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Segregation by poverty in secondary schools in England 2006-2009: a research note

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A note about segregation by poverty

This research note shows that secondary school segregation by poverty in England has recently starting declining again. By comparing the long term pattern of school compositions with an economic indicator, it is possible to link this decline to the recession, but only if a further, and contentious, assumption is made about what happened in the early 1990s. More work is needed to try and understand the complex relationship between segregation by poverty, economic cycles, and education policy.

Since a brief research note by Gorard (1997) there has been considerable policy and academic interest in measuring the extent to which pupils are clustered in schools in England with pupils of similar characteristics. Partly because of the available official data, much interest has focused on the clustering of pupils living in poverty, and their possible segregation from pupils not living in poverty. Hardly an issue of a major UK journal does not have some reference to the importance of this in some way (see, for example, Coldron et al. 2010 or West and Ylonen 2010 published in the week of writing this note). Such segregation is relevant to discussions of school choice, diversity of provision, allocation of places, appeals, the school mix effect, targeting of welfare provision, housing policy, and a host of other public policy areas as well as simple social justice (Gorard and Smith 2010). Also since Gorard (1997), there has been a long-running academic debate about *how* to measure segregation, including which indicators and which summary indices to use. This debate is now largely settled (see Coldron et al. 2010, for example); the results of Gorard et al. (2003) are widely accepted, and the approach they used has been validated by others. The Department

for Children, Schools and Families (DCSF) in England now routinely conduct an analysis using these kinds of indicators and methods.

Given the potential importance of such measures of segregation for public policy, it is periodically interesting to calculate the most recent trends. What has happened to segregation by poverty in the composition of secondary schools in England since 2005 - the last year covered in Gorard (2009)?

Methods

The new analysis presented here is based on figures from the Annual Schools Census (ASC) for all maintained secondary and middle-deemed-secondary schools, plus Academies and City Technology Colleges, in England from 2006 to 2009. Over that period, the number of such schools has declined from 3,405 to 3,361. The biggest change has been the closure of 100 or so maintained secondary schools and their replacement by a smaller number of Academies. The percentage of pupils eligible for free school meals (FSM), and so deemed to be living in poverty, has also declined slightly from 13.7% to 13.4% (despite a national economic recession emerging from late 2007 onwards).

We calculated the Dissimilarity Index (D) and what has been termed the Gorard Segregation Index (GS) using both eligibility for, and takeup of, FSM. This gives us four estimates of segregation by poverty, even though all are clearly measuring the same phenomenon. See Gorard (2009) for full details on how these indices are calculated. GS, for example, is the exact proportion of FSM pupils who would have to exchange schools with non-FSM pupils for there to no segregation in the national school system. Like D, GS would be zero if every school had its proportionate share of pupils living in poverty.

The trend in school segregation

Table 1 includes 2005 - the final year of results from Gorard (2009) - and then shows results for the most recent four years, presented here for the first time, using both indices and both measures of FSM (as above). In any year, just over a third of FSM pupils would have to exchange schools for there to be no segregation in the system. However, segregation as assessed by all four measures drops in 2008 and 2009 for the first time in over a decade (see below).

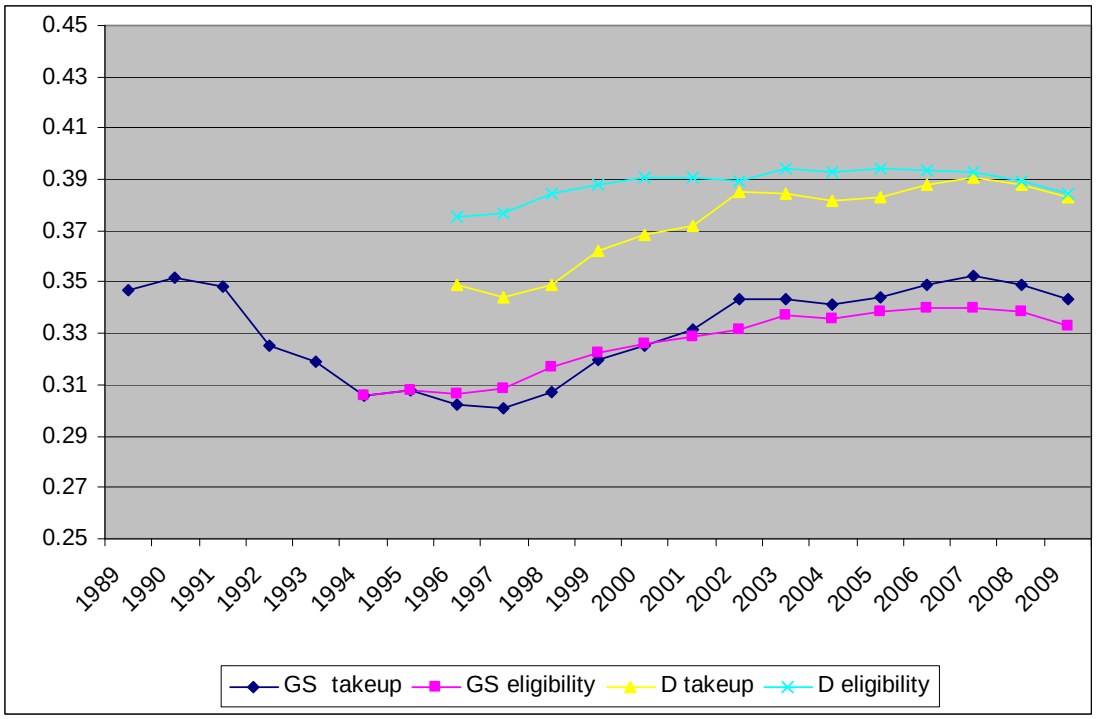
Table 1 - Segregation by FSM, 1989-2009, all secondary schools in England

	GS takeup	GS eligibility	D takeup	D eligibility
2005	0.34	0.34	0.38	0.39
2006	0.35	0.34	0.39	0.39
2007	0.35	0.34	0.39	0.39
2008	0.35	0.34	0.39	0.39
2009	0.34	0.33	0.38	0.38

Note: figures are presented to only two decimal places for ease of reading.

Figure 1 shows the same results as Table 1, but in graphical form and set in a longer historical context. In the years following the implementation of Education Reform Act 1988 (from around 1990 onwards) segregation by poverty between secondary schools in England reduced from a high of around 35% to near 30% in 1996 (using the GS index for either FSM takeup or eligibility). At around the same time as a change of administration in 1997, segregation by poverty then rose annually to near 35% again by 2007. In the last two years segregation has clearly fallen. What, if anything, does this signify?

Figure 1 – Segregation by FSM, 1989-2009, all secondary schools in England

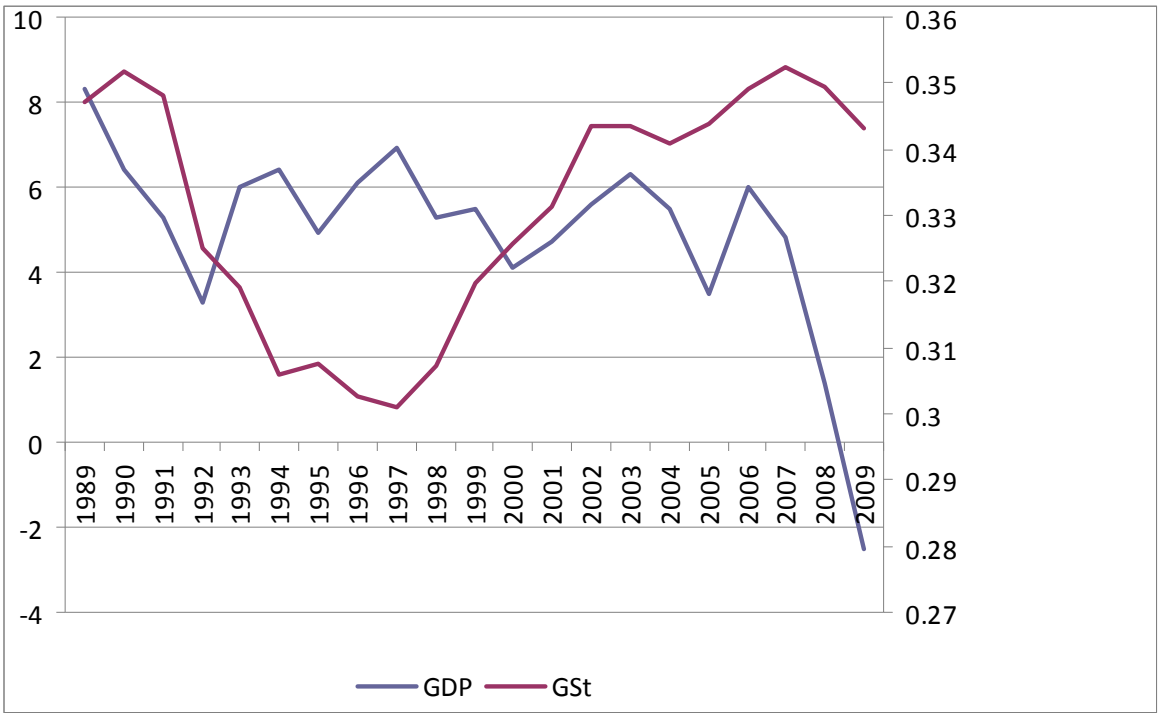


Note: the origin of this graph is at 0.25 not zero.

It is interesting to track this trend, and we will continue to do so in future years. We will also publish updated measures of segregation for 1996 to 2009, using indicators such as ethnicity, first language, special needs and the employment of qualified teachers. More importantly, we are urgently investigating the possible determinants of these recent and slightly surprising changes in segregation by poverty. There is no simple relationship here to the changing number of schools (although closures can cause greater mixing of pupils), nor did the ongoing diversification of schools, which has been associated with segregation in the past, cease in 2007. Neither is there a simple relationship between segregation and the percentage of FSM pupils (although an increase in recorded poverty can be associated with apparent desegregation). The onset of change seems too early to be attributable to the recession anyway.

Figure 2 illustrates the long term trend of segregation (GS on the right hand axis) against GDP (on the left hand axis). There is no clear pattern, and this is reflected in a very low Pearson R correlation (-0.22) showing a small, if it were linear, relationship between economic growth and lower segregation. However, any pattern is really in three, non-linear, parts. Segregation tracks GDP at the outset, and is then strongly but inversely related 1992 to 1998, before tracking GDP again from 1999 to 2008.

Figure 2 – Gross Domestic Product UK, and segregation by FSM, 1989-2009



Note: GDP based on current prices seasonally adjusted can be found at http://www.statistics.gov.uk/hub/economy/index.html, accessed 3/2/10

Are these just coincidences that any two datasets could throw up *post hoc*, or are they genuinely different phases? For example, it is possible to imagine that segregation usually tracks economic conditions (perhaps with a lag of a year or two), such that an increase in poverty, with pupils becoming eligible for FSM when not so before, leads to a more even spread of FSM pupils between schools, but without any actual exchange of pupils. If so, then the exception is the period 1992 to 1998, in which segregation by poverty reached historically low levels despite a reasonably buoyant economy. This reduction could have been the result of increased school choice, reined in somewhat in the late 1990s, and largely without the ensuing diversification of schools associated with higher levels of segregation since. This potential explanation requires a minimum of two distinct patterns – one based on the economy and one on education policy changes. The search for an explanation, if there is one, is a puzzle. We are conducting more complex analyses, at regional, LEA, and school level to investigate further, and planning some in-depth work based on what we find.

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