

### **CRESC Research Report**

# **KNOWING WHAT TO DO?**How not to build trains

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#### ABSTRACT<sup>1</sup>

This report presents evidence and argument about the end of train building and the absence of sectorally engaged industrial policy in the UK. It is occasioned by the redundancies at Bombardier's Derby train building factory (the last in the UK) after the award of the Thameslink rolling stock contract to Siemens. A political arithmetic calculation about taxes paid and the inability of the British private sector to create extra jobs suggests that the Bombardier Derby jobs should be defended despite broken supply chains which limit up stream national benefits. The Derby redundancies come at the end of two decades of sectoral decline when British policy makers did not intervene to manage rolling stock orders or ask questions about parent company ownership and business model despite five changes of ownership in twelve years at the Derby factory. British politicians and civil servants literally did not know what to do because public procurement is framed narrowly in micro-economic terms as 'value for money'.

<sup>&</sup>lt;sup>1</sup> Free download available from <a href="http://www.cresc.ac.uk/publications/knowing-what-to-do-how-not-to-build-trains">http://www.cresc.ac.uk/publications/knowing-what-to-do-how-not-to-build-trains</a>

## KNOWING WHAT TO DO? How not to build trains

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This report is about redundancies in a Derby factory owned by Bombardier after a train building contract went to a German factory owned by Siemens. But it is about much more than sentiment about "British jobs for British workers"; though that feeling is of course significant because it indicates a growing and understandable disquiet about the social consequences of continuing industrial retreat. Our argument is that the debate about the Derby redundancies highlights major issues about how the UK now lacks both the institutions and the knowledge base of measures and concepts which are necessary for industrial policy decisions.

Ministries like the Department of Business, Innovation and Skills, as much as the Treasury, have become neo-liberal think tanks. Their belief in the generic benefits of low taxes, deregulation and the irrelevance of ownership means they always know what to do without specific evidence or any engagement with sectoral problems like broken supply chains. Their political masters talk endlessly about the need to "rebalance the economy" but it will be a little while before they see the need for a Ministry of Reconstruction which has French style civil service competencies.

But we can meanwhile prepare the way by problematising the knowledge limits and introducing some basic empirics and argument which can help us begin to think through some of the issues which are not focused in the disquiet. So, in most of this short report, we present argument and empirics about the Bombardier case as a way of illustrating considerations which would be relevant if we had an industrial policy. It is an "as if" argument which prepares the way for an effective change of mind set and a reproblematisation of the engagement between government and industry.

But, let's begin with some background about the Bombardier case which everybody felt was the wrong decision though nobody knew why. On 16<sup>th</sup> June 2011 it was announced that Bombardier Transportation had "missed out on a major £1.5 billion contract to build carriages for the Thameslink project" where Siemens was now the preferred bidder (BBC News, 18<sup>th</sup> June 2011). Two days later, Bombardier announced a "full review" of its UK operations centred in Derby at the Litchurch Lane factory which employed some 3,000 workers and is "the last rolling stock manufacturer in the UK" (BBC News, 3<sup>rd</sup> July 2011); on 5<sup>th</sup> July 2011 Bombardier Transportation announced some 1,400 redundancies (Financial Times, 5<sup>th</sup> July 2011).

After initial national coverage, the lost contract became a regional news story as Derby's Mayor and MPs lobbied Bombardier. The story went national again on 3<sup>rd</sup> July 2011 when the BBC reported that Labour's Shadow Business and Transport Secretaries (John Denham and Maria Eagle) had written to the Prime Minister asking him to review a decision which was a "body blow to the sector"; Bob Crow of the RMT union described the decision as "industrial vandalism". The story went tabloid for middle England on 6<sup>th</sup> July 2011 when the redundancies were reported in the Daily Mail Online which of course remembered the war with its headline about "Fury as ministers hand Germans our £3bn train deal costing 1,400 British jobs".

In response, government ministers observed that some redundancies at Derby were inevitable because other contracts were running out; and then quite remarkably went on to agree with the critics of their decision. The Transport and Business Secretaries (Philip Hammond and Vince Cable) had written their own letter to Prime Minister; after observing that the French and Germans would prefer local train manufacturers and protect national supply chains, they argued that the British needed to change the way in which contracts were awarded so as to ensure "a level playing field" for British manufacturers (Mail Online, 6<sup>th</sup> July 2011).

The government had announced the contract preference for Siemens was "value for money for the taxpayer" but, faced with criticism from right and left, ministers cheerfully agreed it was the wrong decision (which unfortunately could not be revisited without inconveniencing commuters who would ride in the new carriages). The pusillanimous coalition thereby recognised important shifts in British public opinion about the costs and benefits of an open economy.

But, in all the sound and fury, amidst remarkable, indignant unanimity about the wrong decision, the government and its critics had no evidence or concept beyond the media tropes about "the last train factory" and some borrowed new patter about supply chains (with no supporting evidence).

Even more remarkably, most of the indignant knew what they wanted to do but quite literally did not know what they were talking about. The contract which the UK arm of Bombardier Inc (Bombardier Transportation) had lost was drafted by New Labour and awarded (without any amendment of terms) by the Coalition. But the contract is not in the public domain because it has suited successive governments to have public procurement without the necessary public disclosure of contract terms and disclosure of the differences between each bid.

What little we do know about the contract is cause for public concern and raises issues which have not been debated. The contract which Bombardier lost was not an old fashioned one for supplying 1,200 carriages. It was a new-fangled PFI style contract which covered the

building of the carriages plus their maintenance plus the lease finance for 30 years; a tender summary of April 2008 states "the chosen bidder will be required to arrange the finance necessary for the acquisition and ownership of the rolling stock" (Department of Transport, 2008, p.10).

Train finance companies routinely arrange finance packages as a way of selling trains but some train companies can raise finance more cheaply because they have better credit ratings. The advantage in this case is with Siemens which has an A+ rating compared with Bombardier Inc's (the parent company) BB+ which effectively means Bombardier pays an extra 1.5% to finance the deal. When the Daily Telegraph (7<sup>th</sup> July 2011) raised this issue with "investment bankers familiar with deals similar to Thameslink", their estimate was that lower cost of finance gave Siemens a financing cost advantage of £700 million over 30 years (on a bid where no outsider knows how far Bombardier's bid was behind).

The first and most important industrial policy issue here is that the Thameslink contract inappropriately bundled train building and rolling stock finance so that judgements about the former were contaminated by the latter. A sensible decision about the desirability and costs of maintaining an indigenous rail engineering sector could not be made because this was all mixed up financially with the happenstance of the credit rating of the foreign parent of a British subsidiary operation. Worse still, credit ratings ensure a bias towards established, giant firms and against newcomers. Successful, conservative giant companies like Siemens will always have better credit ratings and cost of finance advantages over struggling publically listed large companies like Bombardier; and even more advantage over new entrants and start-ups.

The Prime Minister likes romancing in his speeches about how the small British companies of today will become the giants of tomorrow; maybe he should instruct his civil servants to stop drawing up bundled contracts which actively discourage that outcome. And, after that change, the rest of us could then concentrate on the criteria and evidence relevant to an industrial policy decision.

#### Value for money and social choices

Bombardier Transportation lost the contract because its bid was judged not to be "value for money" as part of a process conducted under EU public procurement rules designed as their spokeswoman explained "to ensure that taxpayers get the best value for money". The rules allow considerable latitude and as Philip Hammond, the Transport Secretary has admitted, the UK is not "making best use" of the EU rules (Financial Times, 5th July 2011).

The real constraint here is not the EU but the mentality of British civil servants and their political masters of all main parties who adopt a consumer association "Which Best Buy" approach. They will decide value for money by considering only price and quality on an individual purchase basis. If we suppose the government puts out a contract for train supply (excluding finance), their only criterion for decision would be the lowest price for satisfactory quality.

We all use the price and quality approach as a practical guide to private consumer choices of a modest reversible kind, like the purchase of a laptop computer or a phone contract. But this calculus is not a good framing device or prescription: it clears away most of what is interesting about how consumers actually do behave; and it is of very limited relevance to major, long-term consumer choices about pensions, health and housing. It is also, *prima facie*, inadequate to the social choices of government because price and quality calculus excludes many relevant considerations like the taxes paid by British workers.

The problem with our politicians and their advisers is that they literally do not know how to calculate in any broader way, because they anthropomorphise government as an individual consumer within a world of micro-economics. Economics does approve of course and admit the possibility of broader calculations. But then propose cost benefit techniques of calculation which lack credibility and intelligibility. The cost benefit calculation involves cumulating imprecise cash measures of every relevant consideration; and then discounting the future value to produce a single figure of net benefit which supposedly provides a technical basis for decision. In practice, cost benefit analysis is undone by its own pretension to depoliticise decisions in a world where everything is not commensurable, monetisable and transparent.

What we need is a relatively simple political arithmetic which resourcefully extracts relevant empirical information on a few key considerations and puts them together in four tables with a supporting argument about weight and significance. This can be no more than an aid to decision making which will always (and quite properly) involve judgement and political discretion. Encouragingly, much relevant information is hidden away in publicly available sources like company reports and official statistics.

If civil servants had the expertise, they could begin to construct a public choice argument about industrial policy which engaged with the specifics of the sectoral cases and the national economy. And the paragraphs below show they could do this by introducing three relevant specificities: first, the lost tax revenue from choosing a non-British factory; second, the British private sector's inability to create extra jobs; third, employment in the upstream supply chain.

#### Lost tax revenue from choosing the non-British factory

With trains at Bombardier Derby, we would begin by insisting that the first relevant consideration is the British government's tax receipts from the employment of workers at the Derby factory if they got the Thameslink contract; these now become the German government's tax receipts from the employment of workers at the Siemens Krefeld factory as they have successfully bid for the Thameslink contract. From a social point of view, any gap between the bid prices should be adjusted (after decoupling the financing cost) to take account of the tax revenue gained from giving the contract to Bombardier Derby.

The adjustment in this case would be a large one because rail engineering workers are highly skilled and highly paid for doing jobs which are craft based and very different from those of semi-skilled fitters of standardised parts on a moving car assembly line. Much of the relevant information about labour costs and taxes paid can be worked out from the accounts of Bombardier Transport (Holdings) Limited (Bombardier Inc's British operating company whose major business is the Derby factory). And the relevant information from the period 2002-09 is summarised in table 1 below.

From company accounts, Bombardier Transportation's average labour cost per worker (including all social costs) is nearly £60,000 per worker in 2009. The workers are paid under a PAYE regime which makes elite practices of tax avoidance impossible so that the total employee and employer tax payment per employee is a massive £16,989. And this tax contribution excludes the substantial employer and employee contributions of more than £10,000 per year to the Bombardier pension scheme which is of course a long-term investment in reducing the dependence of the elderly on state support.

Nobody knows exactly how many of the 1,500 soon to be made redundant workers could (or would) have been retained if the Thameslink contract had gone to Bombardier Derby; and other contracts were certainly required to stabilise employment at the Derby factory. But, for purposes of argument, let us assume that 1,000 jobs could have been secured by Thameslink and other contracts. In this case the tax receipt offset would be nearly £20 million per annum by 2012 and increasing each year with inflation and real wages (and that £20 million pessimistically excludes all pension contributions).

**Table 1**: Bombardier Transportation (Holdings) Limited labour costs and employer and employee contributions to pension and national insurance and employee income tax payments

	Labour costs per employee	Employer co				Total employer and employee contributions per employee	
		National Insurance	Pension	Income tax and National Insurance	Pension	Income tax and National Insurance	Pension
	£	£	£	£	£	£	£
2002	30,297	2,215	3,188	6,871	1,992	9,085	5,180
2003	28,890	2,229	2,633	6,632	1,922	8,861	4,555
2004	40,756	2,849	3,827	9,406	2,726	12,255	6,554
2005	46,162	3,096	6,350	10,133	2,937	13,230	9,288
2006	43,576	2,565	7,214	9,328	2,704	11,893	9,917
2007	50,466	3,045	3,923	12,006	3,480	15,051	7,402
2008	53,088	3,211	4,461	12,535	3,633	15,746	8,095
2009	59,996	3,198	6,831	13,791	3,997	16,989	10,829
Total 2002- 2009	353,230	22,408	38,427	80,701	23,392	103,109	61,819

Source: Derived from Fame, BvDep.

Notes: Bombardier Transportation (Holdings) Limited is a UK holding company which consolidates British subsidiaries including Bombardier Transportation Limited. Employee income taxes are calculated after pension contributions and the tax rate is set at 30% after deductions. Employee pension contribution is set at 8%. Corporate tax is not included.

The bid price adjustment required is then substantial. Because the cumulative social gain from British tax receipts when the contract goes to Bombardier Derby is in the hundreds of millions of pounds; and its present value must be more than £100 million even if we discount to take account of the time value of money. When the British rail workers are highly paid (and so are their German competitors) the logic of the tax receipt calculation is that the contract should go to the British factory unless there is a very large difference in bid price on the hardware. Using this measure the Bombardier Derby factory should get the contract and the Bombardier workers in the UK should keep their jobs.

#### British private sector inability to create extra jobs

The logic of the tax receipt calculation would nevertheless be resisted by most economists who have a rather different generic concept of how the private sector economy works. They would be quite happy to see the government and other actors make decisions on narrow price and quality criteria which lead to factory closures, because that is part of the dynamics of a capitalist economy where we should accept the loss of some jobs in declining and migrating industries because new and growing industries will replace them.

As Paul Samuelson insisted, in the prototype for all modern economics text books, the early twentieth century decline of the horse buggy industry was no doubt an issue for its employees but the rise of the auto industry would generate many more jobs. The logic of this general view is that the closure of a rail factory in Derby does not matter because within the large scheme of things, wind turbines or we know not what, will replace the lost activity. Capitalism is restless change and creative destruction and some must be sacrificed for the greater long term good.

The problem with the British economy is that our private sector does not behave in a job generating way as it should from the micro economics text books. This observation still has some shock value in the mainstream political classes who believe in a narrative about Thatcherism as pain for gain through low taxes and flexible labour markets and this narrative about outcomes does appear plausible from the apparent increase in private sector employment.

But the official statistics on increasing private sector employment are seriously misleading for two reasons. First, with privatisation under Thatcher the number of private sector employees was boosted by the transfer of nearly one million public sector utility workers. Second, with outsourcing and contract under New Labour, there were a growing number of para-state employees, in activities like care for the aged or nursery education, working for private employers dependent on public funding.

Table 2 below, based on earlier CRESC research (Buchanan *et al.*, 2009), analyses the New Labour pre-financial crisis decade from 1998 to 2008. It adds state and para-state employees together and identifies the residual as (autonomous) private sector employment which is sustained by private sector demand. It presents the data for the UK as a whole and for different regions, including the East Midlands where Derby is a major centre of manufacturing employment.

The table analyses an extraordinarily favourable period for the private sector and, under these circumstances, nationally only 45% of the extra jobs were created by the private sector. The regional figures are more dispiriting because there was very little private sector job creation in the ex-industrial regions of the North and West; and the East Midlands

comes in somewhere close to the national average with 40% of extra jobs created by the private sector.

**Table 2**: Regional analysis of employment change between 1998 and 2008 split by private sector and state & para-state sector

	TOTAL	of which		of v	vhich
	(net new	Private	State &	Private	State &
	jobs)	sector	para-state	sector	para-state
	No.	No.	No.	%	%
North East	85,372	22,948	62,424	26.9%	73.1%
North West	215,535	82,870	132,665	38.4%	61.6%
Yorks & Humber	182,627	60,542	122,085	33.2%	66.8%
East Midlands	138,857	55,516	83,341	40.0%	60.0%
West Midlands	64,609	-51,011	115,620	-79.0%	179.0%
East	204,884	93,956	110,928	45.9%	54.1%
London	404,438	271,886	132,552	67.2%	32.8%
South East	332,643	187,731	144,912	56.4%	43.6%
South West	289,744	158,367	131,377	54.7%	45.3%
Wales	144,955	66,113	78,842	45.6%	54.4%
Scotland	258,542	105,142	153,400	40.7%	59.3%
Total	2,322,206	1,054,060	1,268,146	45.4%	54.6%

Source: Nomis.

Notes: The table is a count of employees not jobs (where an employee can have more than one job). Self-employed and the armed forces are not included.

Regional differences incidentally are now part of the problem not the solution. The only region with strong private sector full-time job growth is London which accounts for 43% of the extra full-time jobs in the UK over the decade 1998 to 2008. But most of the extra jobs in London at top and bottom are taken by non-British born workers and there is limited inward migration from other UK regions (Erturk *et al.*, 2011).

The Office of Budget Responsibility envisages a future which will not be like the past, with an investment and export boom driving GDP growth and employment growth. But that is fantasy. With GDP flat for the past six months and an unresolved Euro Zone crisis in our largest export markets, our own best guesstimate would be that we would be lucky to maintain private sector employment over the next 3-5 years.

In summary, we might let factories close and put our faith in the job generating capacity of the private economy. We would certainly do that in Germany where national manufacturing output is currently increasing at 14% per annum; after 25% currency devaluation against the Euro, the British economy can manage no better than 4% per annum output growth which just about sustains manufacturing employment until the next downturn. But given the historical record of the British private sector since the first Thatcher recession and its current dark prospects, the working principle in the UK right now should be to maintain whatever jobs it can through contract allocation.

#### Supply chain employment

CRESC working paper 87 (Froud *et al.*, 2011) highlighted the problem of broken supply chains in British manufacturing; and our analysis has since been endorsed by significant industry figures like Nick Reilly of GM (BBC News, 24<sup>th</sup> April 2011<sup>2</sup>). We are less impressed by the way in which politicians of all parties have borrowed the language. Thus in their letter to the Prime Minister, Ministers Philip Hammond and Vince Cable praised other EU countries with "a sharper focus on domestic supply chains" and in their letter to the Prime Minister, Shadow Secretaries John Denham and Maria Eagle wrote that the loss of the contract would damage not only Bombardier but also "the many suppliers that rely on it".

What nobody has calculated is what kind of national supply chain exists upstream of the Bombardier Derby factory. The indicators are not encouraging. The accounts of Bombardier Transportation (Holdings) Limited suggest the operation is a branch assembly plant because there has been very little investment in recent years: as we note in the next section of this report, depreciation's share of value added is less than 3.5% in recent years in the British operation as against 9% in Bombardier GmbH (Bombardier Inc's European holding company). Many of the highly engineered, high value added, critical sub-assemblies and components are imported; the scale is such that even Bombardier Derby's oldest low tech product lines like multiple units are equipped with imported parts like MTU engines and ZF transmissions.

But we also need a broader, more systematic view of the sectoral chains. Table 3 below presents the relevant evidence for rail engineering abstracted from British and German official statistics. It measures the total value of intermediate inputs which goes into finished output for home and export markets; and then distinguishes the value of intermediate output which is nationally sourced.

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<sup>&</sup>lt;sup>2</sup> http://www.bbc.co.uk/news/business-13179589

**Table 3**: Estimate of the value of nationally sourced parts in the railroad equipment sector and employment in the domestic supply industry in 2007

	Railroad equipment (ISIC 352 and 359)					
	Total value of intermediate inputs	Value of nationally sourced intermediate inputs	Labour cost per employee	Employment in the supply network		
	£m (UK) €m (Germany)	£m (UK) €m (Germany)	£ (UK) € (Germany)	No.		
UK: Railroad equipment sector	£1,332 mill.	£352 mill.	£44,081	7,979		
Germany: Railroad equipment sector	€5,960 mill.	€3,320 mill.	€46,382	71,579		

Source: OECD

Note: ISIC sectors 352 and 359 are classified as 'railroad equipment and transport equipment nec'. Intermediate inputs import ratios relate to 'other transport equipment'. Supplier employment is calculated by summating nationally sourced inputs and dividing by the average pay in the sector. External jobs supported by multiplier spending outside the sector are excluded. 2007 is the latest information available.

The contrast between British and German rail engineering is striking because the German sector is much larger and has a much higher capacity to generate its own intermediate output: 55% of the German sector's intermediate output is domestically sourced whereas only 25% of British sectoral intermediate output is domestically sourced. The capacity to sustain domestic employment is thus hugely different: if we calculate employment using the average sectoral wage, domestically sourced German intermediate output sustains 72,000 jobs in rail engineering more or less ten times the 8,000 sustained in the UK.

So there is a large supply chain behind the Bombardier Derby factory but for the past decade or more most of that chain has been outside the UK and mainly in Germany. This is not an argument for letting more jobs go at Derby but it does illustrate the point that, with broken supply chains, the indirect benefits of job maintenance policies are limited. And policies about defence of jobs need to be backed with more active supply chain development through value added promotion and other relevant policies (Froud *et al.*, 2011).

The interesting questions therefore are two-fold. Why do the politicians and their civil service advisers not face up to the realities of broken supply chains and map the problem in key sectors before introducing some relevant policies which address the specific problems?

And how did this all come about? Answering that question requires us to look at issues of ownership and the business model.

#### Ownership and business model

With ownership, it is a question of bringing back an issue which the political classes have increasingly held to be irrelevant. It is practically irrelevant on the advice of investment bankers who make a lot of fee income out of mergers and acquisitions (M&A); and they are intellectually supported by economists looking for differences of outcome (on indicators like profit or investment). Such differences are increasingly difficult to find when all kinds of owners make financialized calculations and many different owners imitate each other's business models.

The importance of business model issues is only now being taken on board after the trouble with Southern Cross nursing homes. This indicated the vulnerability of leveraged operations with operating company (OpCo) and property company (PropCo) structures so that the operating company has no assets but fixed liabilities to a landlord. In their positions on banking reform, sections of the Left still continue with a their romantic attachment to alternative business models without recognising that a customer owned bank or building society can have a business model indistinguishable from its PLC high street competitors.

When all this has been said, we would add that misframing and ignorance had a price in rail engineering because British train manufacturing was unnecessarily destroyed by British politicians and civil servants over two decades. As with other British utility suppliers, the problems for the supplying industry were caused by a combination of careless privatisation and untrammelled private sector M&A. In rail engineering and elsewhere, the result was an impossibly erratic flow of orders to the shop floor and 'pass the parcel' rapid changes of private ownership by foreign conglomerates whose British operations were side shows. British plants were never integrated into European corporate parents and survived as branch assemblers until they were closed when the flow of British orders dried up.

In the mid-1980s, the industry's core design and build capability (including the Derby Works) was in the nationalised train building company BREL (British Rail Engineering Limited) which produced the diesel InterCity 125, the electric InterCity 225 and the classic Class 165 and 166 multiple units. The industry also included other firms like GEC and Metro Cammell who partly produced to BREL design. Derby designed (and Kenneth Grange styled) the 125 as the world's fastest diesel train which remains in service 30 years after introduction.

This was not world class but it was creditable and entirely viable. The supplying industry was held back by the refusal of successive governments to sanction investment in the national

rail network. The unsuccessful experiments with tilting trains and the success of the iconic 125 (using a German sourced marine diesel engine) were adaptations to government unwillingness to build high speed track, refusal to electrify any main line except the East Coast and persistence with obsolete curiosities like Southern Region's third rail system.

Within this frame of constraint, the British rail engineering industry in the 1980s was (like its mainland European competitors) meeting mainly national demand and reasonably placed to exploit new opportunities. What follows is a history lesson in politically led failure.

The problems can be dated from 1989 when BREL was privatised and GEC defended itself against takeover by backing its power and transport interests into joint venture with Alcatel-Alsthom (now Alstom). Derby went with the rest of privatised BREL into ownership by a consortium including Swiss-Swedish conglomerate ASEA Brown Boveri (ABB) which later bought out its partners. In 1996 ABB merged all its rail interests (including its British factories) with those of Daimler which then three years later in 1999 bought out ABB to create DaimlerChrysler Rail Systems. This lasted just two years before Daimler sold all its European operations to the acquisitive Canadian company Bombardier Inc which thereby became the largest rail equipment manufacturer in the world.

By 2001 Derby's record was 5 changes of ownership and at least three changes of (foreign parent) management systems and objectives in 12 years. This inevitably wrecked any chance of carrying out process investment, designing essential new product or planning to compete for foreign orders. The disruption effects were compounded because British rolling stock orders were interrupted by rail privatisation and then erratically variable ever afterwards. Bankers and civil servants had together created a balkanised system of Train Operating Companies (TOCs) with leased rolling stock where demand management for new build rolling stock was inconceivable and quite impossible.

One rail engineering factory after another downsized and closed. First it was York and then in 2005 GEC Alstom ran out the last of 53 Pendolino electric trains and closed its 150 year old plant at Washwood Heath in Birmingham. That left Bombardier Derby as the last surviving UK train manufacturer.

If Bombardier Derby had survived, it was in much worse shape than the mainland European factories which Bombardier Inc had bought from Daimler. This point emerges from a comparison of the British consolidating company Bombardier Transportation (Holdings) Limited (which includes the operating businesses) and its German based parent Bombardier Transportation GmbH which consolidates Bombardier Transportation (Holdings) Limited's operations. GmbH consolidates the financial results of the British subsidiary, which besides removing inter-company transactions also dilutes the difference because GmbH's financial results minus British holdings would be even more different.

Tables 4 and 5 below present value added analyses of the British subsidiary and the GmbH parent. The value added to sales ratios of just over 25% are not so different because trains are built around bought-in major components from all over the world. But the GmbH is much healthier in terms of distribution because it has a much lower labour average labour share of 72% against 87% for the British operation.

And the surplus over labour costs is applied differently. The major item after labour in GmbH is depreciation which is consequent upon investment and averages 10% of value added. This is negligible in the British case where the burden is interest payments on increasingly long-term loans from the parent because the British subsidiary, Bombardier Transportation (Holdings) Limited is financed tax efficiently via debt not equity. The interest due is rolled over in the bad years like 2006 and 2007 because interest cannot then be paid in cash from value added so that the British operation is debt encumbered and going nowhere.

Table 4: Bombardier Transportation (Holdings) Limited distribution of value added

	Value added to sales	Labour share of value added	Depreciation share of value added	Interest share of value added	Total distribution of value added
	%	%	%	%	%
2002	34.0	69.7	5.8	2.8	78.3
2003	21.8	93.2	6.8	6.5	106.5
2004	23.3	78.7	3.4	5.3	87.3
2005	29.8	90.1	2.6	6.9	99.6
2006	27.7	95.9	4.1	13.2	113.2
2007	27.6	96.6	3.4	17.5	117.5
2008	25.2	80.0	3.1	13.5	96.6
2009	25.0	95.6	3.2	6.9	105.8
Average 2002-2009	26.3	87.2	3.9	9.1	100.2

Source: Fame, BvDep.

Note: Value added is calculated by summating pre-tax profit, interest and depreciation & amortization. Interest refers to net interest except 2002 and 2003 when net interest is not disclosed and interest paid is used. Tax rebates totalling £37.1 mill are excluded. Total value added distribution exceeds 100% meaning interest is an expense but unpaid from the operating business.

 Table 5:
 Bombardier Transportation GmbH distribution of value added

	Value added to sales	Labour share of value added	Depreciation share of value added	Interest share of value added	Total distribution of value added
	%	%	%	%	%
2002	22.5	81.2	7.7	11.1	100.0
2003	22.0	74.1	10.5	6.3	91.0
2004	22.2	81.7	13.8	4.5	100.0
2005	26.5	77.0	9.1	1.1	87.2
2006	42.7	46.6	5.5	0.2	52.3
2007	28.6	73.4	12.4	0.7	86.5
2008	22.9	79.3	10.9	2.7	93.0
2009					
Average 2002-2008	26.4	71.8	10.1	3.0	84.8

Source: Orbis, BvDep.

Note: Value added is calculated by summating pre-tax profit, interest and depreciation & amortization. The ratios in 2006 are affected by the low interest expense.

How long Bombardier Derby lasts before closing depends on how the British orders come in. Table 6 makes that point in two ways. First, erratic ordering accounts for the fluctuations in turnover which doubles between 2002 and 2004 before falling away sharply. This makes managing labour's share of value added and realising surplus difficult even with Derby's increasing use of (insecure) contract labour. The other problem is that the factory is pinned down on the home market because export turnover has risen to 18.9% but historically has fluctuated around low levels and averages just 10% over the eight years from 2002-2009.

Table 6: Bombardier Transportation (Holdings) Limited breakdown of turnover

	Employment	BT(H) Ltd Turnover	UK turnover	Overseas turnover
	No.	£m	%	%
2002	4,109	526	90.8	9.2
2003	5,204	740	91.3	8.7
2004	4,703	1,046	96.7	3.3
2005	4,425	761	97.4	2.6
2006	3,937	646	90.5	9.5
2007	3,875	735	86.4	13.6
2008	3,519	928	84.5	15.5
2009	3,440	865	81.1	18.9

Source: Fame

Note: There is no indication of whether non-UK sales are to related parties.

The future of Bombardier Derby depends on new British orders which look bleak because of the structure of the British rail industry (TOC's and infrastructure). The inefficiencies of these companies, as detailed in the McNulty Report, drive their unsustainable requirement for increasing public subsidy which frustrates any investment planning. At the same time an increasing proportion of those British orders will be taken by Siemens, Alstom or Bombardier's own mainland European factories which have invested in process and product; while the Derby plant has limited export capability and has never been properly integrated into a European corporate network.

This is the old problem of asymmetric European manufacturing integration: the mainland producers come and sell their product in the UK which takes volume and market share off the British firms which cannot win it back by exporting to Europe. Hence the relevance of British Leyland (BL) case which is so often cited and completely misunderstood. BL had worse than 40% capacity utilisation on its Metro lines because the Renault 5, Fiat 127 and Volkswagen Polo were taking UK market share while BL could not sell the Metro profitably in Europe because of the high pound which was the unintended consequence of the monetarist policy experiment (Williams *et al.*, 1991).

In the case of Bombardier Derby, British politicians and civil servants are much more directly to blame because they insisted that ownership did not matter when changes in ownership and order book fluctuations were wrecking the train building industry.

#### Conclusion

There is much to be angry about in this country. As this report was being drafted, the News of the World phone hacking scandal dominated the news bulletins just as MPs' expenses had done 18 months earlier. From the front page headlines, we might suppose that our main problem in the UK is corrupt metropolitan elites who are, as Prime Minister David Cameron has said (without irony), "all in it together". But we also have a problem about a national economy which isn't working to generate jobs and distribute the prosperity that is needed if democracy and citizenship are to be substantive as well as formal. These problems long predate the financial crisis of 2007-8, but the latter made things much worse as the private liabilities of the banks were shifted to public taxpayers.

But the UK's national economic failure cannot be blamed on indifferent or corrupt elites because the guilty men were often well meaning politicians and honest middle ranking civil servants in successive ministries of trade and industry. They never intended or envisaged that in the absence of industrial policy, successive UK governments since 1979 would visit catastrophe on the UK's manufacturing base. And here Bombardier is simply the latest case. But sadly, it is an exemplary instance of how things go wrong in the absence of industrial policy. Generic pro-enterprise policies plus neglect of sectoral specifics about demand management and ownership has decimated British manufacturing capacity in key sectors, destroyed the supply chains that sustain successful industries, and deskilled core sections of the labour force. In the aggregate, neglect has thrown hundreds of thousands out of work, and undermined the economies of the ex-industrial regions whose service based private sectors are clients of the state.

But something else is now happening. Here's the question. In the UK who is it that actually believes that the decision to award the contract to Siemens was a good idea? When even the Coalition ministers responsible distance themselves from the decision, the answer is very, very few. Actor Hugh Grant admirably caught the state of national confusion on BBC's Question time: "I'm sure it makes sense economically" he said, "but it's just so depressing" (Financial Times, Andrew Hill, 8<sup>th</sup> July 2011<sup>3</sup>). Large numbers of our politicians and civil servants share Grant's confusion. They're depressed too, but like Grant (and with a great deal less excuse) they have also persuaded themselves that "it makes sense economically".

In this paper we've shown that it <u>doesn't</u> "make sense economically". But this leads us to the real puzzle. Why don't the politicians and their unhappy civil servants also see this? Why are they unable to make calculations of the kind that we've made in this report? How have they got themselves in the position where 'best buy' 'value for money' calculations lead them inexorably to such an economically catastrophic industrial train crash?

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<sup>&</sup>lt;sup>3</sup> http://www.ft<u>.com/cms/s/0/33875f20-a98f-11e0-a04a-00144feabdc0.html</u>#axzz1RYHWsgBz

After all, the empirics are there already in the company reports and official statistics that we have cited. We're not making them up and it is not difficult to calculate value added or national share of intermediate purchases from publicly available sources. It's just a matter of having the will to search them out and take them seriously. But the will seems to be absent. Or perhaps, and even more worryingly, it is the <u>ability</u> to see things differently that is missing.

There is a straightforward incapacity on the part of Britain's politicians and civil servants to practise the matter-of-fact kind of 'political arithmetic' that we have offered in this report. But if that's the case, then why is it so? How come those who govern us can't, or won't, do this? And why then must the train workers of Litchurch Lane, Derby pick up their P45s in 2011, just like those from Washwood Heath, Birmingham in 2005? Leave aside the true believers, for by now these are few and far between. Civil servants in the BIS (formerly DTI) Department know perfectly well that five changes of ownership in 12 years must be a problem for a train factory with erratic orders. So the issue isn't denial, fanaticism or blind commitment to ideology. Instead, and more subtly, it has to do with how policy choices get framed in the first place.

It has to do with what we might think of as a flawed knowledge frame. Those who resisted active sectoral manufacturing policies hoped –for a long time maybe genuinely believed – that generic pro-enterprise policies of low taxes and flexibilised labour markets would turn the promises made by the textbooks about efficiencies into a brave new industrial reality. They believed that such policies, plus a welcome for inward investment, would save the UK from economic decline.

As a part of this they also took it for granted that active interventions to support specific parts of British manufacturing were doomed to failure. Anyone who was tempted to step out of line was easily scared back into conformity by reciting exemplary stories about British Leyland.

But what has happened now, with the train crash at Bombardier? The public debate about the Siemens Thameslink contract reveals that like Hugh Grant, the Coalition ministers and civil servants who make industrial policy uneasily sense that something is wrong. But the problem is not simply that the micro-economic answers aren't answers, though this, of course, is true. More profoundly, the problem is the long reign of micro-economic question framing in the Whitehall centres of policy making, in the broadsheet media, and in the economics departments of the ancient universities. These distinct spheres are of course densely interconnected, not least through elite careers. Many of the best and brightest undergraduates may now choose the City, but the BIS and Treasury middle ranks are still heavily populated with Oxbridge recruits and those trying to pass as such.

Their intellectual formation is such that they simply do not have the resources for thinking intelligently about alternatives to generic policies. The official mind in the UK has no good ways of thinking about the economy that doesn't treat it as a set of individual agents engaged in exchange. And methods for understanding externalities –for instance the tax paid by skilled craftsmen– aren't a part of the intellectual toolkit either.

Of course, heterodox economists see the world differently. Institutionalists note that companies are institutionally located and densely interconnected within supply chains. They argue that new market opportunities depend upon the clustering of other supporting firms or institutional arrangements. But all this is irrelevant heterodoxy to the BIS Department where, in the absence of any alternative, a generic pro-enterprise, neoliberalism is still in place. And this is in large part because the tools that <u>frame</u> industrial decision making are still dependent on it.

The consequence is that we currently lack any well-developed alternative institutions, concepts or forms of calculation for creating sectorally relevant industrial policies. And this is our central point. We have previously discussed new policies (Froud *et al.*, 2011), but our argument in this report is about the currency of old frames. There is a large gap between the old interventionism of 'picking winners' on the one hand, and the generic neo-liberal enterprise policies that have failed us for the last thirty years. But this is a gap that urgently needs to be bridged. It's an area of ignorance, a knowledge space that needs to be fashioned, if the UK is to start to create the successful industrial policies needed for regeneration.

As Bombardier lay off parts of its workforce in Derby the task is urgent. At the same time a sense of failure –indeed of confusion– hangs in the air. Many of those who govern us know that there is something wrong. This suggests that the institutional and political conditions are ripe for change. This report has been written to illustrate the possibilities of calculation and action that might open up for a Ministry of Reconstruction if we were to fill this empty knowledge space.

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