

IEA Current Controversies Paper No. 48

FAILURE TO TRANSFORM:

HIGH-SPEED RAIL AND THE REGENERATION MYTH

By Richard Wellings
April 2014

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Acknowledgements

This publication has been made possible by the support of the Nigel Vinson Charitable Trust. The directors and trustees of the IEA thank the Rt. Hon. Lord Vinson of Roddam Dene, LVO, for both his intellectual and financial input.

The author would also like to thank Professor David Starkie, who conceived the idea of examining the impact of high-speed domestic services on East Kent, for his highly valuable feedback and suggestions. The usual disclaimer applies: the author bears all responsibility for errors and omissions.

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Summary

- The economic transformation of the North of England is now central to the government's promotion of High Speed 2 (HS2). It is claimed the new line would boost employment and address the North-South divide. However, there are numerous reasons to be sceptical about these assertions.
- Policymakers made similar regeneration claims prior to the use of High Speed 1 for fast domestic services to East Kent. Savings in travel times were considerable and not too different from those expected from HS2.
- Since the introduction of high-speed services East Kent has performed far worse in terms of employment than the rest of the South East and the rest of Britain. From 2010-2013 the average employment rate was 5 percentage points lower than during the pre-high-speed period examined, compared with falls of 2.1 percentage points for the South East and 1.8 percentage points nationally. Some parts of the area now have similar employment rates to depressed old industrial cities in the North.
- High-speed rail has thus far failed to transform the economy of East Kent. It would appear that the impact of the fast train services has been too small to counteract other more important economic factors.

- Economic evidence from other towns with a fast rail link to London adds to the doubts. Doncaster, for example, has enjoyed rapid and frequent rail services to the capital for several decades but remains one of the poorest towns in the country. Travel times from London to Birmingham are similar to those HS2 would deliver to the North of England, yet the city performs worse than northern cities on key economic measures.
- Constraints on the wider economic impact of HS2 would include the negative effects of the very large tax bill, relatively low levels of human capital in locations on the route, and a significant risk that disruptive technologies will undermine many of the purported benefits.
- Politicians and officials risk misleading the public by claiming that HS2 will transform the North when there are strong theoretical and empirical grounds for concluding that such an outcome is highly unlikely.

Rebalancing the economy: the government's case for High Speed 2

The focus of the campaign for High Speed 2 has changed over time. At first the main emphasis was on faster journeys. Indeed time savings for business travellers still form the core of the business case. But as independent economists scrutinised the cost-benefit analysis and identified major flaws¹ the rhetoric shifted.

Capacity then became the leading argument, and it retains considerable salience. Yet this rationale is also questionable. Other parts of the UK's public transport network suffer far worse overcrowding than those relieved by the proposed project.² It is also clear that the capacity of the West Coast Main Line could be increased substantially at a small fraction of the cost of HS2.³ Existing infrastructure could also be used more efficiently through greater use of market mechanisms (Starkie, 2013). And potential

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- 1 A number of independent studies have questioned the assumptions used to calculate the benefit-cost ratio for the scheme. Critics have argued, *inter alia*, that the business case overvalues time savings for business travellers; uses highly optimistic passenger forecasts; and neglects the impact of competition from existing routes (Stokes, 2011; Aizlewood and Wellings, 2011; Castles and Parish, 2011; Hawkins, 2011; NAO, 2013).
 - 2 For example, 'Playing sardines: Why congestion is not a clinching argument for super-fast rail', *The Economist*, 31 August 2013, <http://www.economist.com/news/britain/21584377-why-congestion-not-clinching-argument-super-fast-rail-playing-sardines>
 - 3 For example, the '51m scheme' has a Benefit-Cost Ratio of 5.1 (51m, 2013: 11).

problems would be alleviated through the removal of ill-conceived government distortions such as price controls and subsidies (Hibbs et al, 2006).

Given the weaknesses of both the journey-time and the capacity-enhancement arguments for HS2, it is unsurprising that the emphasis has changed. Regeneration and employment are now central to the government's case. The Chancellor of the Exchequer described the scheme as 'an engine for growth' for the North and the Midlands that would create 'tens of thousands of jobs'.⁴ According to the Prime Minister the proposed line 'will bring a big benefit to a region like the North West,' and is 'essential' if the UK is to be 'a winner in the global race'.⁵

Several prominent politicians have claimed that HS2 will be an effective means of rebalancing the UK economy and tackling the 'North-South divide'.⁶ Similarly, job creation claims have been central to the state-funded public relations campaign designed to bolster political support for the project. The pro-HS2 campaign portrayed opposition to the scheme as 'posh people standing in the way of working-class people getting jobs'.⁷

HS2 Ltd, the government-owned company charged with developing the project, also commissioned a study into its economic impact. This ultra-long-term modelling suggested that cities on the route in the North and the Midlands would gain substantial benefits from the line. According to HS2 Ltd, the report showed that '...the regions will be the biggest winners from the project' and one of the report's authors claimed that 'HS2 will significantly help counter the corrosive

4 'HS2: George Osborne says rail route is engine for growth', *BBC News*, 28 January 2013, <http://www.bbc.co.uk/news/business-21230134>

5 'HS2 project "essential", says David Cameron', *London Evening Standard*, 24 July 2013, <http://www.standard.co.uk/news/transport/hs2-project-essential-says-david-cameron-8728728.html>

6 For example, 'HS2 will bridge North-South divide claims George Osborne', *Daily Telegraph*, 2 September 2013, <http://www.telegraph.co.uk/news/uknews/road-and-rail-transport/10279862/HS2-will-bridge-North-South-divide-claims-George-Osborne.html>

7 'High-speed rail opponents "portrayed as posh nimbys" by peer's lobbying firm', *The Observer*, 7 April 2013.

effects on our country of the widening north-south divide.⁸ These assertions echo earlier claims that ‘400,000 jobs in Core Cities and a total 1 million in their wider urban areas will be underpinned by HSR [high-speed rail]’ (Volterra/Arup, 2011: 2).⁹

Claims that High Speed 2 will be ‘transformational’ have been central to the promotion of the project. Sir David Higgins, chairman of High Speed Two Ltd, has been ‘struck by the growing recognition by civic leaders of the transformational effect that HS2 could have on the North’ (Higgins, 2014a: 14). At the launch of his recent report, he stated, ‘High Speed Two has the potential both to transform the North as a whole, and our nation by rebalancing our economy, providing lasting jobs and acting as a catalyst for change’ (Higgins, 2014b). Similarly the HS2 Growth Taskforce concluded that ‘HS2 is a once in a generation opportunity to transform our major cities...’ (DfT, 2014: 44). The press release went further still: ‘Cities in the north and midlands could become global leaders thanks to HS2, predict key figures from business, politics and the trade union movement.’¹⁰

Are these ‘key figures’ likely to be correct? And, if that perhaps seems far-fetched, will HS2 transform the economy of the North and address the North-South divide? This paper examines the relationship between high-speed rail and economic performance in the light of the government’s assertions. It does this by focusing on the country’s sole example of a high-speed domestic rail service – which is the service between London St Pancras and East Kent, the full timetable of which came into effect in December 2009. The new service, running on the high-speed line used by Eurostar services to the Continent, brought about time savings between the capital and East Kent which are broadly comparable with those to be expected from HS2. Moreover, this marked transformation of

8 ‘HS2 could deliver annual £15 billion boost to the economy, KPMG analysis finds’, <http://www.hs2.org.uk/press/hs2-could-deliver-annual-%C2%A315billion-boost-economy-kpmg-analysis-finds>

9 The ‘Core Cities’ group represents local authorities in Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham and Sheffield.

10 ‘HS2 will drive urban regeneration’, DfT/HS2 Ltd press release, 21 March 2014, <https://www.gov.uk/government/news/hs2-will-drive-urban-regeneration>

journey times involved the linking of an economically depressed area to the capital and thus provides a case study which has obvious relevance to the argument that HS2 will transform the economy of the North.

Before the analysis of East Kent is undertaken, theoretical issues relevant to the debate on the wider economic impact of high-speed rail are examined. Major problems are identified with the government's claims, including the negative economic impact of the tax bill for HS2, constraints on growth such as low levels of human capital, and a significant risk that disruptive technologies will further undermine the economic case for high-speed rail in Britain. The paper then examines the economic performance of East Kent after the high-speed services were introduced. The final section sets out the implications of the findings for High Speed 2.

Transport, employment and growth

Recent government claims about the wider economic benefits of High Speed 2 have been heavily criticised by leading spatial economists, who have focused in particular on methodological flaws in the non-standard techniques deployed. A detailed critique of such modelling is beyond the scope of this paper and the limitations of the approach have been set out elsewhere.¹¹

Despite the shortcomings of recent government commissioned reports on the impact of HS2, there is indeed strong evidence that improved transport links at least have the potential to provide substantial economic benefits. Reductions in transport costs lower the cost of exchange, which in turn boosts trade and brings higher productivity through specialisation, economies of scale and so on. They also enable the development of agglomerations, clusters of activity that may further increase productivity and output. For example, thicker labour markets may lead to the better matching of workers to jobs and increased firm density may lead to greater knowledge sharing and to increased specialisation in supply chains. Competition in the product market may also be enhanced (Starkie, 2013: 30). History demonstrates the importance of improvements in transport

¹¹ For a summary, see oral evidence on 'The Economics of HS2' given by Professors Daniel Graham and Henry Overman to the Treasury Select Committee, 5 November 2013: <http://data.parliament.uk/writtenevidence/WrittenEvidence.svc/EvidenceHtml/3472>

infrastructure to economic development and the growth of cities, for example through the construction of railways in the 19th century.¹²

The existence of such economic benefits does not necessarily justify public expenditure on high-speed rail, however. Alternative transport investments may deliver much higher overall returns, including wider economic benefits. There is very strong evidence that this is the case with HS2, which even the government's own cost-benefit analysis suggests is poor value for money compared with other schemes.¹³ Thus the opportunity cost of the project is likely to be very high.

Furthermore, local and regional transport schemes are likely to be far more effective at delivering the agglomeration economies outlined above. For example, HS2 will not deepen labour markets to the same degree as more localised schemes – the distances and costs involved are too great. According to Graham and Melo (2010), 'while urban economic theory does not preclude the existence of agglomeration benefits across inter-regional distances, the empirical evidence suggests that these may be very small indeed.' Given the nature of agglomeration economies, it seems likely that improving the infrastructure linking northern cities to each other, rather than to the Midlands and London would deliver far greater wider economic benefits than HS2. However, the government appears not to have considered this alternative approach.

It should also be noted that HS2's contribution to the overall transport market will be small. Even if optimistic forecasts prove accurate, the line will only carry roughly 2 per cent of UK passenger traffic when the full route is completed.¹⁴ Indeed much of that traffic would have been transported in any case on existing lines. The incremental trips are relatively trivial in terms of the overall market for mobility.

12 Although the link between transport investment and economic growth also has its critics.

13 For some comparisons, see Eddington (2006); Dodgson (2009); NEF (2013).

14 As measured by passenger km. The precise share depends on the growth levels of other transport modes, particularly passenger travel by car (for forecasts see DfT, 2013). Greengauge 21 (2012) provides estimates of HS2 traffic.

Once again, this militates against the scheme bringing about a major economic transformation.

Deadweight losses

Any positive regional impact of HS2 must also be set against the full costs of the tax bill. Unlike the early railways, high-speed rail is funded by taxpayers. In commercial terms it is loss-making. The negative impact of taxation goes far beyond the direct cost. Indeed there are significant 'deadweight losses' because taxes suppress economic activity. Such additional costs are difficult to quantify precisely since some taxes are more efficient than others. The mix of taxation used to fund a given scheme will therefore affect the estimate. Older studies in OECD countries suggest that deadweight losses add an additional 15-50 per cent to the marginal pound raised through personal income taxes, the most important taxes in terms of revenue (Stuart, 1984; Ballard et al., 1985). More recent research, which takes account of interactions with welfare systems, suggests that the cost could be far higher. Feldstein (1995), for example, concludes that 'a marginal increase in tax revenue achieved by a proportional rise in all personal income tax rates involves a deadweight loss of two dollars per incremental dollar of revenue. This has important implications for the cost of financing incremental government spending.'

Deadweight losses thus add significantly to the cost of high speed rail. If a project is financed through general taxation these costs will of course be spread across the UK, albeit concentrated disproportionately in those areas that contribute most to revenues. Nonetheless, the negative economic impact of the tax bill for locations along the route is still likely to be significant, and there will be a knock-on effect on such places from the economic damage inflicted on the country as a whole.

Constraints on benefits

As well as the impact of deadweight losses and other negative effects of the tax bill, there are several additional factors that have the potential to limit the economic benefits of high-speed rail schemes. Clearly the arrival of a high-speed line will have different impacts on different locations depending on place-specific variables.

The sectoral composition of local economies is one such factor. This applies both to direct benefits such as reduced travel times and indirect wider economic impacts. Graham (2007), for example, finds that agglomeration economies are proportionately smaller for manufacturing industries and larger for certain service industries (business services, banking, finance and insurance). New transport links may of course help change sectoral compositions, as reduced travel times attract different kinds of businesses to an area. Moreover, there may be indirect benefits for sectors that receive few direct benefits. Thus manufacturing could benefit if high-speed rail freed up freight capacity on other rail lines, though in practice the impact is likely to be very small.¹⁵ At the same time there could be unintended negative consequences. For example, if HS2 subsidises long-distance commuting to London from wealthier areas in the West Midlands this has the potential to crowd out locally based economic activity. Indeed, it may raise costs for West Midlands manufacturers who may then seek to relocate outside the expanded London commuter belt or even abroad.¹⁶

Human capital is another important factor. Local populations characterised by low skills, poor education and a lack of entrepreneurship may struggle to exploit the business opportunities offered by improved transport links. Such constraints may also deter

15 This is partly because rail freight is unlikely to account for more than quite a small proportion of freight traffic in the UK. The current market share is approximately 10 per cent, a significant proportion of which is bulk fuel and aggregates for a relatively small number of customers. Moreover, since there is huge spare freight capacity on existing rail and road networks, the incremental impact of HS2 is likely to be negligible.

16 Transmission mechanisms include wage levels and the housing market. The author owes this insight to Professor David Starkie.

firms from expanding or relocating in many areas, for example due to a shortage of suitably skilled workers. Changes in the sectoral composition of local economies could thus be severely hindered.

The Doncaster syndrome

Relatively low levels of human capital provide a plausible explanation for the failure of Doncaster to thrive despite its excellent rail connectivity. The town has enjoyed a fast rail link to London for several decades. The 125 mph 'High Speed Train' (HST) went into service on the East Coast Main Line in the late 1970s and the electrification of the route was completed in 1991. The fastest trains from King's Cross take just over 90 minutes to reach Doncaster station, which is conveniently located in the town centre, right next door to the bus station. Thus journey times are broadly similar to HS2 for some of the cities on the route, once the transfer times to planned edge-of-city-centre/out-of-town stations are factored in.¹⁷

Despite this favourable location (the town also boasts excellent strategic road links and an international airport), Doncaster was ranked 42nd worst out of 318 boroughs in England in the 2010 Index of Multiple Deprivation. However, the true picture is even worse than the rank reveals. This is because the local authority includes not just the town, but a much wider area incorporating prosperous semi-rural villages such as Bawtry, Sprotbrough and Tickhill. If just the town itself were analysed, it would be close to the bottom of the rankings, alongside Liverpool, Hull and Middlesbrough (whose boundaries are tightly drawn).¹⁸ It is also notable that the adjacent districts Barnsley and Rotherham, which have comparable socio-economic characteristics and industrial histories but lack the fast rail links, rank similarly on the Index.

17 For example, the HS2 station in Sheffield is planned to be located at Meadowhall rather than in the city centre, while in Leeds a pedestrian link is planned from the main station to the new HS2 station at New Lane.

18 If this procedure were applied to all towns and cities it would of course have a considerable impact on the rankings.

Clearly a fast rail link to London has not transformed Doncaster. Over thirty years since the 125 mph High Speed Train entered service, the town remains among the poorest in England. It can be contended that relatively low levels of human capital combined with the (related) sectoral composition of the local economy have limited any positive impact from excellent transport links. For example, only 23 per cent of Doncaster's working age residents are qualified to NVQ level 4 or above compared with a national figure of 35 per cent.¹⁹ The discrepancy is likely to be higher still for the town itself, since these statistics are for the whole borough. Moreover, the top few per cent in terms of human capital, who contribute a disproportionate amount to economic activity²⁰, are likely to be severely underrepresented. Worryingly for proponents of HS2, many places in the North have broadly comparable socio-economic characteristics to Doncaster.²¹

It might also be noted that HS2 will deliver travel times from London to the North of England that are similar to those currently enjoyed by the West Midlands, yet key economic indicators suggest the two regions are similar in terms of their performance.²² Birmingham, for example, which is about 80 minutes from London, has a particularly low employment rate and is one of the poorest boroughs in England according to the Index of Multiple Deprivation.²³ Like Doncaster, the city also scores poorly on measures of human capital.²⁴

19 Defined as HND, Degree and Higher Degree level qualifications or equivalent; source: NOMIS, Jan-Dec 2013.

20 As a proxy indicator, the top 1 per cent of earners pay 28 per cent of income tax: <http://www.hmrc.gov.uk/statistics/tax-statistics/table2-4.pdf>

21 Even where qualification levels are relatively high this may reflect concentrations of public sector or government subsidised activity such as higher education rather than entrepreneurial activity. Some indicative data are available on NOMIS.

22 This point has previously been made by Tim Leunig: <http://www.conservativehome.com/platform/2012/08/tim-leunig-how-to-cut-the-cost-of-railways-and-keep-fares-down.html>

23 The rate of employment is lower than in the major northern cities, including Liverpool (NOMIS).

24 For example, only 26 per cent of the working-age population is qualified to NVQ4 and above (NOMIS).

Notwithstanding other criticisms of the project, these observations alone cast serious doubt on the claim that HS2 will transform the economies of northern cities and bridge the North-South divide.

Conflating places with residents

Deficiencies in human capital are difficult to address and may even worsen over time due to long-term demographic trends. High-speed rail can do little in itself to improve human capital, although, as with other transport links, it has the potential to affect its spatial distribution. However, it is questionable whether such changes in economic geography necessarily benefit the original residents of cities that are added to a high-speed network. It can be misleading to conflate places with people.

A new transport link might conceivably contribute to the creation of high-skilled jobs in a particular locality, but the new employment might be taken by outsiders and not benefit the 'original inhabitants'. A good example is the regeneration of the London Docklands, which has been subsidised by taxpayers through large sums spent on government transport schemes and other projects.²⁵ Some smaller-scale area-based indicators would record a substantial boost. But the vast majority of the jobs created, particularly those in the higher pay brackets, were not filled by locals. While the redeveloped zones are among the wealthiest in the UK, nearby areas containing the original inhabitants remain among the poorest.²⁶ Thus it is possible for an area to be regenerated without it bringing substantial benefits to local people. Indeed there may be negative impacts on locals such as increased congestion and higher rents.

25 Major schemes include the Jubilee Line Extension, Docklands Light Railway, Limehouse Link, M11-Hackney link road, the Millennium Dome and the south-east leg of Crossrail.

26 See for example the Index of Multiple Deprivation 2010.

Diseconomies of agglomeration

Such effects can be examples of the diseconomies of agglomeration. The spatial clustering of economic activities brings costs as well as benefits. For example, high urban densities may be associated with high levels of congestion and environmental pollution. The provision of infrastructure and services might be disproportionately expensive. Transaction costs might be introduced or increased due to a greater requirement for collective services compared with dispersed spaces. Thus high-productivity clusters may be associated with high costs. Per capita government spending on transport infrastructure is much higher in London than in the rest of England, for instance (Cox and Davies, 2013).

In an era of pervasive state intervention, the diseconomies of agglomeration are affected, *inter alia*, by government planning and transport policies. Thus subsidised rail links may increase these diseconomies, particularly when combined with regeneration subsidies around the stations and 'compact city' policies that restrict economic development outside public transport corridors. A high proportion of these costs will be borne by general taxpayers and consumers, effectively draining resources from across the UK into these locations. The market processes that in an unhampered economy trade-off the costs and benefits of agglomeration - and indeed determine spatial patterns of economic activity more generally - are thus distorted by state intervention in planning and transport, potentially resulting in significant welfare losses.

Disruptive innovation

Economic geographies are also profoundly affected by new technology. In the 21st century politicians would not advocate spending tens of billions of pounds building new canals in the UK in order to 'transform' regional economies. Yet in the late 18th century canal connectivity was an important determinant of patterns of urban development. New technologies such as the railways subsequently made much of the canal network obsolete. Urban forms evolved accordingly.

There is clearly a significant risk that disruptive innovation could negatively affect the economic impact of high-speed rail. The precise development of new technology over the next few decades is of course impossible to predict, which is one reason why economic models which purport to demonstrate the benefits of HS2 in say the 2030s should be treated with a high degree of scepticism. However, illustrative examples demonstrate the potential for disruptive technology to bring about a sea change in both travel habits and economic geographies.

Driverless cars may be one such innovation, promising higher speeds, better safety and much closer headways between vehicles. A KPMG/CAR report published in 2012 concluded:

‘...because efficiency will improve so dramatically, traffic capacity will increase exponentially without building additional lanes or roadways. Research indicates that platooning of vehicles could increase highway lane capacity by up to 500 percent...Autonomous transportation infrastructure could bring an end to the congested streets and extra-wide highways of large urban areas. It could also bring the end to battles over the need for (and cost of) high-speed trains. Self-driving vehicles with the ability to “platoon” - perhaps in special express lanes - might provide a more flexible and less costly alternative.’ (KPMG/CAR, 2012: 26)

The development of fast, convenient and low-cost door-to-door travel could severely erode high-speed rail revenues and could also affect the attractiveness of large city centres as business locations.

Similarly, further improvements in IT technology could reduce the demand for face-to-face meetings and also allow a higher proportion of employees to work from home or perhaps smaller branch offices. Indeed, in some sectors improvements in communications technology will increasingly enable firms to subcontract work across the globe (see, for example, Cairncross, 2001). The economies of spatial proximity could thereby be reduced by the emergence of online ‘virtual agglomerations’. Such trends offer the prospect of spatial dispersal as firms and individuals seek to avoid the diseconomies of agglomeration, although such moves are likely to be severely constrained by strict government planning policies that seek to force

employment and housing into compact cities and around public transport hubs. Once again, the distortionary effects of such state interventions are likely to impose substantial welfare losses.

High Speed 1 and East Kent

The above analysis raises serious doubts about assertions that High Speed 2 is capable of delivering a major economic transformation of the North of England. Another approach to the issue is to examine whether Britain's first high-speed railway, High Speed 1 (HS1), has brought about such a transformation of East Kent.

Back in the 1990s, regeneration claims were made for HS1 - a 67-mile link from London to East Kent and the Continent that cost taxpayers an estimated £11 billion in current prices (not including the wider economic impacts of the tax bill) (NAO, 2012). In the parliamentary debate on the Channel Tunnel Rail Link Bill in January 1995, the Secretary of State for Transport, Dr Brian Mawhinney, stated:

'The new railway will bring great benefits to the whole country. It will more than double the capacity for international passenger trains between this country and the continent of Europe; reduce journey times for both international and domestic trains; enable the provision of entirely new express commuter services to several parts of Kent; boost regeneration in the Thames gateway and east Kent... The Government are keen to see the rail link act as a focus for regeneration, particularly of the Thames gateway and east Kent.'²⁷

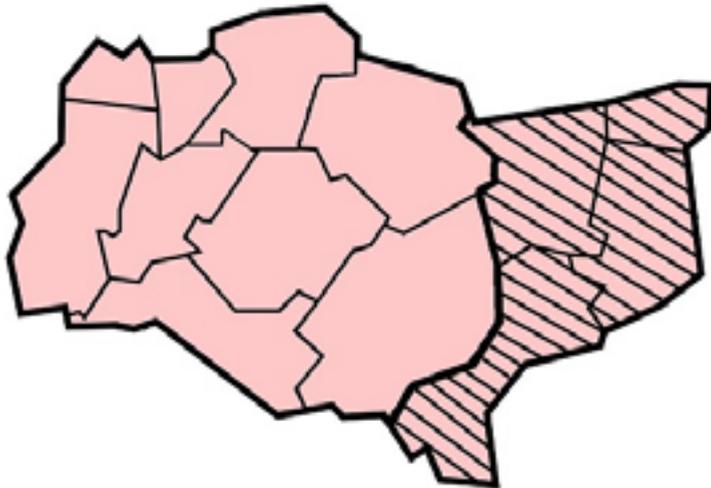
27 <http://hansard.millbanksystems.com/commons/1995/jan/16/channel-tunnel-rail-link-bill>. Mawhinney also pointed to the likelihood that there would be 'huge demand' for the additional train services enabled and the enhanced capacity for rail freight. The first prediction proved spectacularly wrong, with only a third of the forecast passengers materialising. The level of cross-Channel rail freight traffic has also been very disappointing.

Regeneration benefits such as job creation were also at the heart of Kent County Council's support for the Channel Tunnel Rail Link (Faith, 2007: 47). And within central government, the 'jobs' argument proved crucial in countering Treasury objections to the scheme (ibid: 146).

There are some similarities between the economies of East Kent and the North of England. Indeed, it might be said that in some respects East Kent has more in common with the North than it does with other parts of the South East. In particular, it may to some extent be classed as an 'old industrial area' which has suffered significant economic hardship due to the decline of coal mining. The last pit closed in 1989.²⁸

For the purposes of this analysis, East Kent is defined on geographical criteria as the four easternmost boroughs in the county as illustrated by the hatched area in Figure 1.²⁹ These boroughs are Canterbury, Dover, Shepway and Thanet.

Figure 1: East Kent



²⁸ See, for example, <http://www.dover.gov.uk/kentcoal/exhibition/discovery.as>

²⁹ This definition has also been used by Kent County Council. See for example: <http://www.kent.gov.uk/business/business-loans-and-funding/expansion-east-kent>

While international services from St Pancras to Paris and Brussels commenced in November 2007, a full timetable of high-speed commuter services between East Kent and London did not begin until December 2009, though a limited preview service had operated since the summer of that year. Table 1 suggests that the journey-time savings were of a similar order to those projected for High Speed 2 services. Typical journey times of almost two hours were brought down to about an hour. As with the HS2 forecasts, these savings do not necessarily correspond with door-to-door reductions in travel times. In particular, the high-speed line's London terminus at St Pancras is less convenient than the previous termini for many commuters.³⁰ Nevertheless, the time savings remain significant after this has been factored in.

Table 1: Indicative travel times from East Kent to Central London (minutes)³¹

<i>Station</i>	<i>2007</i>	<i>2010</i>	<i>Time saving</i>
Canterbury	102	58	44
Folkestone	98	58	40
Dover	112	69	43
Ramsgate	119	76	43

The following analysis deploys local rates of employment as an economic indicator. This is highly appropriate given the high-speed-rail lobby's strong focus on job creation. It is a more accurate measure of the performance of labour markets than official unemployment rates since the latter do not include the 'hidden unemployed', such as those on sickness and disability benefits,

30 Similarly, there are likely to be time losses for many travellers due to the location of new HS2 stations some distance away from existing transport hubs (for example, Birmingham and Leeds) or in edge-of-town locations (for example, Meadowhall and Toton).

31 Estimates from Faith (2007), cross-checked with timetables; 2010 times for St Pancras services. Precise timings vary from service to service so figures are approximate and illustrative.

who make up a significant proportion of working-age people in many old industrial regions. The alternative approach of focusing on the number of jobs in a particular area has the potential to produce misleading results. For example, the main benefit of a new transport link might be the access it gives to other labour markets, for example job opportunities in Central London. Such effects mean output measures such as gross value added (GVA) are also potentially misleading. In addition, the estimation of GVA figures for relatively small geographical units is extremely difficult (Hay et al, 2004: 7). Some borough-level data on earnings is available, for example median gross weekly pay for full-time workers. Although this measure only gives a partial picture - because it excludes a large proportion of the working-age population - it clearly has relevance to the economic transformation debate and therefore provides supplementary evidence to the analysis that follows.

The local employment rate is generally a good proxy for other key economic indicators but there are limitations. Certainly struggling old industrial centres in the North have low employment rates compared with the South East. Table 2 shows employment rates in the five boroughs in England that performed worst in the 2010 Index of Multiple Deprivation. But, as with all economic aggregates, important place-specific factors may be submerged. For example, Greater London has a fairly low employment rate but high average incomes. This reflects the highly polarised demographics of the capital, with concentrations of both very highly skilled workers and workless low-skilled immigrants from developing countries, the latter often trapped on benefits by very high effective marginal tax rates.³² Another problem is that crude employment rates do not distinguish between state-funded jobs and commercially viable jobs in the private sector.

32 A particular problem in London due to high rents which extend the Housing Benefit taper.

Table 2: Index of Multiple Deprivation rank and employment rates

	Rank in Index of Multiple Deprivation	Employment rate (%)
Liverpool	1	60.6
Middlesbrough	2	58.3
Manchester	3	61.1
Knowsley	4	63.8
Kingston upon Hull	5	62.5
<i>Great Britain</i>		71.2
<i>South East</i>		74.8

Sources: 2010 Index of Multiple Deprivation; NOMIS (Oct 2012-Sep 2013). Note that different ranking methods produce slightly different results.

Despite these limitations it is a reasonable assumption that if high-speed rail were transformative for local economies, it would be reflected by a significant increase in the rate of employment. Indeed, if HS2 were to bring about a major economic transformation in northern cities one might expect their employment rates to converge with those in the South East. However, it should be noted that employment measures are not the only criteria that could be used to judge economic change, despite the pro-HS2 campaign's focus on jobs. The supplementary analysis of median full-time earnings partly addresses this objection.

Figure 2 and Table 3 compare the employment rate in East Kent before and after the introduction of high-speed commuter services. The analysis includes a period of recession, so relative performance is therefore the key measure. If faster railways were transforming this aspect of the area's economy, one would expect it to outperform other parts of the South East and the country as a whole, for example because it was attracting new businesses or because the improved links gave local firms a competitive advantage.

The region has, however, performed very poorly, both in absolute and relative terms. The indicative summary figures in Table 3 suggest that the boroughs of Canterbury and Thanet suffered particularly dramatic falls in the employment rate, by 8.9 and 6.1 percentage points respectively, compared with a fall of 2.1 percentage point in the South East and 1.8 percentage points nationally.³³ Only the small borough of Shepway bucked the trend. Taken as a whole, the employment rate in East Kent fell by about 5 percentage points.

Figure 2 shows that this is unlikely to be a facet of the pre-high-speed time period chosen: a clear trend is evident. Indeed, by aggregating several measurements over time the data in Table 3 may actually understate the scale of the decline. The later statistics suggest that in 2012 and 2013 the employment rate in Canterbury and Thanet, which together make up almost 60 per cent of the region's working age population, had plunged to around 60 per cent – a similar proportion to some of the UK's old industrial cities such as Birmingham, Glasgow and Liverpool. Unsurprisingly, given the shocking decline in the employment rate, the absolute number of working-age people in employment in East Kent fell by several thousand between 2009 and 2013, despite a steadily growing working-age population in the area.³⁴

Trends in median gross weekly earnings for full-time workers also fail to show any transformation of the region although the picture in the constituent boroughs is mixed. Thanet has performed particularly badly both in relative and absolute terms: in 2013 the median full-time worker earned £446, 14 per cent below the national figure and 20 per cent below the South East.³⁵ Earnings in Dover and Shepway are also below the national median on this measure and well below the South East. There has been little relative change over the last decade. Finally, Canterbury appears to have performed

33 There is a case for aggregating the data from different time periods to smooth out fluctuations that may partly reflect relatively small sample sizes at borough level, seasonal variations and so on.

34 For estimates over different time periods see NOMIS.

35 Thanet's poor performance is confirmed by other measures collated by Thanet District Council: <http://thanet.gov.uk/publications/business/draft-economic-growth-strategy/thanet-economy/>

well in earnings terms, outperforming both Britain and the South East; this contrast markedly with its very poor recent record on employment.³⁶ The 2013 data suggest that median gross weekly earnings for full-time workers in East Kent as a whole remain far below those in the rest of the South East and indeed slightly below those in the country as a whole.

Explanations for these poor outcomes are beyond the scope of this study, but perhaps lie in economic factors such as human capital, demographics and sectoral composition, as previously discussed. It might be objected that there could be a time lag of several years between the introduction of high-speed services and economic transformation.³⁷ This is an issue that would benefit from further research, but it seems unlikely given the constraints discussed above. In any case, significant lag times would strengthen the case for reallocating investment to projects with a shorter timescale that could deliver wider economic benefits much more quickly.

36 The trends could partly be explained by a disproportionate loss of relatively low-paid jobs, though this is a subject for further research.

37 Although the commencement of high-speed domestic services was announced in advance of the full opening date, with a partial service beginning in summer 2009.

Figure 2: Employment rates (%) in East Kent, the South East and Great Britain, 2004-2013



Source: NOMIS (Jan 2004 -Dec 2004 to Oct 2012-Sep 2013); East Kent figures weighted by the working-age populations of the component boroughs.

Table 3: Mean employment rates in East Kent, pre and post high-speed services

	Pre high-speed 2004-2009	Post high-speed 2010-2013
Canterbury	73.5	64.6
Dover	72.4	68.7
Shepway	73.4	74.7
Thanet	69.4	63.3
<i>East Kent</i>	<i>72.2</i>	<i>67.2</i>
Ashford	78.4	75.4
Swale	73.4	73.3
<i>East Kent plus Ashford and Swale</i>	<i>74.1</i>	<i>70.3</i>
<i>Kent</i>	<i>74.4</i>	<i>71.8</i>
<i>South East</i>	<i>76.7</i>	<i>74.6</i>
<i>Great Britain</i>	<i>72.3</i>	<i>70.5</i>

Source: NOMIS (Jan 2004-Dec 2004 to Jan 2009-Dec 2009; Jan 2010-Dec 2010 to Oct 2012-Sep 2013); East Kent figures weighted by the working-age populations of the component boroughs. Full domestic high-speed services began in December 2009.

Table 3 and Figure 3 also include data from the two boroughs just to the west of the area under consideration and for the county of Kent as a whole. This is to counter the objection that the spatial focus is too narrow. Adding Ashford and Swale to form a six-borough region reduces the indicative percentage point decline to 3.8, primarily due to the robust employment performance of Swale, but this is still a considerably worse decline than the South East or Britain as a whole.

Moreover, these two boroughs have different characteristics to those further east: they cannot be considered old industrial areas with similarities to the North of England. For example, Ashford

already had a very high employment rate of around 80 per cent in the mid-late 1990s, well above the national and South East averages (Hay et al, 2004: 7). Planning issues also complicate the analysis. The Labour government designated Ashford as a 'growth area' in 2003 with targets for thousands of new homes and new jobs.

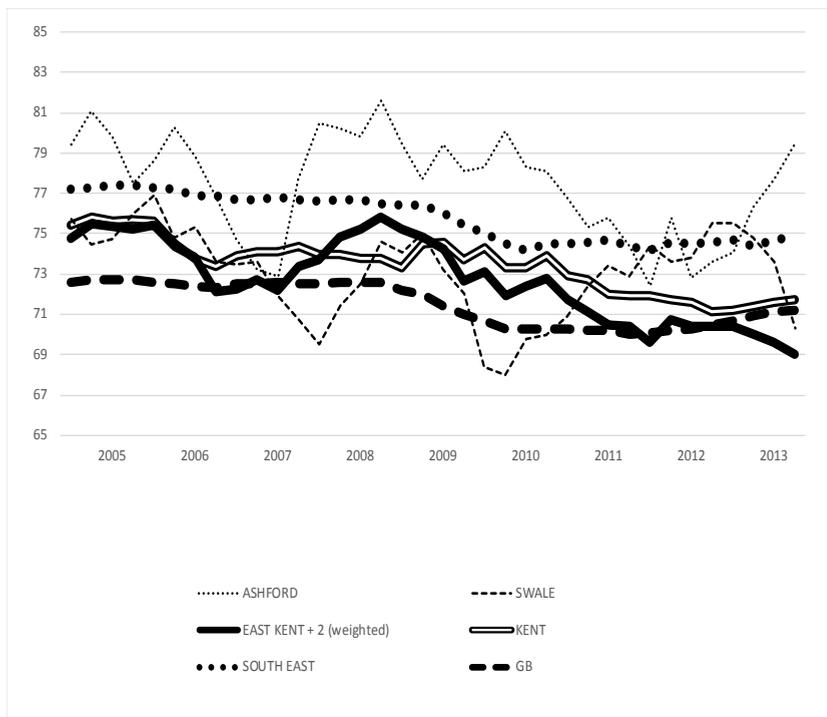
Given the very strict planning restrictions that choke off growth in the rest of the South East, Ashford might have been expected to outperform other areas. The aggregate figures suggest, however, that, in terms of the employment rate at least, its performance has been broadly in line with the South East as a whole. The most recent figures are more positive, suggesting some recovery in 2013 (see Figure 3), with the employment rate returning to its pre-recession levels. Moreover, the absolute number of people working appears to have surpassed the pre-recession peak, although this must be viewed in the context of a steady growth in the working-age population, as facilitated by pro-growth spatial planning policies. Due to the limitations of the data it is too early to establish whether this recovery is genuine and whether it will be sustained. It is also noteworthy that over the last decade Ashford has underperformed both Britain and the South East in terms of growth in median gross weekly earnings for full-time workers, which in 2013 at £515 were slightly below the national figure. This is further evidence to support the view that there has not been a major economic transformation as a result of high-speed rail.

Ashford demonstrates an important problem in the assessment of the economic impact of high-speed rail. Planning, regional development and regeneration policies are not applied neutrally across space. Indeed, there may be strong political incentives to focus 'pro-growth' policies around the stations on a high-speed line – in order to create the impression that the project has delivered substantial benefits (see Wellings, 2013: 49-50). In reality the growth may be the result of the preferential planning policies rather than the productivity gains etc. delivered by the new link. Certainly such distortions make it difficult to assess the relative roles of transport and other policies. Nevertheless, even adopting the highly unlikely assumption that HS1 has been the single factor determining

population growth and employment in Ashford, the observed impact has been relatively small so far, indeed trivial compared with that needed to transform the economies of large northern conurbations.

More generally, analysis is further complicated by government subsidies for regeneration schemes and so on. Given the negative economic effects of the tax bill for such projects (see above), these policies will tend to drain growth and employment from non-recipient areas. Thus, *ceteris paribus*, recipient areas might be expected to outperform donor areas in key economic indicators.

Figure 3: Employment rates (%) in East Kent plus Ashford and Swale, 2004-2013



Source: NOMIS (Jan 2004 -Dec 2004 to Oct 2012-Sep 2013); East Kent + 2 figures weighted by the working-age populations of the component boroughs.

Returning to the data displayed in Table 3 and Figure 3, it is clear that Kent as a whole has also performed poorly in terms of the employment rate, with an indicative 2.6 percentage point fall. The figures for individual boroughs are likely to be subject to more variation due to smaller sample sizes and the possible impact of place specific factors, so it is telling that the trend in the county as a whole is similar. Moreover, the west of Kent is highly integrated into the London labour market, which has suffered much less than the rest of the UK during the recession.³⁸

³⁸ In 2012-13 the employment rate in Greater London was actually higher than it had been in the pre-recession mid-2000s (NOMIS).

Conclusion

High Speed 1 was a very expensive project. The National Audit Office estimated its cost at £11 billion in current prices (NAO, 2012: 7) - and this figure does not include the substantial wider economic losses from the tax bill.³⁹ In commercial terms it was a major failure, requiring subsidies and bailouts from the taxpayer (Wellings, 2013: 14-21). Passenger benefits were also much lower than envisaged: usage of the international service was only a third the level forecast in the business case (Aizlewood and Wellings, 2011: 7). This study provides tentative evidence that the introduction of domestic services on HS1 has so far also failed to achieve another key aim of the scheme: transforming the economy of East Kent.

It is important to point out that even if HS1 had achieved these objectives, this would not necessarily have justified the project. Other transport schemes would have offered much higher returns on investment. The forecast benefits of HS1 would also have to be offset against the wider losses resulting from its tax funding. Given that the project defied economic logic in the first place, particularly on the grounds of opportunity cost, its apparent failure to achieve key aims raises serious questions about the political decision-making process for big government projects.

³⁹ Figure adjusted to 2014 prices. Note also that the NAO estimate does not include connecting infrastructure that was a direct consequence of the decision to build HS1, such as the DLR extension to Stratford International. It does however include operating subsidies.

This paper does not attempt to identify the reasons for the apparently poor economic performance of East Kent since high-speed domestic services began. The objective has been far more modest: to assess whether high-speed rail has transformed the economy. It is hoped that further research will be undertaken on the continuing problems of the region. It would appear that any benefits from high-speed rail have been too small to outweigh more important economic factors.

In this context, the probability of HS2 transforming the North and addressing the North-South divide would appear to be very low indeed. Not only do the regeneration claims run counter to the economic evidence; the scale of the challenge is an order of magnitude greater than regenerating a relatively small area like East Kent. Moreover, the socio-economic problems of many northern cities are more severe and entrenched.

The areas around the HS2 stations will of course be redeveloped if the scheme goes ahead. But these new districts will most likely be 'Potemkin villages' – examples of fake regeneration built for political reasons using large taxpayer subsidies and appropriating property from existing owners. Resources will be drained from other areas to fund these showpieces. Indeed a significant proportion of the tenants are likely to be part of the public sector or heavily dependent on government spending, as is the case at Salford Quays.⁴⁰ Even in London, regeneration projects along the route of HS1 have been heavily dependent on taxpayer support.⁴¹

In conclusion, both theoretical analysis and empirical evidence suggest it is highly unlikely that High Speed 2 will bring about the economic transformation of the North. Along with the rest of the UK, the North of England will suffer substantial losses as a result of the tax bill for HS2. At the same time, the benefits of the line are likely to be far too small to overcome the long-term economic

40 See, for example, <http://www.mediacityuk.co.uk/occupiers/bbc>

41 At the Stratford Rail Lands and King's Cross (see Wellings, 2013: 49-50); the planned garden city at Ebbsfleet will also require substantial subsidy: <http://www.theguardian.com/commentisfree/2014/mar/17/ebbsfleet-garden-city-george-osborne-homes>

problems of the region. Politicians and officials therefore risk misleading the public by claiming that HS2 will tackle the North-South divide, rebalance the economy and turn northern cities into 'world leaders'. A realistic assessment of the economic evidence does not support these assertions.

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