

TITLE

The decline of rural services and facilities in England and its impact of local communities: a longitudinal study

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ABSTRACT

The study presented in this paper examines the decline of services in rural areas of England and its impact on local communities and economies. To develop their study, the authors use a unique dataset comprising information about facilities and services available in the English countryside. Data are reported at a parish level, the lowest administrative level in the UK, and collected in over a ten years' time-span between 2010 and 2010, allowing for a longitudinal analysis of the changes occurred in the selected parishes. In their analysis, the authors investigate the effects of the decline of rural services and facilities on an index measuring the level of community cohesion in each parish. Empirical results obtained from the analysis provide factual evidence that the decline of rural services has a considerable impact on residents in peripheral and remote areas, corroborating findings gathered from previous studies on the significant relationship particularly between local small retailers and social engagement in rural communities. Outcomes of this analysis are discussed and explored with regard to possible policies and initiatives which could help preserving the positive impact that local services and facilities have on the English countryside.

KEY WORDS: Community Cohesion, Rural Services and Facilities, Local Development, England

[PLEASE DO NOT QUOTE WITHOUT AUTHORS' PERMISSION]

1. Introduction

In 2013, the population of England was 53.9 million (ONS 2014). Of these, 9.2 million, about one out of six people, lived in rural areas, with about half a million people living in sparse settings. A higher proportion of aged population lives in rural areas, with more than half of residents aged 45 and above, compared with around 40 percent in urban areas. In most isolated villages and hamlets in a sparse setting, the proportion of residents aged 45 and above is approximately 60 percent (DEFRA 2015). While levels of employment in England were generally higher in rural compared than urban areas, rural sparse settings recorded the highest percentage of economic inactivity (21 percent; DEFRA 2015). In recent years, the recession could have caused some people struggling to find a job, forcing many to remove themselves from the job market by retiring or returning to study. However, some people who were previously economically inactive may have decided to go back to work to cover for lost income elsewhere in their household. In rural hamlets and dispersed areas, the percentage of home workers has increased significantly compared to those located in urban areas: at 33 per cent compared with 12 per cent respectively (DEFRA 2015). Home workers are more likely to be working in higher skilled roles and earn on average a higher hourly wage (ONS 2014).

These figures provide an overview of many peripheral and remote communities located in the English countryside. On the one hand, these communities are characterised by an ageing resident population mostly autochthone, and the other hand, the same communities have seen a growing influx of new residents mostly skilled and higher educated in the past recent years (DEFRA 2015). In such context, the availability of small retailers becomes an important factor to consider, not only with regard to the provision of services and facilities at a local level, but also in relation to community cohesion and well-being. Several sources (Higgs and Langford 2013, Booth and Hough 2015, BBPA 2015) indicate a sharp decline in the numbers of small retailers such as village shops and pubs in rural England since the late 1990s, aside a decline in the number of services such as libraries and post offices. But what is the impact of this decline on community cohesion and social well-being, and how can it be measured? And, more generally, how the disappearance of services and facilities is affecting rural communities in England?

The study we present in this paper aims to answer these questions by exploring and examining the effects of the decline of services and facilities on small communities in the English countryside. We develop our investigation by using a unique dataset comprising information about facilities and services available in a sample of 284 rural parishes. Information is collected in two defined time-points between 2010 and 2010, allowing for a longitudinal analysis of the changes occurred in the selected parishes.

The paper comprises of four sections, including this brief introduction. Section two discusses and illustrates the theoretical background of the study, focusing on third places and

analysing their importance with regard to concepts such as community cohesion and social capital for local communities. Section three describes data used and methodology applied in this study. Section four examines the results gathered from the data analysis, and discussed findings in relation to possible policies and actions aimed at preserving the availability of services and facilities within rural areas on England.

2. The importance of rural retailers for local communities

Within local communities, small retailers represent institutions that are valued by individuals outside of their private domain and work as incubators for wider relationships and activities, either formal or informal, offering a physical space for the community to come together (Urry 2001, Cabras and Bosworth 2014). Particularly in the rural context, small retailers often function as "third places", defined by Oldenburg (1989, 2001) as social surroundings alternative to other social environments such as homes and workplaces, identified as "first places" and "second places" respectively. Third places provide ideal settings for the origination and definition of societal orders, and delineate frameworks and boundaries for individuals and groups (Watson and Watson 2012). Similarly, small rural retailers located in villages and hamlets help to accumulate and shape social capital within the communities they serve, with social capital being the degree of social interaction, cohesiveness and networking (Putnam 2000).

Higher levels of social capital can facilitate the flow of knowledge and information, which lead to positive impacts on community cohesion and engagement (Granovetter 1989). However, social capital can also create exclusive relationships among different groups within the same community, with members of a given group keen to exclude and/or impose their will on non-members (Besser 2009). In this case, social capital can be examined into two variants: bridging social capital, relationships between individuals from different groups, and bonding social capital, which refers to the ties within groups (Besser 2009). While a mix of both bridging social capital and bonding social capital provides an optimal platform for community development, higher levels of bridging social capital may enhance community cohesion by crossing and tightening relationships among different groups, promoting the interests of the community as a whole instead of individual group interests.

In rural areas, small retailers provide physical spaces for the development of bridging and bonding social capital, generating other positive outcomes for residents and communities. Small rural retailers have also a significant impact on local economies (Champion and Brown 2010). These businesses are important generators of part-time and casual employment, in a context (the rural context) where work-opportunities, for some categories of people (e.g. students, women with families), are significantly reduced (Cabras 2011). Moreover, their presence can increase the base and provision of skills and trainings at a local level, influencing

the amount of both human and financial resources reinvested within the local supply chain (Cabras and Reggiani 2010).

In the light of these considerations, services and facilities in rural areas have become even more important for the English countryside and for rural economies and society in general. Although, there is a severe lack of empirical studies that investigate the social and economic impact of these businesses in the rural context. The next sections aim to fill this gap by providing original results gathered from an year-long investigation, which targeted pubs operating in the most rural and remote areas of England.

3. Methodology and data-analysis

For the purpose of this study, information about services and amenities in rural areas of England were extracted by the last Survey of Rural Services (SRS) conducted by Countryside Agency in 2000. With the Countryside Agency disbanded in 2009, the collection of data regarding facilities and services in rural England ceased to be conducted at a national level. However, data collection continued sparsely at a local level, mainly administered by local branches of national charities and associations operating across the country, such as Rural Service Networks (RSN) and the Actions with Communities in Rural England (ACRE), and by a restricted number of local authorities.

In this context, we identified seven local authorities and organizations (Cambridgeshire County Council, Wiltshire County Council, Community Impact Buckinghamshire, Northamptonshire ACRE, Suffolk ACRE, the Rural Community Council of Essex and the Rural Community Council of Leicestershire and Rutland), which continued collecting data across rural parishes by using the SRS questionnaire as a platform. Figure 1 illustrates the location of parishes within their respective local authorities. Based upon these data, we compiled the dataset used in this study, with the aim to conduct a longitudinal analysis of the impact of pubs on level of community cohesion and well-being in rural communities. The dataset included information specifically related to rural parishes in the local authorities, identified by using the definition proposed by Cabras and Reggiani (2010, p.949) as parishes “with no more than 3,000 inhabitants, situated at least 5 miles (or 10 minutes’ drive) from towns or larger parishes counting 5,000 inhabitants or more”. Following this definition, we identified 284 rural parishes for which information was available for 2000 and 2010.

The level of observed community cohesion for a given area is argued to be function of a variety of inputs such as common values and culture, social networks and place attachment (Kearns and Forrest, 2000). Building on these factors, we develop an index measure of community cohesion (COMCOH), which comprised 21 binary categorical variables across four main components: leisure activities (LEI)–variables relating to a community’s access to social clubs and recreational activities; communication (COM)–variables relating to the spread of

information within the community; food facilities (FF)—variables relating to a community’s access to local food facilities; volunteering (VOL)—variables relating to community-based voluntary activities. Table 1 provides the variable breakdown of these components, which were used to categorize variables in the dataset. Using this measure, we seek to examine the longitudinal impact of services and facilities on levels of community cohesion in rural parishes of England. More specifically, we focus our attention on the presence or absence in the parish of five types of services and retailers: community halls, village shops, libraries, post offices and pubs. This choice is somehow dictated by the data available for the selected parishes within the period of examination, since information available for other types of services and facilities (e.g. GPs and local surgeries, bank branches, schools etc.) was rather incomplete between the two time points considered.

[FIGURE 1 HERE]

[TABLE 1 HERE]

In order to assess the influence of the determinants on COMCOH, a two period panel dataset (2000 and 2010) is used. Table 2 displays summary statistics of variables between the two periods considered, including changes in counts measured with differences. The COMCOH index shows a slight average increase between 1.01 between 2000 and 2010, similarly to almost all the demographic variables, although the average number of residents classified as economically inactive registered a decrease (-55.43). Among services and facilities, average decreases can be observed for pubs (-1.03), village shop (-0.05), and community halls (-0.02). Interestingly, average numbers of libraries and post offices appear to have increase within the period considered. This growth might be explained with an increment of mobile library services supplied by local authorities within among selected parishes, and by the diffusion of post office services supplied by other retailers, which may not reflect an actual growth in the number of post offices within selected parishes.

The empirical model addressing the relationship between our index COMCOH and other independent variables is specified as follows:

$$\begin{aligned}
 & \text{COMCOH}_{i,t} \\
 & = f(\text{population}_{i,t}, \text{employed}_{i,t}, \text{unemployed}_{i,t}, \text{inactive}_{i,t}, \text{level1}_{i,t}, \text{level2}_{i,t}, \text{level3}_{i,t}, \\
 & \quad \text{level4}_{i,t}, \text{villageshop}_{i,t}, \text{communityhall}_{i,t}, \text{library}_{i,t}, \text{postoffice}_{i,t}, \text{pubtotal}_{i,t}) \quad (1)
 \end{aligned}$$

Where population_{i,t} is the population in parish i at time t; employed is the number of employed person ; unemployed is the number of unemployed person. Figure XX shows the correlation matrix for all variables included in the model in 2000 and 2010. Most variables do not show any significant correlation, although some (e.g. number of employed residents and residents holding level1-level4) are highly correlated. Strong correlations may suggest excluding this group of variables from the regression analysis to avoid issues related to multicollinearity. However, we decided to include them in the analysis in order to verify the severity of a potential multicollinearity.

[TABLE 2 HERE]

[TABLE 3 HERE]

Results from the Ordinary Least Square (OLS) regression analysis related to Equation (1) are shown in Table 4. Two sets of four models each are developed on observations collected in 2000 and 2010 respectively. Models developed on 2000 data appear to identify community halls and pubs have a large positive impact on COMCOH index among services. Model 3_1, which shows the largest R-square value among the four models, seems also to indicate a positive impact associated with higher numbers of inactive residents.

Results for the year 2010 confirm the positive impact of community halls and pubs on the COMCOH index, although coefficients related to pubs almost doubled compared to 2000 values. Interestingly, Model 3_2 and Model 4_2 report the presence of libraries and post offices showing statistically significant coefficients, although again these might be related to the growth mobile library and off-premise post-office services within the parish considered.

Table 5 shows results of the regression analysis addressing differential changes calculated between 2000 and 2010 values. Among attribute variables, it seems that positive changes in COMCOH index in the period considered are related to decline in both population and unemployment, and to an increase in the proportion of inactive residents within the parishes considered. Similar positive effect on the COMCOH index is also associated with an increase in the number of residents holding Level 4 qualification and above. With regard to services and facilities, the COMCOH index seems increased where the number of pubs has increased and, to a lesser extent, where post offices have increased. The saturated model shows a R-square nearly doubled compared to the baseline model, indicated a better fit of this model with regard to explaining variations in the COMCOH index.

[TABLE 4 HERE]

[TABLE 5 HERE]

4. Discussion and conclusions

The analysis conducted in the previous section and the findings generated provide more clarity to the functional relationship between small retailers and levels of community cohesion in rural areas of England. Overall, results identify the positive impact of some of them on the community cohesion index, which provides a proxy of the level of social engagement and involvement among residents living in the English countryside.

The regression analysis developed using data collected between 2000 and 2010 show a strong, statistically significant impact of pubs and (to a lesser extent) post office services on the level of community cohesion, measured by the COMCOH index, and sustained over time. Considering random variations in time, results indicate that the magnitude of impact of pubs has increased over the last decade. This demonstrates an increasing criticality of these places for sustaining rural life and wellbeing in the area in terms of COMCOH, corroborating evidence in literature (Lincoln, 2006; Pratten, 2007, Cabras 2011) and confirms the significance of pubs as third places in rural and remote areas of England, with possible positive externalities on local economies emerging from this shift e.g. pubs purchasing from local supply chains.

The investigation on the changes in the COMCOH index in ten years show higher levels of community cohesion among those shrinking communities which experienced a decline in unemployment and an increase in the number of higher educated residents, these two variables used as proxies of wealth in the analysis. This finding is important: given the number of people relocating from urban areas to the countryside, which has constantly increased in recent years. The Commission for Rural Communities (CRC 2010) indicates that the net migration from urban to rural areas in England during 2009 was 92,000 people. A growing influx of residents in rural areas is also confirmed by more recent data (see DEFRA 2015), which indicate about 1.0 percent population increase in rural areas between 2011 and 2013. Villages and hamlets in sparse settings showed a slight decline in population, but only 0.2 percent.

These figures reveal a renewed interest for living in rural areas. However, “only if people in rural communities have ready access to local schools, local jobs, local shops and pubs, and homes which are affordable, will they and their children thrive, and will the nation meet its environmental and economic needs” (CRC 2010, p. 28). Yet, the declining number of services available in these areas to accommodate increases in population also has a direct impact on the local supply chain, hindering firms and enterprises that were dependent on those services for their business. Thus, to ensure that the quality of life of rural residents is maintained, there is a distinct need to promote factors associated with community cohesion and social integration (Atterton 2010).

The last statement appears to be particularly relevant in relation to smaller parishes, frequently characterized by an ageing population and lower availability of facilities and services. As confirmed by the analysis conducted in this study, the presence of one or more third places operating in these communities has a more significant impact on the index of community cohesion compared to larger parishes. If this is the case, the disappearance of local services and facilities would represent a far higher loss in terms of social wellbeing.

Government and policymakers can play an important role with regards to halting the decline of small retailers in rural England and more generally in the UK. The Localism Act introduced by Parliament in 2011 increases the level of control for local authorities and parish councils on matters that arise within local communities, including decisions related to community assets and services. In particular, community groups are given priority with regards to services and assets of community value, such as pubs, village shops, libraries, and post offices: these places can be identified by community groups to local authorities, which are then required to insert them on a protected list. When listed assets come up for sale or change of ownership, community groups are given enough time to raise funds to bid and buy the asset when it comes on the open market (Parliament, 2011). This may help villagers and local communities rescue more third places from unnecessary closure. Indeed, the findings from this study may provide an opportunity for policymakers and local administrators to evaluate current policies and actions in order to better support the development and maintenance of spatially remote communities.

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TABLES AND FIGURES

Table 1: Index components and variables

Domain	Variables	Description	Matched variables
Leisure activities (LEI)	Tennis court	<i>Parish contains a tennis court available for use by local residents</i>	
	Sports hall	<i>Parish contains a sports hall available for use by local residents</i>	X
	Playing field	<i>Parish contains a playing field available for use by local residents</i>	X
	Bowling green	<i>Parish contains a bowling green available for use by local residents</i>	
	Cricket matches	<i>Whether cricket matches are held within the parish</i>	
	Football/ rugby matches	<i>Whether football/ rugby matches are held within the parish</i>	
	Beavers	<i>Presence of beavers/cubs/venture scouts operating within the parish</i>	X
	Brownies	<i>Presence of brownies/rainbows/guides operating within the parish</i>	
	Retired club	<i>Presence of retired club operating within the parish</i>	X
Communication (COM)	Worship	<i>Presence of worship centres/churches in parish</i>	X
	News	<i>Parish has a community newsletter</i>	X
	Music/art events	<i>Whether music/art events are held within the parish</i>	
	Festival/galas	<i>Whether festival/galas are held within the parish</i>	
	Social club	<i>Presence of social club in parish</i>	X
	Noticeboard	<i>Parish has a public noticeboard</i>	X
	Markets	<i>At least one market operating within the parish</i>	X
Food facilities (FF)	Restaurants	<i>At least one restaurant operating within the parish</i>	X
	Cafés	<i>At least one café operating within the parish</i>	X
	Takeaways	<i>At least one takeaway operating within the parish</i>	
Volunteering (VOL)	Voluntary clothes recycling	<i>Presence of voluntary organisation(s) providing clothes recycling</i>	X
	Voluntary paper recycling	<i>Presence of voluntary organisation(s) providing paper recycling</i>	
Services and Facilities	Community Halls	<i>Presence of at least one hall open for public use in parish</i>	X
	Village Shops	<i>Presence of a village shop operating in parish</i>	X
	Libraries	<i>Provision of library services in parish</i>	X
	Post Offices	<i>Provision of post office in parish</i>	X
	Pubs	<i>Presence of at least one public house in parish</i>	X

Notes: All variables used to calculate the COMCOH are binary and provided in alphabetical order; sport matches classified as taking place on regular basis if frequency is above or equal to two matches per month, music/art events at least once a month.

Sources: The National Archives; Cambridgeshire County Council, Wiltshire County Council, Community Impact Buckinghamshire, Northamptonshire ACRE, Suffolk ACRE, the Rural Community Council of Essex and the Rural Community Council of Leicestershire and Rutland

Table 2: Descriptive statistics for values related to 2000, 2010 and differences between the two periods

	Index	Population	Levels of Employment			Levels of education				Services and facilities				
2000	COMCOH	POP.	Employed	Unemployed	Inactive	L1	L2	L3	L4	Community Hall	Village Shop	Library	Post Office	Pub
Mean	4.64	638.14	308.60	8.87	140.86	68.14	98.82	37.38	111.98	0.81	0.41	0.05	0.10	1.83
Median	5.00	412	201.00	6.00	86.00	43.00	70.00	25.00	74.00	1.00	0.00	0.00	0.00	2.00
Max.	11.00	2793	1757	54	804	351	423	154	530	4.00	10.00	1.00	1.00	12.00
Min.	0.00	50	28.00	0.00	9.00	0.00	14	4	9	0.00	0.00	0.00	0.00	0.00
Std. Dev.	1.63	575	287.15	9.38	129.04	70.81	83.77	31.44	97.31	0.58	0.91	0.22	0.29	1.64
2010	COMCOH	POP.	Employed	Unemployed	Inactive	L1	L2	L3	L4	Community Hall	Village Shop	Library	Post Office	Pub
Mean	5.65	693.57	343.23	11.74	85.43	71.40	92.38	67.13	187.29	0.79	0.37	0.74	0.27	0.80
Median	6.00	437	229.50	7.00	54.00	46.00	60.00	44.50	125.00	1.00	0.00	1.00	0.00	1.00
Max.	11	2880	1624	63	486	369	411	275	886	5.00	3.00	4.00	1.00	5.00
Min.*	0.00	101	-	-	-	6	11	13	41	0.00	0.00	0.00	0.00	0.00
Std. Dev.	1.82	1.50	312.12	12.16	76.80	68.47	82.51	58.11	161.28	0.68	0.54	0.61	0.44	0.76
DIFFER.	COMCOH	POP.	Employed	Unemployed	Inactive	L1	L2	L3	L4	Community Hall	Village Shop	Library	Post Office	Pub
Mean	1.01	55.42	34.64	2.87	-55.43	3.26	1.57	32.78	84.38	-0.02	-0.05	0.69	0.17	-1.03
Median	1.00	20.00	25.50	2.00	-34.50	-2.00	-6.00	21.00	52.00	0.00	0.00	1.00	0.00	-1.00
Max.	7	2400	527.00	32	61	369	367	275	886	4.00	2.00	4.00	1.00	4.00
Min.	-4	-1016	-1072	-19	-593	-129	-185	-69	-420	-3.00	-9.00	-1.00	-1.00	-11.00
Std. Dev.	1.67	225.93	106.49	6.90	64.51	44.62	54.92	40.04	107.81	0.83	0.91	0.67	0.52	1.50

*Information about employment missing with regard to 13 parishes

Table 4: OLS Regression models – 2000 and 2010 (Dependent Variable: COMCOH)

	2000				2010			
	Model 1_1	Model 2_1	Model 3_1	Model 4_1	Model 1_2	Model 2_2	Model 3_2	Model 4_2
Constant	3.384*** (0.127)	3.462*** (0.107)	2.986*** (0.175)	3.000*** (0.149)	4.441*** (0.137)	4.699*** (0.151)	4.043*** (0.208)	4.094*** (0.211)
POP	-0.0018 (0.002)	0.0020*** (0.000)	-0.0022 (0.002)	0.0015*** (0.001)	-0.0018** (0.001)	0.0009 (0.00)	-0.0014** (0.001)	0.0006 (0.001)
EMPL	0.0008 (0.002)		0.0011 (0.002)		0.00356*** (0.001)		0.0028** (0.001)	
UNEMPL	-0.0004 (0.017)	-0.0082 (0.016)	-0.0032 (0.018)	-0.00722 (0.016)	-0.0196 (0.0233)	0.0269 (0.034)	-0.0208 (0.0234)	0.0132 (0.027)
INACTIVE	0.0055** (0.003)		0.0063** (0.002)		0.010*** (0.003)		0.00820*** (0.00276)	
ED. L1	0.0051 (0.009)		0.0064 (0.0087)		-0.0070 (0.005)		-0.0026 (0.005)	
ED. L2	0.0045 (0.007)		0.003 (0.0069)		0.0038 (0.006)		-0.0012 (0.006)	
ED. L3	0.0052 (0.008)		0.0014 (0.009)		-0.0002 (0.007)		-0.00160 (0.007)	
ED. L4	0.0037 (0.003)		0.0036 (0.003)		0.0041*** (0.001)		0.0046*** (0.001)	
HALL			0.296** (0.128)	0.353*** (0.127)			0.155 (0.150)	0.246* (0.148)
SHOP			0.110 (0.069)	0.101 (0.065)			0.0719 (0.201)	0.142 (0.234)
LIBRARY			0.299 (0.368)	0.171 (0.356)			0.218 (0.159)	0.315* (0.167)
POST			0.266 (0.243)	0.116 (0.251)			0.484** (0.229)	0.509** (0.245)
PUB			0.187*** (0.056)	0.214*** (0.055)			0.361*** (0.136)	0.455*** (0.141)
Observations	261	284	261	284	284	284	284	284
R-squared	0.442	0.427	0.493	0.487	0.370	0.225	0.418	0.317

Robust standard errors in brackets - *** p<0.01, ** p<0.05, * p<0.1

Table 5: OLS Regression – change between 2000 and 2010 (Dependent Variable: COMCOH)

	Baseline model: Attribute variables only	Saturated Model: Local facilities variables included
Constant	1.175*** (0.142)	1.238*** (0.164)
Δ_POP	-0.0016** (0.001)	-0.0014** (0.001)
Δ_EMPL	0.0019* (0.001)	0.0014 (0.001)
Δ_UNEMPL	-0.0388** (0.016)	-0.0318* (0.016)
$\Delta_INACTIVE$	0.0041** (0.002)	0.0044** (0.002)
Δ_ED_L1	-0.0048 (0.004)	-0.0039 (0.004)
Δ_ED_L2	0.0052 (0.0051)	0.0020 (0.0052)
Δ_ED_L3	-0.0023 (0.006)	-0.003 (0.0052)
Δ_ED_L4	0.0034** (0.001)	0.0045*** (0.001)
Δ_HALL		0.183 (0.116)
Δ_SHOP		-0.102 (0.0896)
$\Delta_LIBRARY$		0.0699 (0.133)
Δ_POST		0.401* (0.209)
Δ_PUB		0.229*** (0.070)
Observations	284	284
R-squared	0.084	0.143

Robust standard errors in brackets - *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Figures

FIGURE 1: Map of rural parishes identified for this study

