

The economic and social aspects of the North-South divide in England

Total Word count – 2998

Introduction

The North-South divide has received significant attention from both academics and policy makers since the beginning of the twentieth century (Martin, et al., 2015). This has mostly focused on the economic divide that was first recognised during the inter-war period of the 1920s and 30s. As a result, there have been many different policies implemented since 1945 which have sought to reduce the divide (Gardiner, et al., 2013). However, the fact that it remains an issue today suggests that such policies have so far failed. One influential factor has been a lack of clear understanding of what the divide is, where it is and how this divide manifests itself in both economic and social indicators. Therefore, this essay seeks to further our understanding of the divide by comparing three different conceptions of the current North-South divide across multiple different indicators at the NUTS3 level.

Literature Review

Although there is evidence to suggest that the North South divide dates further back than the 1920s and 30s (Martin, 1988), it only became a prominent issue at that time as the global economic climate consolidated and emphasised the differences between regions (Gonzalez, 2011). This included factors such as an adverse shift in Britain's world trade position, restrictive domestic economic policies, and several recessions in the 1920s and 30s which imposed severe economic shocks on the industrial North (Gardiner, et al., 2013). At the same time, the South did not suffer as much due to the development of advanced manufacturing in the region and greater levels of adaptation to the 'new economy' that was emerging in services and finance (Armstrong & Taylor, 2000). This led the Barlow Report of 1940 to highlight the imbalances between the North and the South, suggesting that the South acted as 'a serious drain on the rest of the country' (Barlow Commission, 1940, para. 171 as quoted in Martin, 2015, p. 240). Consequently, the report advocated for a policy of spatial rebalancing including calls for funding to support the dispersal of industry across the country and restricted development in and around London (Morgan, 2002). These suggestions informed the incoming 1945 Labour Government's 'radical new regional policy' aimed at balancing employment across the country (Gardiner, et al., 2013, p. 894).

Post-war policies until the 1970s sought to tackle the divide using measures such as nationalisation, subsidies and development permits to direct economic development towards the North (Bailoni, 2017). However, a shift in ideology occurred under the 1979 Conservative government as they reduced funding for regional policy and sought to reduce this divide through supply side policies aimed at tackling market rigidities and a perceived lack of entrepreneurship in the lagging regions (Martin, 1993). New Labour in 1997 then shifted this focus towards competitiveness at the regional level, resulting in the conception of the Regional Development Agencies (RDAs) to try to boost regional economic growth (Gonzalez, 2011). Then under the 2010 coalition government there was the scrapping of RDAs, the introduction of Local Enterprise Partnerships and the advancement of the devolution agenda (Gardiner, et al., 2013), which has continued under the Conservative government since 2015. This shows that there have been many different policies since 1945, implemented through a variety of mechanisms, based on different thinking and ideologies.

These interventions were justified on the basis of both economic efficiency and social equity (Taylor & Wren, 1997). Economic efficiency suggests that it is inefficient for slower growing regions to not take full advantage of their resources which could otherwise boost economic growth (Gardiner, et al., 2013). Furthermore, if economic activity was clustered in one region then competition for space and resources would result in congestion and increased prices, harming international competitiveness (Taylor & Wren, 1997). The social equity argument, however, suggests that people's opportunities should not be significantly affected by where they live, such that employment and income opportunities should be roughly equal across the country (Gardiner, et al., 2013). Despite this, the scale of the divide has increased since 1975 (Simmie & Carpenter, 2008). The data now suggests that the gap is £100bn in terms of economic output (Gardiner, et al., 2013), showing that regional policy has so far failed to reduce the divide. This can be partly attributed to how the divide has mostly been perceived through an economic lens (Gonzalez, 2011).

While most research and policy intervention has focused on economic indicators and outcomes (Bailoni, 2017), more recent research is beginning to explore the social dimension of the divide, particularly how where you live may affect your quality of life (Dorling, 2010). The main extension of this has been in health indicators as there is suggested to be significant disparities in health outcomes between the North and the South. For example, Bambra et al., (2014 p.1), suggest these disparities are similar to those seen between the 'former West Germany and post-communist East Germany in the mid-1990s', with other papers finding similarly extreme differences (Copeland, et al., 2014). Furthermore, other papers have explored how geography affects factors such as voting patterns, seen in Randall (2009), and educational achievement, as seen in Duranton and Monastiriotis (2001). This therefore suggests that the literature is beginning to explore and understand how this divide extends beyond economic measures such as gross value added or unemployment, for which the preliminary evidence suggests the divide affects many dimensions of the quality of life (Bailoni, 2017).

Furthermore, there have been recent attempts to explore where this dividing line lies. In this sense, Rowthorn's (2010) paper is typical of how the existing literature tends to treat the divide. This is such that in his analysis he considers mostly economic indicators, draws no maps and looks at only the highly aggregated NUTS1 geography. In doing so he draws the dividing line from the River Severn to the Wash by separating Greater London, the South East, the South West, the East Midlands and the East from the rest of England (figure 1b), justifying this on the basis of availability of data. However, with increased sources of data, and at a more detailed scale, we can depict the divide with greater precision (Bailoni, 2017). This is exactly what Dorling (2010) does by focusing on measures that could be said to affect the quality of life in cities. As such, he draws the dividing line along the boundaries of Parliamentary constituencies, from the River Severn to south bank of the Humber, as seen in figure 1c. However, both were published in 2010, nine years ago, and many of these indicators have since changed. For example, a visual inspection of the gross value-added map in figure 1a suggests a more extreme divide between the area surrounding London and the rest of the UK, as shown in figure 1d. This follows recent commentaries arguing there is a divide between the prosperous South East and the rest of the country (Vassel, 2018).

Research question

The literature review above highlights the fact that traditional research has focused on the economic aspects of the North-South divide and has done so without a clear conception of where the dividing line may be drawn. This essay therefore seeks to build on more recent literature to explore the questions of where the dividing line can best be drawn when considering social as well as economic indicators together. This includes considering the dividing lines drawn by Rowthorn (2010) and

Dorling (2010), along with a dividing line between the regions that surround London and the rest of the UK, across multiple different indicators.

Methodology and Data

The data used in this study comes from a variety of sources from the UK government. This includes measures on: gross value added (GVA) as a measure of economic production in the regions (ONS, 2018), unemployment, education, life expectancy, indices of multiple deprivation and the percentage voting leave in the 2016 European referendum. Since these come from different sources, these indicators were transformed to the common geography of the European NUTS3 level to be able to compare the extent of the divide between the North and the South along the different conceptions of the dividing line.

The exploration of the extent of the divide was then undertaken using a simple linear regression analysis of the different indicators against a dummy variable. This dummy variable indicated whether a NUTS3 region was in the North or the South according to the ideas of Dorling (2010), Rowthorn (2010), and views that the South-East is separating from the rest of the UK as devised from a visual inspection of figure 1a. These can be seen in Figure 1 b), c) and d). This allows for a comparison of the extent of the divide between the North and the South along different the dividing lines and to compare how well they can explain the variation in the indicators.

Results

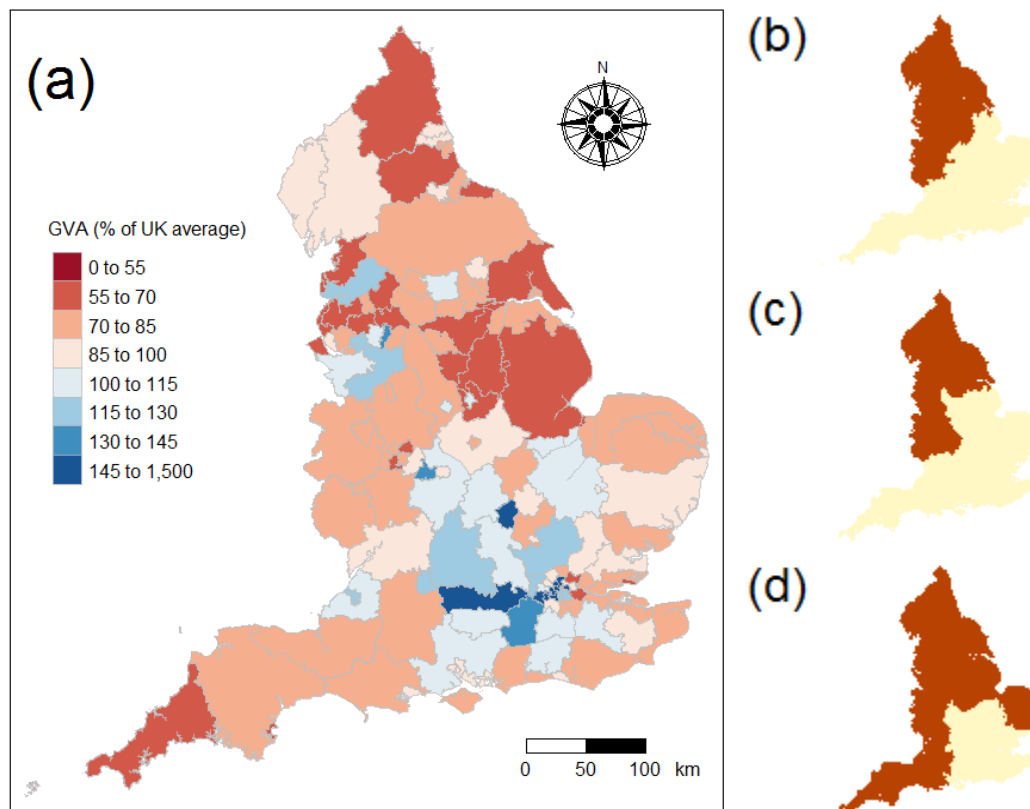


Figure 1 - a) UK Gross Value Added in 2017 as a percentage of UK average (Link to GVA over the past 20 years to show evolution of the economic divide - https://phillip.shinyapps.io/North_SouthGVA/), b) Dorling's (2010) divide, c) Rowthorn's (2010) divide, d) South-East divide.

The GVA map can be seen in figure 1a above, whereas life expectancy, education, indices of multiple deprivation and the percentage voting leave in EU referendum can be seen in figure 2 below. For these, the middle of the diverging colour palette has been set as the UK average. An initial visual inspection suggests that for the social indicators, the North-South divide does not appear as stark as that for GVA, although it does still appear that there is a divide. For example, in looking at figure 2a, the unemployment rate in 2018-2019 shows a pattern of high unemployment in London and along the east coast with no clear similarities to any of the divides in figure 1b), c) or d). In contrast, female life expectancy appears to show a clear North-South divide as most of the above average life expectancies are in the South and most of the below average life expectancies are in the North. However, these visual inspections can be supported by references to the regression results seen in figure 3. These results show the difference associated with being in the North against the South through the Dummy estimate, with the R-squared showing how much of the variance can be explained by this.

Firstly, using GVA as a measure of productivity, four extreme values are removed including: Camden and City of London, Westminster, Kensington & Chelsea and Hammersmith & Fulham and Tower Hamlets, as each were above 200% of the UK average and thus would have skewed the regression results. After doing so Dorling's divide shows a larger loss of GVA than Rowthorn's as moving from the South to the North under Rowthorn's divide would result in a loss of GVA of 12.4% versus the UK average, while Dorling's sees a loss of 14.4%. However, taking the third dividing line in figure 1d) results in a fall in GVA of 19.7% (if the extremes are included these values become: 46.0, 42.1 and 59.3 respectively but with a reduction in R-squared). This therefore suggests that the South East is

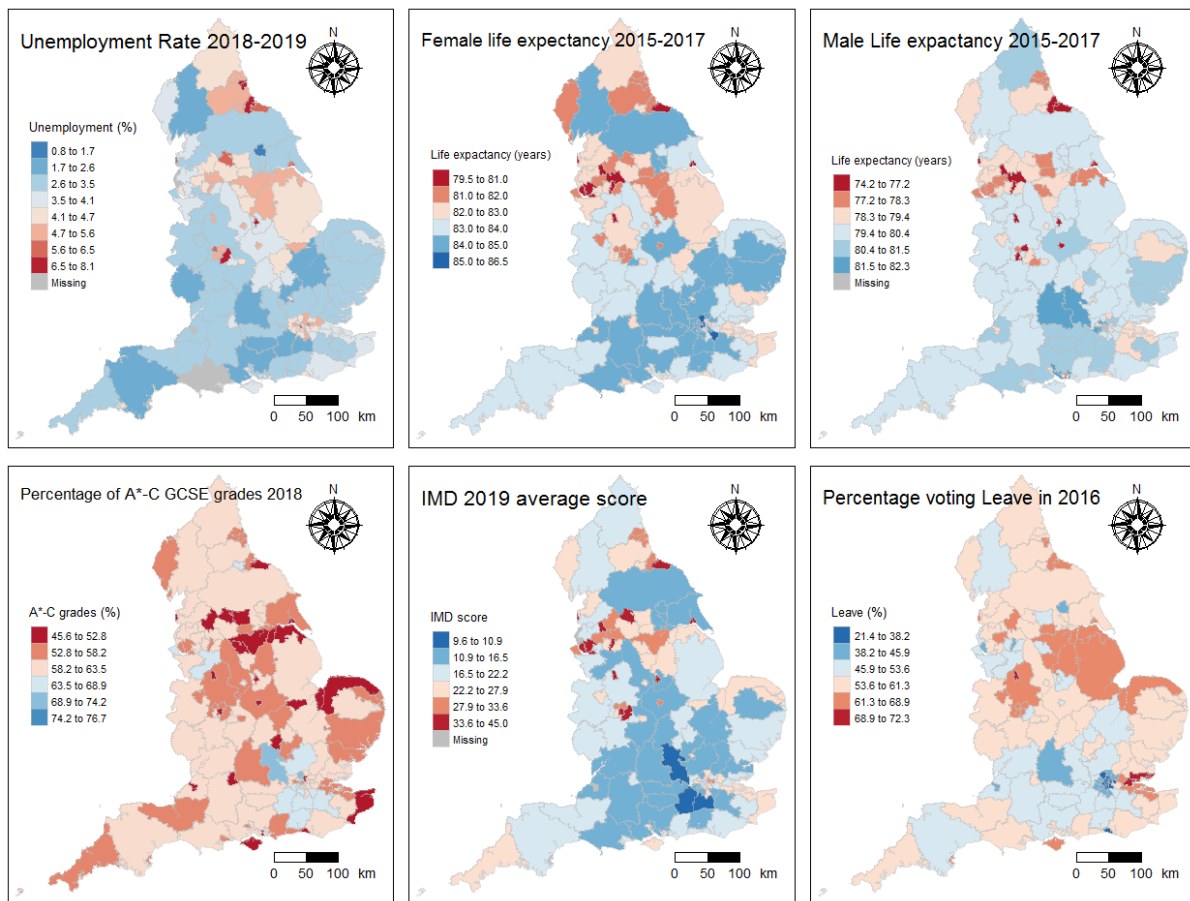


Figure 2 - UK indicators mapped: a) Unemployment rate in 2018-2019, b) Female life expectancy from 2015-2017, c) Male life expectancy from 2015-2017, c) Percentage of A*-C grades in 2018, d) Indices of Multiple deprivation average score, e) Percentage voting leave in the 2016 EU referendum - indicators and divides HTML document at https://github.com/PhilipDW183/GIS_Assessment

significantly ahead of the rest of the UK in terms of productivity and that the economic dividing line may indeed be between the South East and the Rest of the England. These dividing lines are also able to explain between 6.8% to 17.3% of the variation in GVA between regions, suggesting that the South-East division has the greatest explanatory power.

However, in following Dorling's (2010) example, other indicators must also be explored to determine the extent of the North-South divide. Firstly, considering the unemployment rate in 2018-2019 in figure 2a, using Dorling's line suggests that moving above this line is associated with an increase in the unemployment rate of 0.70%, while the values for Rowthorn's line and the South East line is 0.54% and 0.40% respectively. Given that the UK average was 4.1% then this suggests that moving across this divide is associated with a deviation of 10-20% from the UK average. However, again, these have small statistical explanatory power as they only explain 2-9% of the variation. This can similarly be seen for educational indicators as Dorling's line shows the greatest divide at a 3.44% decline in the percentage of A*-C grades at GCSE but with small explanatory value at 10%.

It is only when exploring life expectancy and indices of multiple deprivation are increases seen in explanatory power through the R-squared value, although this is still relatively small. In terms of male and female life expectancy, Dorling's divide shows the largest gap between the North and the South, being associated with a decline in life expectancy of 1.60 and 1.68 years respectively. This is closely followed by Rowthorn's line with a decline of 1.56 and 1.60, while that of the line between the South East and the Rest of the UK only shows a divide on the scale of 1.31 and 1.43 years. It is

		Intercept				Dummy				F-statistic P-value	Adjusted R-squared	Multiple R-Squared
		Estimated	Std. Error	t-value	Significance	Estimated	Std. Error	t-value	Significance			
GVA (%) (without extremes)	Dorling	96	2.6	36.28	< 2e-16***	-14.4	4.0	-3.63	0.000416***	0.0938	0.0867	0.000416***
	Rowthorn	95	2.6	36.46	< 2e-16***	-12.4	4.1	-3.04	0.00291***	0.0677	0.0603	0.00291***
	SE	101	2.9	35.16	< 2e-16***	-19.7	3.8	-5.16	9.12e-07***	0.1735	0.1670	9.12e-07***
GVA (%) (with extremes)	Dorling	128	14.4	8.85	5.2e-15***	-46.0	22.0	-2.09	0.039**	0.0323	0.0249	0.039**
	Rowthorn	124	14.0	8.88	4.5e-15***	-42.1	22.4	-1.88	0.062*	0.0263	0.0188	0.062*
	SE	140	16.0	8.76	8.8e-15***	-59.3	21.6	-2.74	0.007***	0.0543	0.0471	0.007***
Unemployment (%)	Dorling	3.82	0.135	28.3	< 2e-16***	0.703	0.204	3.44	0.000786***	0.0859	0.0787	0.000786***
	Rowthorn	3.91	0.133	29.4	< 2e-16***	0.543	0.211	2.57	0.0113**	0.0499	0.0424	0.0113**
	SE	3.92	0.153	25.7	< 2e-16***	0.395	0.210	1.88	0.062*	0.0274	0.0197	0.062*
Male Life expectancy (years)	Dorling	80.1	0.137	586.2	< 2e-16***	-1.60	0.207	-7.74	2.6e-12***	0.317	0.312	2.6e-12***
	Rowthorn	80.0	0.135	595	< 2e-16***	-1.56	0.213	-7.30	2.6e-11***	0.293	0.287	2.6e-11***
	SE	80.1	0.156	484	< 2e-16***	-1.31	0.222	-5.93	2.6e-08***	0.214	0.208	2.63e-08***
Female Life expectancy (years)	Dorling	83.8	0.120	697	< 2e-16***	-1.68	0.184	-9.16	9.06e-16***	0.391	0.386	9.06e-16***
	Rowthorn	83.7	0.121	692	< 2e-16***	-1.60	0.193	-8.26	1.4e-13***	0.342	0.337	1.4e-13***
	SE	83.8	0.146	572	< 2e-16***	-1.43	0.198	-7.22	3.79e-11***	0.285	0.279	3.79e-11***
GCSE Grades 5 A*-C (%)	Dorling	65.0	0.582	112	< 2e-16***	-3.44	0.889	-3.87	0.00173***	0.102	0.0956	0.001733***
	Rowthorn	64.7	0.573	113	< 2e-16***	-2.92	0.917	-3.19	0.00179***	0.0720	0.0649	0.00179***
	SE	65.3	0.658	99.4	< 2e-16***	-3.31	0.888	-3.74	0.000279***	0.0962	0.0893	0.000279***
IMD (score)	Dorling	19.1	0.775	24.6	< 2e-16***	7.29	1.18	6.17	8.22e-09***	0.229	0.223	8.22e-09***
	Rowthorn	19.4	0.755	25.7	< 2e-16***	7.21	1.21	5.98	2.08e-08***	0.218	0.212	2.08e-08***
	SE	19.1	0.906	21.1	< 2e-16***	5.76	1.23	4.67	7.61e-06***	0.145	0.139	7.61e-06***
Brexit (% voting leave)	Dorling	50.6	1.112	45.5	< 2e-16***	6.87	1.70	4.04	8.99e-05***	0.111	0.104	8.99e-05***
	Rowthorn	51.1	1.090	46.9	< 2e-16***	6.29	1.74	3.61	4.35e-03***	0.0905	0.0835	4.35e-03***
	SE	49.4	1.232	40.1	< 2e-16***	7.63	1.66	4.59	1.04e-05***	0.138	0.132	1.04e-05***

Figure 3 - Regression results of each indicator according to Dorling's (2010), Rowthorn's (2010) and the South-East divide

also with Dorling's line that we see the greatest explanatory power as it captures 31.7% and 39.1% of the variation in life expectancy. A similar result can also be seen for the indices of multiple deprivation where again Dorling's line shows a greater divide with an increase in score of 7.29 compared to a UK average of 22.2, this being able to explain 22.9% of the variation in the average indices of multiple deprivation score in England.

Discussion

What these results therefore suggest is that there is a North-South divide in the UK and that Dorling's line, running smoothly from the River Severn to the south bank of the Humber, shows consistently the greatest divide along multiple different indicators. This is such that crossing this line is associated with a decrease of 14.4% in GVA versus the UK average (46% if extremes are included), an increase in unemployment of 0.70%, a decrease in male and female life expectancy by 1.60 and 1.68 years respectively, a decrease in the percentage of A*-C grades at GCSE of 3.44%, and increase in the indices of multiple deprivation score of 7.29, with a the North/South dummy being able to capture 3-39% of the variation in these indicators. This therefore supports recent comments and research that suggest the economic divide is affecting other areas of life such as health and education (UKCES, 2011). However, the fact that the greatest difference in social indicators (Dorling's) is not on the same divide as the greatest difference in economic indicators (South-East line) suggests other factors influence this result.

Such a divide in terms of quality of life is likely to influence attitudes and behaviours (Bailoni, 2017), an example of which can be seen in the European Union (EU) referendum results. For this, being in the North is associated with an increase in the percentage of people voting leave of 6.87%. This is in line with previous findings that link geographical location with voting outcomes in elections (Johnston & Pattie, 1989), although it must be acknowledged that other factors also influence such outcomes, especially in the case of the EU Referendum (Goodwin & Heath, 2016). However, such a result alludes to the fact that these divides along social and economic lines are likely to lead to backlash and unrest to some degree (Gonzalez, 2011). This is especially so given that leaving the EU is more likely to have a negative effect on the less prosperous North than more prosperous South (Lavery, 2017).

The fact that these divides remain after almost a century of policy intervention, asks the question: what are we doing wrong? To this extent, the literature suggests that the first step in the right direction is to acknowledge that the UK is one of the 'most politically and financially centralised countries' in the OECD (McCann, 2016). This therefore restricts the ability of policies to acknowledge the challenges that places outside of London may face or be able to provide the correct solutions. To this end, some suggest that what is required is an institutional rebalancing across the UK to ensure that local decisions can maximise the return from resources provided to local governments (Martin, et al., 2015). Hence, the Conservative government's policy of devolution is taking a step in the right direction (Pike, et al., 2012).

It must also be noted that there has been a consistent lack of clarity as to what rebalancing means, in terms of whether this is sectoral rebalancing, private versus public sector rebalancing or rebalancing of social indicators (UKCES, 2011). This is compounded by the fact that governments that have had a rebalancing agenda have often set multiple objectives, spreading resources too thinly, and have often attempted to pursue economic and social objectives that clash with each other (Armstrong & Taylor, 2000). This must also be addressed to ensure that we are aiming towards the correct goals, along with ones that can actually be measured. Furthermore, we need to make sure that sufficient resources are provided both at a national and local scale so that initiatives can be

fully implemented (National Audit Office, 2013). This can be seen in the case of the devolution agenda, which satisfies the move towards local policy decisions, but does not necessarily do so with the correct resources (Gardiner, et al., 2013).

Conclusion

What is found is that Dorling's (2010) delineation of the North-South divide shows the greatest differentiation between the North and the South across multiple different economic and social indicators and has the greatest explanatory power out of the three explored. This shows that the divide manifests itself in many different ways and suggests that it could extend beyond the seven indicators used here. This has implications for both policy and academic research in that if we can define the boundary between the North and the South and understand which indicators reflect this, then we can see what factors affect this differentiation and then how policy can fix this. We can also speculatively consider how these divides may influence behaviours and views, as done here in exploring the 2016 EU referendum results. Ultimately, this suggests that policy must aim to tackle these divides to create a more cohesive England, which is likely to result in both economic and social benefits for the entire country.

Code

Shiny for figure 1a: https://philipshinyapps.io/North_SouthGVA/

Final code repository - https://github.com/PhilipDW183/GIS_Assessment

Overall code - <https://github.com/PhilipDW183/Assessment-attempts>

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