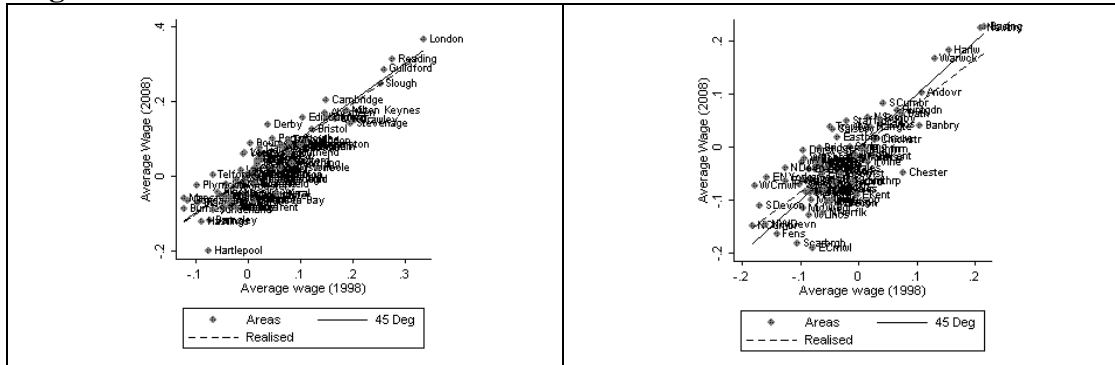
Figure 5



The fact that sorting is lower for rural areas is reinforced by the fact that the distribution of area effects is more compressed so there is less difference between the least productive and most productive rural areas. On balance, the latter effect dominates so that area effects end up explaining a lower share of the wage disparities for individuals in rural areas than they do for individuals in urban areas. Further, over time, Figure 6 shows that there has been slightly

more mobility (i.e. changes in rankings) for rural areas when compared to urban areas. But overall area dispersion (measured, once again, by the coefficient of variation) increases slightly for both rural and urban areas. Rural areas show slightly more churning than urban, but overall wage dispersion is still very persistent.

Figure 6



Although our research does not examine this question specifically, there is an extensive literature that shows that higher nominal wages in urban areas are driven by the advantages delivered by density (or agglomeration economies). Firms benefit from density and, as a result, can pay higher wages. If firms didn't benefit from density in some way we would have to wonder why they are willing to pay higher downtown rents? One might worry about whether, conditional on the lower densities in rural areas, rural wages in Britain are unexpectedly high or low. It is impossible to provide a sensible answer to this question because wages are only one part of a three way trade-off households and firms face between productivity, costs of living and amenities.

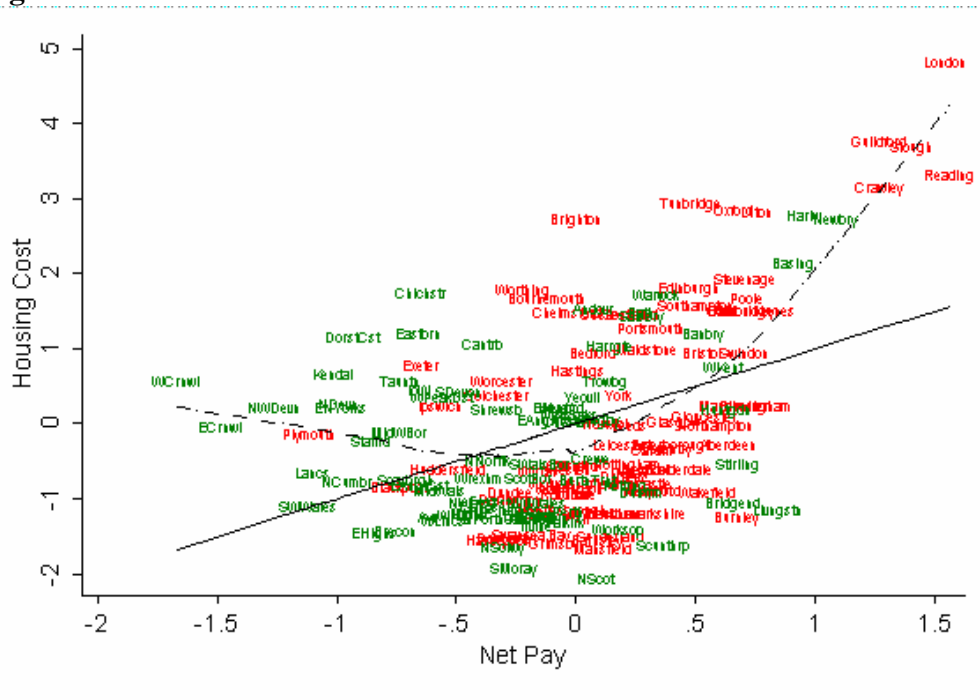
Spatial Disparities in Cost of Living and Quality of Life

Wage disparities across local areas in Britain are pronounced and very persistent. Earnings disparities between different cities and different labour markets give cause for concern, because they seem to imply differences in standards of living and economic welfare. But spatial earnings disparities are uninformative about differences in economic welfare and wellbeing unless we take account of differences in the costs of living and the availability of local amenities.

In Gibbons, Overman and Resende (2011), we consider the extent to which higher post-tax earnings are offset by higher housing costs. Results are shown in Figure 7 for the same 157 spatial labour markets mapped in Figure 1. In this picture, the wage gaps between labour market areas are estimated from the wages gains and losses for individuals who move between areas. The housing costs are imputed from housing prices, after adjusting these prices for differences in housing quality (both wages and housing costs are in £000s per year). The solid line has a slope of 45 degrees, corresponding to the case where housing costs rise one-for-one with wages. Fitting a linear regression line through these points also gives a coefficient of around 1, indicating that as people move across areas, housing costs do, on average, increase by £1 for each £1 of extra pay. However, the detailed picture is much more nuanced, as the dotted, best fit curve shows. Much of the general upward trend in prices in line with local wages is driven by urban labour markets and by rural areas that offer higher wage levels on the right of the picture. To the left of the picture, prices are high in low wage

areas such as Cornwall, Devon, Dorset and Kendal leading to an overall U shaped relationship between housing costs and wage levels.

Figure 7



Given that most people in Britain are free to choose where they live higher wages should translate directly in to higher house prices for places that are otherwise identical. That is, we should expect £1 higher wages to mean house costs increase by £1 per person. In fact, as just discussed, on average the empirical relationship in Britain is close to this theoretical benchmark. As Figure 7 shows there is also clearly a lot of variation around this general relationship. Of course, what drives this variation is the fact that other things are not equal – places differ in the local “amenities” (e.g. crime, weather, pollution, entertainment, natural beauty) that they provide to households. Places with high housing costs relative to wages must offer some kind of local “amenity” (e.g. better restaurants and entertainment, lower crime, less pollution) which helps offset the fact that real income is low in the area. Similarly places which offer poor local amenities must “compensate” people by offering low house prices relative to wages. This suggests that we can use cost-minus-earnings differentials as a measure of quality of life.

Rather than focus on individual rankings, it is most useful to consider what this approach tells us about the trade-off faced by people in Britain. The dashed line in Figure 7 does this by showing how the relationship between house prices and wages changes as we move from low to high wages. Places with lower wages in Britain tend to be rural (we discussed this at length above) but notice that as we increase wages, house prices tend to fall, not rise (so the relationship between house prices and wages is downward sloping). This suggests that places with high levels of consumer amenities tend to have few productive advantages for firms. Consumer demand for local amenities drives up land costs and housing prices, but since these areas do not offer productive advantages, wages must also be lower to induce businesses to locate there. Households in the lowest wage places are willing to pay high house prices because they are compensated by higher local amenities. When you look at the places we are talking about – for example West and East Cornwall, Devon and Kendal – this clearly makes

sense. These are places in which ‘underperformance’ and the lack of development has gone hand-in-hand with preservation of rich natural amenities which are highly valued by consumers, even though the wages are low. This high valuation of natural and recreational resources, reflected in housing costs, is borne out by more detailed analysis in Gibbons, Resende and Mourato (2011).

In contrast when we move to higher wage areas – on the right hand side of the diagram – we tend to see house prices increasing as wages rise (so the relationship between house prices and wages is positive). This suggests local producer benefits tend to drive the relationship for higher wage areas. Firms drive up land costs in these labour markets, and workers must be compensated with higher wages to induce them to live in there, but with house prices moving to offset the benefits of higher wages. Note though, that in the far right of the picture, in London and the South East, amenities for consumers and productive advantages for firms tend to be positively correlated across labour markets. Housing costs rise steeply, more than one-for-one with wages, indicating that consumers are willing to pay over and above the expected wage gain to live in these areas, though here the amenities are undoubtedly different from those they expect to find in places like Devon, Cornwall and Kendal.

Implications for DEFRA policy

The evidence we have presented shows that area disparities are highly persistent over time. However, who you are is much more important than where you live in determining earnings (and other economic outcomes). We can reconcile small area effects with large area disparities by noting that people sort across labour markets so people with bad characteristics tend to live in bad places. Even taking this positive correlation in to account area effects play a small role in explaining overall wage dispersion. These area effects are highly persistent across time despite many policy interventions to try to address them. Rural areas pay lower wages than urban areas. Sorting across rural areas according to individual characteristics is slightly less pronounced than for urban areas. However, this effect is offset by the fact that the overall spread of rural area effects is lower so, on balance, place is no more important in explaining rural outcomes than it is in explaining urban outcomes. Regardless, individual characteristics matter far more.

Mobile individuals trade-off spatial differences in earnings against differences in the cost of living and amenities. In line with this, across Britain as a whole increased living costs (particularly of housing) tend to completely offset increased wages for the average household. In the lowest wage areas, which are predominantly rural, differences in amenities appear to drive the cost-of-living versus wage tradeoff. In the higher wage areas, which are predominantly urban, it is differences in firm productivity that tend to drive this tradeoff. There are a number of implications of these findings for DEFRA rural economic policy.

Rural mainstreaming

The previous government adopted the notion of “rural mainstreaming” to ensure that the needs and interests of rural people, businesses and communities are addressed effectively. DEFRA measured its performance against these objectives by comparing indicators of rural performance (number of GCSEs, employment rates, house prices) etc to UK averages. It should be clear from the discussion above that this provides essentially no information on whether policy is meeting the needs of rural communities. When who you are is much more

important than where you live observing that educational outcomes are higher for rural areas (a green light according to the monitoring system) tells us very little about whether educational policy is delivering for rural communities. It also reminds us that, in terms of the impact on rural communities, the crucial questions for *national* government are around the provision of public goods (e.g. broadband, schools) and other policy interventions (e.g. employment policy, welfare reform) in low density areas.

Addressing “underperformance”

It is true that rural areas pay lower wages than urban areas and some rural areas pay particularly low wages relative to house prices. DEFRA has tried to address this “problem” by having a specific policy objective to support economic growth in rural areas with the lowest performance. In light of the evidence presented above this policy makes little, if any, sense. First, rural areas will always tend to have lower wages than urban – why would firms ever pay London rents otherwise? Second, part of the reason why wages are lower in rural areas is because of the lower skills employed in those areas. This suggests policy may want to address issues of low skills (e.g. in the tourism or agricultural sector). Third, many rural areas are attractive for non-economic reasons. Rural areas that pay low wages but have high house prices clearly offer good local amenities. If anything, as these amenities (environmental, ecological and recreational) are clearly highly valued, policy should seek to protect them not worry about the “performance” of the local economy. The coalition government’s recent emphasis on overall quality of life appears to be moving towards recognition of this fundamentally important point. Fourth, tackling high house prices requires expanding supply – improving underperformance with fixed housing supply simply raises house prices further. Of course, expanded housing supply may not be an attractive option when the high amenity value reflects the fact that an area is not very developed. In this case, if one is worried about house prices relative to wages for particular type of workers then you either need to increase their relative wage (e.g. through targeted skills or employment policy) or you need to increase housing supply for those types of workers (e.g. through “local homes for local people”). Most economists would argue that of these two solutions it would be preferable to try to tackle the income problem directly.

The wider impacts of rural policy

It is clear that decisions on environmental and farm policy have effects that resonate far beyond rural areas. In an increasingly mobile world, household and firm decisions link outcomes across areas, so that this is true of “rural” policy more generally. Thinking of households trading off wages, costs-of-living and amenities helps to clarify the impacts of different policies. For example, rolling out rural broadband has several effects. It provides a public good to rural communities. It may have some effect on the productivity of firms located in rural areas. It will allow some people who currently live in urban areas to move to rural areas and carry on the work they were doing. For national government, concerned with rural communities, the first of these effects is far more important than the other two. The effect on existing firms is likely to be small and why should the government care about the composition of particular places? Of course, if broadband provision makes rural areas more attractive, this will exacerbate local cost of living issues if housing supply is unable to respond. Note that the fact that places are linked also complicates questions around housing supply. Local homes for local people is good for people who happen to be born in high amenity areas, bad for those who are not and would like to move. It is unclear why urban

residents should be subsidising people to live in places where many of them would probably quite like to live too!

Conclusions

The way in which households and firms trade-off economic opportunities (wages, income), living costs (housing) and amenities has profound implications for rural economic policy. Because area effects in earnings are small, not very much affected by policy, and offset by living costs, observed area disparities offer a very poor guide to policy. Instead of targeting these disparities, we argue that DEFRA policy should focus instead on the effective provision of public goods and services in rural areas and on the wider impacts of rural policy.

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