Reviving British Manufacturing

Reviving British Manufacturing:

Why? What? How?

Alan Reece

Foreword by

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Ha-Joon Chang is a specialist in development economics and Reader in the Political Economy of Development at the University of Cambridge. In 2005, Chang was awarded the Wassily Leontief Prize for Advancing the Frontiers of Economic Thought. He is author of *Kicking Away the Ladder: Development Strategy in Historical Perspective* (2002), which won the 2003 Gunnar Myrdal Prize, *Bad Samaritans: Rich Nations, Poor Policies and the Threat to the Developing World* (2007) and *23 Things They Don't Tell You About Capitalism* (2010).

Alan Reece. After graduating from King's College and gaining substantial industrial experience, Dr Alan Reece became a lecturer in the Department of Agricultural Engineering at the University of Newcastle upon Tyne. In a career lasting 27 years, he gained a reputation as a highly innovative researcher and a passionate and gifted teacher. He was a pioneer in the application of soil mechanics to the design of earth-moving equipment, a subject that gave rise to a research connection to BT, BP and the British Army. He was particularly keen on teaching design to his students and set up Soil Machine Dynamics Ltd in 1971 to facilitate realistic design projects, particularly with these three giant concerns. These projects manned by students were so successful that he was forced to start employing engineers and to retire from the University in 1984. Turnover increased steadily to reach £60 million in 2000, the year the telecom bubble collapsed. SMD is now the world leader in machines that work on the seabed.

Alan also established Pearson Engineering as a global leader in the manufacture of specialist equipment for the safe removal of land mines and for related military ground-clearing operations. Pearson Engineering has supported humanitarian organisations involved in removing land mines in former war zones. It became one of the best-performing industrial groups in the North East, developing systems and equipment for the combat engineers of the British and US armies, and the US Marines. Its particular expertise is the development and supply of specialised countermine equipment for armoured fighting vehicles. In 2009, Pearson's turnover reached £116 million. In recognition of his success, Dr Reece was ranked in fifth place in *Management Today*'s Top 100 Entrepreneurs for 2011.

Today the engineering companies that have grown from his initiations have a turnover of about £200m and employ about 600 skilled and professional engineers with about 4,000 workers in the supply chain.

Dr Reece established the Reece Foundation and has been a generous donor to good causes. He was the biggest single donor to Cambridge University's Institute for Manufacturing in 2009, whose new building is named in his honour.

Foreword

The British Economy Stands at a Crossroads

Since the 1980s, the predominant view has been that the seemingly unending global financial boom, in which British financial institutions were playing a leading role, has been driven by financial innovation—the creation of new, more productive financial instruments based on sophisticated understanding of the complexities of the financial market. True, the period was spiked with quite a few financial crises, but they all happened in exotic places like Mexico, Thailand, Korea, Brazil and Russia, where the financial system was allegedly sub-standard. But Britain and the US, it was believed, were different. These were economies at the forefront of the global transition to the new era of 'knowledge economy', backed by 'light-touch' but sophisticated regulatory systems.

With the global financial crisis of 2008, the limits of Britain's finance-led economic strategy have been laid bare. Not many people would go as far as Paul Volcker, who was the chairman of the Federal Reserve Board under Jimmy Carter and Ronald Reagan and of the Economic Recovery Advisory Board under Barack Obama, and pronounce that the only socially useful financial innovation in the last half-a-century has been the ATM. But the crisis has revealed that many of those innovative financial instruments destroyed, rather than added, value to the social product. Moreover, it turned out, many of these innovations were not even based on genuine advances in knowledge on how the financial market and the overall economy worked but simply exploited the greater freedom to print money, so to speak, granted by the government through financial deregulation.

Not only has it not been based on sustainable, genuine advances in knowledge, but Britain's financial development has severely weakened the manufacturing industry—once the mainstay of its economy. The strong pound that the financial industry wants has made British manufactured exports less competitive. The pressures of short-term profit demanded by the deregulated financial market have forced British manufacturing firms to make themselves attractive by boosting today's profits at the cost of investments in their future productivities—by cutting investments in physical equipment, R&D and training—ultimately to the detriment of their international competitiveness. Banks have made easy money through mortgage lending and credit cards, starving manufacturing firms of the funds for their investments. Manufacturing companies have become chips in the casino of the financial market and got rattled, sliced and diced in the financially-driven M&A (mergers and acquisitions) booms.

The result has been shocking—to say the least. Once the veritable home of the Industrial Revolution, today, Britain is only around twentieth in the international league table of manufacturing prowess—measured in terms of per capita manufacturing value added, it ranked number 18 in 2005, behind even South Korea and Taiwan, according to the data from the United Nations. Once the 'workshop of the world', accounting for nearly half of world manufacturing trade (46 per cent in 1870)—far more so than the current holder of the title, China, which accounts for less than 20 per cent world manufactured trade (17 per cent in 2007)—today Britain struggles to finance its manufactured imports. Up until the 2008 financial crisis, it was—only just—able to finance a very large manufactured trade deficit (equivalent to four per cent of GDP) with the surplus in services trade (mainly generated by finance and related industries), but can this be sustained?

The answer is, to put it bluntly, no. For the world is moving towards greater financial re-regulation. Internationally, the Basel capital adequacy standard has been strengthened into Basel III. The US has introduced the Dodd-Frank financial reform bill, while the Vickers commission is preparing greater checks on banks in Britain. Other countries are also tightening their financial regulations. Many experts think that none of these are going to be enough to prevent future financial crises. However, whatever their effectiveness in crisis prevention, they are going to reduce the ability of the British financial industry to export enough to finance the country's manufacturing import demands at the pre-crisis level, given that much of its past success has been owed to deregulation, rather than to genuine advances in knowledge.

Given this background, the paper by Alan Reece is a very timely and shockingly honest assessment of the British economic situation that provides a lot of food for thought for the future of the British economy.

I happen to think that the British government should do rather more than what Dr Reece suggests in terms of systematic industrial policy, but his suggestion for a single-minded focus on balance of payments for the new Minister for Economic Growth is powerful in that it is focusing our attention on a key question—how is Britain going to pay its way in the world?

If you have thought that Britain could 'muddle through' this crisis, read this paper and think again.

Ha-Joon Chang
University of Cambridge

Editor's Introduction

Since retiring from 27 years of teaching engineering at the University of Newcastle in 1984, Alan Reece has created a group of engineering companies with a turnover of about £200m employing about 600 skilled and professional engineers with about 4,000 more in the supply chain. Up to 1984 he taught engineering in a country at the forefront of worldwide engineering development. In particular, he designed new devices for British Telecom, British Petroleum and the British Army. Since then he has watched with dismay the continuous decline in manufacturing. All around on Tyneside, the great historic companies collapsed and disappeared. He studied the decline and described it in a paper in 2007 but could not find a single political leader who understood. More recently, he has encountered politicians who concede that we may have a problem but who are unable to see what could be done about it! In this paper Alan Reece suggests what we could do.

Recently the Bank of England's Monetary Policy Committee acknowledged the scale of the decline. It expressed surprise that manufacturers were not seizing the opportunities presented by the favourable exchange rate. The April 2011 minutes said it was 'puzzling that import growth had remained so robust, despite the substantial depreciation of sterling'. It concluded that this was probably because 'domestic substitutes for some imported goods and services were not available'. Moreover, it was 'possible that UK firms in some industries lacked the plant or capacity to expand production rapidly in response to the past depreciation of sterling and it would take time for them to install it'. Consequently, 'a lack of domestic alternatives had been a significant factor' in reducing the substitution of home produced goods for imports.

Alan Reece argues that the Government should aim to encourage an increase in manufacturing output by about £10 billion per year for the next ten years. Of course, as a successful entrepreneur he recognises that rebuilding manufacturing depends primarily on the ingenuity and drive of people in business. Crucially, however, it also depends on what the Government does to create the most favourable conditions for enterprise. He argues that the Government should establish a department for production with a minister of Cabinet rank whose sole task is to renew manufacturing. The Department for Business, Innovation and Skills, headed by Vince Cable, is of course already there, but it has other responsibilities and, above all, it has proved to be ineffective during the 12 months since the last general election. Greater urgency is needed.

Alan Reece argues that we are too complacent about the balance of payments problem. In 2010 the deficit for goods and services was the highest figure ever at £46.2 billion, up from £29.7 billion in 2009. For goods it was £97.2 billion, up from £82.4

billion, also the highest ever. The obvious initial reaction is to have an export drive, but exporting is costly. You need reliable overseas agents to be constantly alert to informal trade barriers and changes in local markets, not to mention the dangers in fluctuations of the exchange rate. Exporting is vital, but in the short run it will be much easier to focus on the home market and out-compete importers. Many of our manufacturers are better placed to sell more at home than to increase exports.

The Government's November growth review recommended setting up sector working groups to 'remove barriers' to enterprise. These groups could take the lead in encouraging import substitution. There are several sectors with substantial home production and a successful export record and Alan Reece gives the cement industry as an example. Cement is made by burning limestone in a kiln and can be made in the UK at competitive prices. Until recently we were net exporters but today our cement companies are building import docks instead of new kilns. Why? Because the government has announced plans to force up the cost of energy so that it will exceed the cost in nearby rival countries. Inevitably manufacturers are reluctant to invest in the UK.

In a companion essay, Civitas researcher Stephen Clarke has looked at four other sectors to test the application of Dr Reece's thesis: paper, glass, steel and motor vehicles.[1] The UK is a net importer of paper, and yet has a significant domestic industry with a strong exporting record. In 2010 the UK imported paper products worth £6 billion (including paper, paperboard and paper pulp) while the country exported products valued at £2.3 billion.[2] Despite being dismissed by some as a 'sunset industry', paper manufacturing has significant potential. Four paper mills closed in 2008 and there were further closures in 2009, but there has also been significant recent investment. Important developments included the opening of one of the world's largest paper machines for producing newsprint at the Palm Paper mill at King's Lynn and the planned opening in 2012 of the SAICA paper mill in Partington Wharfside, near Manchester. Newsprint is a sector with significant scope for import substitution. This is clear from the PRODCOM statistics produced by the Office for National Statistics (ONS) which compare imports, exports and domestic production.[3] Domestic newsprint consumption in 2009 was worth £802 million and about half (£403 million) was satisfied by imports.[4] Home production for the UK market was worth £398 million and exports were valued at an additional £110 million. Recent investments by firms such as Palm Paper are expected to reduce the UK's need for imports by up to one-third. To support such an industry is not going against the grain of the free market. Investment in the UK by a foreign company (SAICA) and a foreign subsidiary (Palm Paper is owned by the German based Papierfabrik Palm) shows that the UK is still an attractive location for paper production.

Despite strong domestic production, the UK is a net importer of glass. In 2010 glass and glassware worth £1.3 billion were imported and products worth £655 million were exported.[5] Some products have been especially successful. The UK is currently a net exporter of flat glass, with exports outstripping imports by nearly one million tonnes. Fibreglass also has potential. In 2006 the UK was a net importer of fibreglass.[6] However, in 2009 domestic production for the UK market was valued at £372 million, imports at £142 million, and exports £181 million. The UK fibreglass industry is not only expanding but capturing a greater share of the international market. With wiser public policies the UK could remain an attractive location for glass manufacturers.

The UK is a net steel exporter with exports exceeding imports by 1.5 million tonnes, resulting in a positive trade balance of £2.1 billion in 2009.[7] However, British steel demand in 2009 was 7.9 million tonnes of which 3.7 million tonnes were met by imports, indicating that there could be opportunities for the British steel industry not only to expand exports, but also to capture a greater proportion of the domestic market. Crucially the viability of the industry depends on public policies, above all the cost of energy, which is currently driven by climate-change policies rather than market forces.

The automotive sector employs about 700,000 people in the UK. The PRODCOM statistics for 2009 are very detailed, but figures for 'motor vehicles with a spark ignition internal combustion engine greater than 1500cc'[8] reveal that domestic production was valued at £7.8 billion, exports at £6.5 billion and imports at £7.6 billion. As Stephen Clarke shows, there is considerable potential for home production of vehicles currently being imported and there is especially strong potential for an expansion of components manufacture in the UK.

In recent years successive governments have got into the habit of treating trading success as largely a matter for the private sector. Competition leads to the emergence of the most efficient producers and if British companies can't hack it then so be it. This argument neglects the fact that the difference between success and failure is often wafer thin and that the margin is often the result of costs imposed by British governments that are not experienced by overseas rivals. Frequently, it is the exchange rate alone that makes the difference between success and failure. Dr Reece does not dispute the value of a market economy but he argues that unless the British Government plays its part more vigorously we face a bleak economic future.

Forcing up the cost of energy is the single most harmful policy being pursued by the Government. The most effective strategy would be to allow competition to determine how best to produce electricity at the lowest achievable cost. Instead, ostensibly to avoid climate change, the Government is promoting inefficient and costly alternatives that will drive some of our manufacturers overseas. At a time when we urgently need every bit of economic growth we can get, many of our industry leaders are having to divert their time and energy into fighting Coalition policies that make it impossible to

function in the UK. A wiser government would be working closely with all sectors to make sure that public policy makers were doing everything within their power to help. We need a sense of urgency, but complacency is the dominant mood in Whitehall.

David G. Green

Summary

Since the great financial disaster, it has become politically fashionable to murmur vaguely that we should re-balance our economy by encouraging manufacturing. This paper sets out why this should be done, namely because of our huge negative trade balance. This is partially offset by a positive balance from financial services and interest on our foreign investments,[1] something it would be unwise to rely on.

Our manufacturing output remained constant at £150 billion over the last 13 years, a reduction in real terms of £3.5 billion a year, while consumption grew to £300 billion. Manufacturing is approaching a state of collapse because of the lack of suppliers of the basic processes like casting, forging, welding and machining.

A new threat to industry has emerged in the increasing cost of energy because of an excessive enthusiasm for reducing carbon emissions faster than the rest of the EU. This will impact negatively on Britain as production is transferred to Europe.

The paper also explains why it is much easier to achieve a reduction in the trade balance by reducing imports rather than by increasing exports.

It describes the gigantic magnitude of the task. If we aim to come up to the productive capability of Italy, rather than decline to the position of Greece, we need to transform our economy by a magnitude similar to that achieved in World War Two. We need to stop the ongoing loss of £3 billion a year and create £10 billion of new production every year for ten years. This cannot be achieved by general changes to availability of money, better education and de-regulation. It needs an intensive product-by-product campaign.

The paper goes on to describe a systematic method that could be adopted to do this and gives practical examples.

This can only be achieved by the creation of a new minister for economic growth with real power and money.

This proposal is about money, but money stands for sociable, enjoyable jobs in the parts of the country where they are needed. Two million jobs!

Note about the Appendix

This paper is about economics, the straightforward kind that can be quite simply and clearly described and understood. However, it involves a lot of numbers, almost all of which have been produced by the Office for National Statistics. A detailed description has been provided as an appendix, in the hope that this main paper can describe the country's perilous situation in a succinct fashion. The data in the appendix correspond with the statements in the text in the order in which they occur.

Alan Reece

1

Britain Today—The Golden Years!

The 11 years from 1997 to 2007 were a period of steady increase in wealth: Gross Domestic Product grew from £880 billion to £1,400 billion, an increase of 60 per cent, which, taking inflation into account, was more like 40 per cent. The total consumption of goods produced by manufacturing, agriculture and mining grew from about £200 billion to £300 billion. The domestic production of these goods only grew from £185 billion to £208 billion.

The banking crisis interrupted this, causing a sudden reduction in business activity and hence tax income, leading to greatly increased borrowing, which is now being dealt with by reducing government spending. However, politicians of all parties seem content to return to the state that existed between 1997 and 2007, when all was for the best in the best of all possible worlds. If they have any slight worry about manufacturing it is being taken care of by foreign visits and polite requests to the few grand exporters to try a bit harder.

The paper points out that this complacency is wrong. Britain has the largest deficit in trade in goods of any major economy. Without our success at exporting financial services we would be a much larger version of Greece. It is obvious that to rely long-term on financial services is absurd. In the long run, it could lead to a fate similar to that which befell Rome.

Why should we make more?

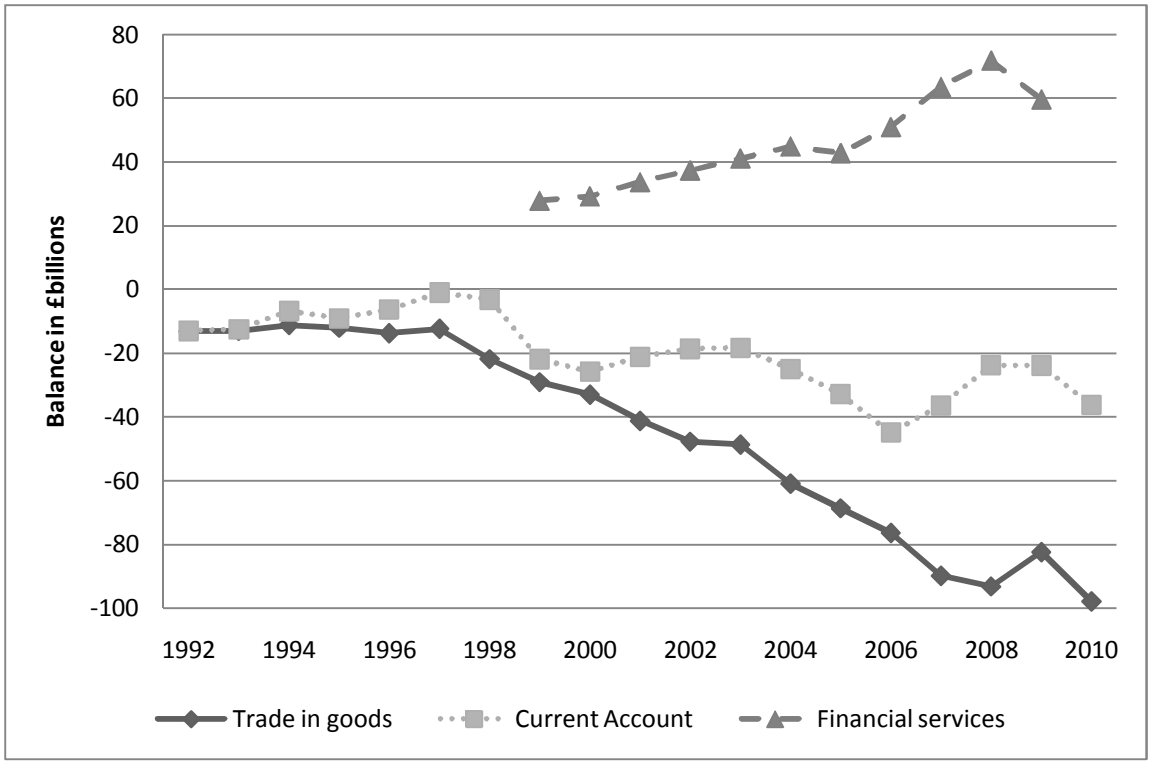
My earlier Civitas paper 'Britain's economy: the disaster after this' pointed out that the greatest threat to Britain's future was likely to be its steadily growing negative balance of trade in goods, food and energy. This started in 1997 and lasted ten years, and was partially cancelled out by a steady growth in exported financial services as shown on Figure 1 (p. 2).[1] The result was a fluctuating negative current account with a general trend to get bigger. The growing trade deficit was caused by declining output alongside increasing consumption. This steady process ended with the catastrophic events of 2008 and 2009. A more detailed description of the way the current account is generated is in the Appendix.

The drama erupted not because of the negative balance of trade, but because of what seemed the positive part, financial services.

Financial services take a steadily growing share of our and the American economy, as shown on Figure 1 (p. 2) where they rise 300 per cent over seven years. This growth

is based on a combination of overcharging, as a result of carefully concealed lack of competition, and gambling, in which financial services take the place of the bookie while the general public (including foreigners) are the punters. These two processes are carried out under a fog of complexity so dense that it is very difficult to understand what is going on. Certainly the banks themselves didn't and they suddenly lost confidence and stopped lending, which caused a sudden reduction in business activity and the failure of some banks. Figure 2 strongly suggests a bubble that will soon burst. The downturn between 2008 and 2009 shown on Figures 1 and 2 may be significant.

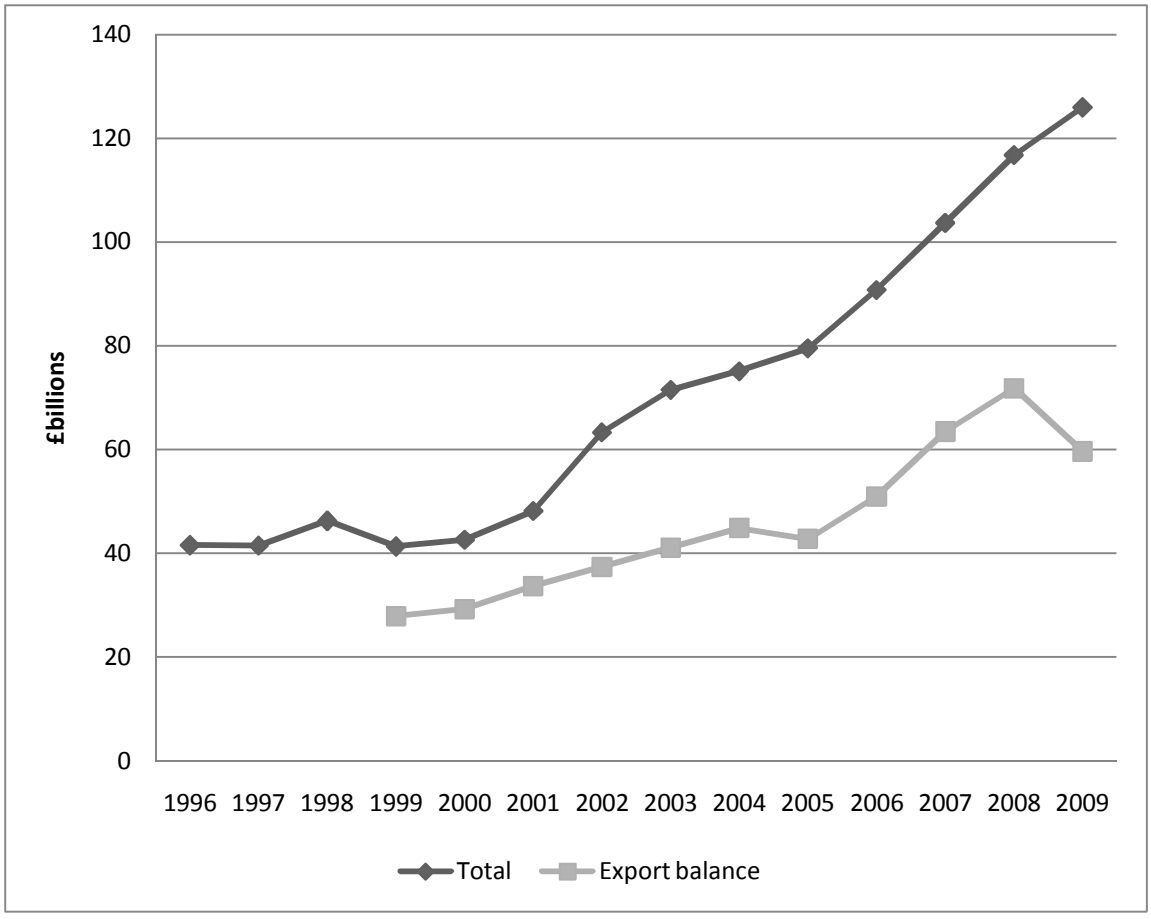
Figure 1: The UK economy: from balance in 1997 to near collapse in 2006



Source: Office for National Statistics, *The Pink Book,* 2010 Edition

The subsequent requirement to make a huge reduction in the UK government's spending on public services is owing to the fact that taxes fell with the decrease in economic activity. The resulting gap had to be partially funded by overseas borrowing rather than by internal taxes. This borrowing is reflected in the current account, and is how 'the markets' affect the way we run our public services.

Figure 2: The growth in the value of financial services between 1996 and 2009



Source: ONS, *The Blue Book* 2005 & 2010 editions, Table 2.3; *The Pink Book* 2008 & 2010 editions, Table 3.1

The result of all this has been a rapidly developing re-appraisal of the financial services sector. Analyses of UK pensions and investments management have conclusively demonstrated that there has been overcharging of up to 40 per cent. David Pitt-Watson's study for the Royal Society of Arts made authoritative estimates now taken for granted by media such as the *Daily Telegraph*, the *Sunday Times* and the BBC's Panorama programme.[2]

All this is likely to have a growing deleterious effect on the export of financial services.

It is notable that the great downturn has been most serious in the countries with major negative trade balances and bloated financial services, particularly the UK and USA.

	Trade Deficit % GDP	**Current Account % GDP**	**Interest % 10 year Govt. Bond**
Greece	-7.8	-6.8	10.6
Britain	-5.6	-1.4	3.1
Italy	-0.8	-2.7	3.7
USA	-4.7	-3.1	2.6
Germany	+6	+5.2	2.3

Source: The Economist, 21 August 2010.

The table above shows important economic characteristics of several countries. Note that the difference between the trade deficit and the current account represents the effect mainly of exported services. The large difference for Britain is mainly exported financial services; all other services have a negative balance.

It is clear that the only difference between the economic situation of Britain and that of Greece is the success of Britain's financial services.

The comparison between Britain and Italy is interesting: they have similar populations, but Italy is a little poorer. Britain exports £300 billion and imports £412 billion, while Italy exports £354 billion and imports £366 billion. Italy exports £200 billion of machinery, compared with Britain's £150 billion.[3]

2

The EU or the Rest of the World?

The UK has an economic problem with respect to its current account with the world as a whole. It may be supposed that our membership of the EU is helpful in this respect. The following table shows, in billions of pounds sterling, the facts for 2009.

Balances (UK)	**EU**	**Rest of World**	**Total**
Trade in Goods	minus 37	minus 45	minus 82
Services	plus 9	plus 41	plus 50
Income	plus 19.5	plus 12	plus 31.5
Current Transfers	minus 6	minus 9	minus 15
Current Account (totals)	**minus 14.5**	**minus 1**	**minus 15.5**

The astonishing conclusion is that up to now our problem lies almost entirely with the countries of the EU. Not only do we have a huge, and rapidly increasing, negative balance of trade in goods but we also find that they are too sophisticated to need our financial services, income from investments being the only success story. It seems possible that the less sophisticated rest of the world may also learn to manage their money themselves, with disastrous results for the UK.

Improving the balance of trade—an industrial policy?

There are three ways of improving the balance of trade in goods: consume less, make it here and/or export more.

Consuming less will be forced on us but is not practical politics now, except for general depressive measures like increasing VAT.

So it has to be import replacement or exports. Manufacturing, farming and mining have to grow. It is crucial to appreciate just how little manufacturing we have left. A sense of complacent success after World War Two put paid to the shipyards and industrial conglomerates, like Vickers. The nationalisations of the first Labour government started the destruction of our aircraft industry, and this was completed by the neglect of the last Labour government. Oil gave rise to the inflated pound. There is so little manufacturing left that it forces even our most successful companies to import more components or move work elsewhere. A continuous thread through this dismal

history is, at best, neglect by government or, at worst, positive sabotage, like the sale of government-owned Westinghouse.

To recover, we need a positive input by government. The suggestion that we should even begin to think about a positive effort to improve our balance of payments seems astonishing to many, or even obscene. Free enterprise, no protection and competition are the slogans of all our political parties. Our problem is we have for ten years been the losers in this competition. We are losers to countries like Norway, which have an abundance of natural resources to sell, and to a country like Germany which has continued to succeed at manufacturing just as it did in the nineteenth and twentieth centuries. We even lose to countries like South Korea which had neither physical resource nor any history of science, engineering and manufacture up to 50 years ago.

In response to sudden doubts about relying on financial services, some interest has been aroused and a policy of encouraging growth is ostensibly being followed. It has three elements.

1. Make sure capital is available for promising companies. This is a good idea, since at present it is far more likely to come from a foreign competitor buying the whole company.
2. Reduce the burden of regulation; this policy would be only slightly beneficial.
3. Increase the supply of engineering graduates. This is of no immediate relevance. We have more than enough reasonably competent engineers. It is easy to build up a team of over 100 in short time by offering an interesting project and paying between £40,000 and £60,000. The latter gets you a Cambridge graduate with ten years of relevant experience.

These policies are positive but small compared to other government actions. For example, the sale of Westinghouse by the Labour Government and the withdrawal of a loan to Sheffield Forgemasters by the Coalition Government destroyed any hope of establishing a nuclear power industry in the UK.

The higher cost of energy in Britain, compared to Europe, between 2002 and 2009 caused a huge loss of output in the zinc, glass, paper, brick and fertiliser industries.

Our membership of the EU is a further cause of our manufacturing decline, as described in a later section, because much EU regulation impacts on Britain to its comparative disadvantage. This may well lead to higher electricity costs in the future. Ruth Lea and Jeremy Nicholson have shown how this policy could drive a single large chlorine manufacturer out of the UK, resulting in Britain having to import necessary chemicals at a cost of £8 billion a year and the loss of 130,000 jobs.[1]

The Anglesey Aluminium plant was closed because of a British bureaucrat's compliance with an EU law, which would have been ignored by France!

The first job of a government industrial policy must be to give the maximum protection to what industry we still have.

How can we make more?

What we need are more companies that can use more money and employ more graduates. We haven't been able to do this by fair means so we will have to resort to foul means: protection, subsidy, furtive grants, quotas, tariffs and unfair taxation. Just like any other country! This will be totally unacceptable to the City for obvious reasons. It is also unacceptable to global companies like Rolls Royce and JCB who need to assert that they are top dogs in a wonderful technological country. It therefore has to be done carefully.

The first such measure is to stop the purchase of British companies by foreigners except after a rigorous examination of its effect on our economy. The City makes money out of such sales and asserts that they are in some way beneficial. This claim is untrue. Taking only industry in the North East of England, consider the following examples:

1. Parsons, the inventor of the steam turbine, was bought by Siemens and closed.
2. George Angus, pioneer of the use of rubber for sealing, was bought by a German company and closed.
3. British Steel at Redcar was bought by TATA and closed.
4. Terry's Chocolates was bought by Kraft and the whole plant moved to Eastern Europe.
5. Cole's Cranes was bought by Grove and closed.

And so on.

The second move we can make is to increase consumption of British-made products instead of importing them, particularly where the local product is of reasonable quality. This can possibly be achieved by government-funded advertising, aiming to achieve the situation that existed naturally in France and Italy some years ago.

One piece of protectionism that has been accepted by all political parties, the last government and possibly this one, is to try to make the government purchase from domestic sources some of the vast quantity of materials it requires. This policy exists in theory but not in practice. For example, the Post Office uses Fiat vans when a nearly identical vehicle can be obtained from Ford, made in Hampshire. Do police cars have to be foreign-made?

Another piece of protectionism that is acceptable to the EU is defence spending. The trouble here is that due to our general de-industrialisation we no longer make much that the services need. We have to buy trucks from Austria and tracked fighting vehicles from Spain and Singapore.

Once we have accepted that decisive government action is required, we have to decide whether to concentrate on increasing exports or reducing imports.

The difficulty of exporting more

The universal political choice is to export more high value-added, high-tech products from our outstanding advanced manufacturing facilities. This argument reveals a lack of understanding of the parlous state of our productive industry. We have lost and are continuing to lose our ability to combine technology with business. Our constant manufacturing output of about £150 billion a year represents a steady decline after adjusting for inflation. In over 11 years we have lost at least 30 per cent of the capacity we had in 1997, when we had trade and current account deficits of only about £12 billion. (See Table 1, p. 20.)

The UK has less than its fair share of big manufacturing. Fortune's list of the 500 biggest companies in the world shows 94 manufacturers: America has 52 and Europe 32, with Germany having 13, France 11, Holland 4 and Britain 4. European SME's have an average of six employees, while in America they have 20; not surprisingly, the latter invest far more in research. A good indication of the sophistication of a country's manufacturing is the number of multipurpose, industrial robots it has. In 2004 Japan had 356,000; Germany and the USA each had about 120,000; France 28,000; and Britain only 14,000.

We are not particularly innovative in comparison with other countries. A good measure may be the number of patent filings made by the citizens of a country. In 2004 the top was Japan with 2,884; then South Korea 2,189; USA 645; Germany 587; Australia 479; New Zealand 402; with the UK tenth at 320. Maybe our inventive people emigrated!

With the steady reduction in the capacity of UK manufacturing, major exporters are facing increasing difficulty in obtaining supplies from within the country and are being obliged to import a bigger proportion of the goods they make for export.

A particular problem is exporting to the USA, a huge market with a similar culture and the same language. Experience has shown that it is a surprisingly parochial place and it is much easier to sell there if you speak with an American accent and are based in an area which is in a time zone accessible to an American city. This is not a problem with the military, but their political masters are fiercely patriotic and concerned with gaining work for their constituents. In both fields the ultimate answer is to manufacture there. In the case of BAE Systems, the answer is to become not only the second biggest defence contractor in the world but an American company as well.

To export successfully in a competitive world demands competence and an aggressive determination to grow. There is very little slack to be taken up in that direction. A much

more feasible solution is to attempt to reduce imports, building on the industry we already have.

Import replacement: the size of the task

It seems very unlikely that we will have significant export of financial services in ten years time. If we do it should be the icing upon the far more necessary cake. The aim should be to increase domestic production of goods, food and energy, thereby reducing the UK's balance of trade to, say, -1 per cent of GDP in ten years.

This would make the UK similar to the Euro Zone as a whole, which has a slightly positive trade balance and negligible current account deficit. We could aim to emulate Italy which has a negative trade balance of about -1 per cent of GDP rather than Germany with about +6 per cent of GDP. This would require us to stop the loss of about two per cent of £150 billion per year—that is about £3.5 billion— every year for ten years. In addition, we must increase our output by ten per cent each year in order to eliminate our present deficit of £90 billion.

To simplify matters, set a target of new production for domestic production of £10 billion a year. Note that this is about the same as the total output of agriculture, fishing and forestry. A daunting task.

We make £150 billion of manufactured goods, employing about three million people. This suggests that we need one worker for every £50,000 of output. So we need to increase the work force by 200,000 a year for ten years when we would be employing five million people in manufacturing instead of three million now.

Stopping lost production

How do we stop losing £3.5 billion a year and prevent the loss forever of a whole industry? What an extraordinary question! It seems that no civil servant or politician queried the sale of Westinghouse; it seems that no Coalition MP was acquainted with Labour's belated attempt to get back into the nuclear power business, using the experience that Rolls Royce had of submarine reactors. Thus the guarantee of a loan to Sheffield Forgemasters was withdrawn—without thought or discussion.

The closure of the Anglesey Smelter at the stroke of a bureaucratic pen aroused no interest whatsoever. Before the closure imports of aluminium were about £2 billion a year, a figure which we do not want to increase.

There has to be a new body: the Ministry for Economic Growth must have nothing to do with innovation, business, training, science or anything else—just *trade*. It must have a simple mission statement:

To ensure that each quarterly trade deficit in goods should be smaller than the last one.

If it is not, then the Minister and the permanent secretary must personally explain to the Prime Minister why it is not.

It seems that there is no connection at all between manufacturing and government. There are few people in parliament or the civil service who know anything about manufacturing, agriculture or mining. Concern about the balance of trade in goods is minimal. We have DEFRA, which is rightly concerned with conservation; DECC, which is obsessed with CO_2; and numerous bureaucrats who ensure compliance with EU law. Is there a single person in the Department of Energy and Climate Change who even knows, let alone cares, that the cement industry's main new investment is in three major dockside import facilities? No, there is not!

We need a Minister for Economic Growth who should systematically analyse ONS data, looking for opportunities to increase home production, decrease imports and, if possible, increase exports. This minister should focus on changing public policies that obstruct production and give positive help to those who contribute to reducing the trade gap.

To be effective the Minister for Economic growth must be a powerful figure, from the world of manufacturing.

What shall we make?

The goal, £10 billion of new production every year, can only be achieved by breaking it down into elements and finding appropriate means of dealing with each one. This can be done by using the vast quantity of relevant information provided by the Office for National Statistics. Note that £10 billion requires 100 companies, each producing an extra £100 million each year, every year!

An excellent starting point is the document *UK Trade in Goods Analysed in Terms of Industries*. This is updated every quarter and the writer has the Quarter 4 2009 Issue. This breaks down all of manufacturing units into approximately 200 groups. To understand any group in detail there is another set of statistics, giving an account of the quantities manufactured in the UK. This is entitled *Product Sales and Trade*. More up-to-date figures can be found in the ONS PRODCOM statistics.

Consider the following case studies:

1. *Invalid carriages which have a code QEZN Group 35:43*

A high proportion is bought by the NHS, which is dissatisfied with the imported products and could be helpful in supporting a British product.

Our exports for the years 2007, 2008 and 2009 were £19 million, £12 million, £14 million while our imports were £35 million, £44 million, £61 million. On the face of it,

here is a simple engineering product which can still make in the UK. Nevertheless production is falling and imports rising.

In the ONS *Product Sales and Trade* statistics, invalid carriages are classified as PRA35430 which indicates they have something in common with the codes and figures shown above. These figures are only available up to 2007, and reveal that additional orthopaedic devices are fitted to wheel chairs and that they are worth nearly as much as the chairs themselves. Wheelchairs are divided into simple self-propelled or powered.

The full picture for 2007 is presented in the following table:

The Invalid Carriage Trade in 2007 (£ million)

	Simple	**Power**	**Additions**	**Total Sales**
Made in UK	30.4	24.6	54.3	109.0
Exports	4.4	15.2	14.8	34.3
Import	14.5	21.8	18.0	54.3
Trade Balance	-10.1	-6.6	-3.2	-19.9
Sold in UK	**40.5**	**31.2**	**57.5**	**129.0**

Further investigation shows that the only major British manufacturer had a profitable turnover of £10 million with 130 employees. In 2005 it was sold to a foreign company by its major shareholder, 3i, in a typical private equity operation. The factory was closed and all the employees made redundant.

The market is now dominated by two foreign-owned companies, based in the UK, with a combined turnover in 2008 of £83 million, making a combined trading profit of £1 million and paying no corporation tax. This is achieved by buying most product in a low-tax country and charging an inflated price in the high-tax country, thus reducing taxable income. They employ 340 people, with only 133 making anything.

A normal UK company manufacturing this volume would be expected to make £12 million profit, pay £3 million in corporation tax and employ about 1,000 people!

Invalid carriages are only part of a much larger industry, classified as medical and surgical equipment and orthopaedic appliances (Industry 33100). This whole industry is worth over £3 billion per year. It is composed of too many small companies vulnerable to take-over, particularly by foreign companies.

The writer has become particularly interested in the wheelchair market. There is a potential market worth £100 million which could serve as a basis for growth into more sophisticated products. It provides an attractive alternative to my existing business, which is being forced to shift most activity to the USA. A wheelchair that has been agreeable to the local NHS has been designed and detailed and necessary suppliers

found. Very low-cost production from China is readily available. A progressive change to UK manufacture seems possible, selling at the price set by the current suppliers.

It is at this point that government assistance is needed. At present NHS procurement is an unco-ordinated activity involving a large number of small purchases from a wide variety of NHS sub-divisions. Sir Philip Green has pointed out the gross inefficiency of the system. If a central NHS purchasing department were accessible then we could perhaps move forward to 1,000 new jobs on Tyneside.

2. Pacemakers (PCC33101850)

The ONS figures for 2007 show that 46,000 of these tiny devices were fitted, at an average price of £1,797 per item, to the total value of £83 million. All of these were imported, presumably by the NHS. If a commitment to buy British was given by the NHS it might be possible for private capital to develop a domestic product.

3. Cement

(report by David Merlin-Jones[2])

This is big business. In 2007 total sales were worth £844 million, of which £140 million was imported. The main production, of about £700 million, was made by four firms: Tarmac (British); Lafarge (French); Hanson (German); and Cemex (Mexican).

All have works here in Britain. These plants are all modern, cost-effective and with minimum CO_2 output. Between 2007 and 2010 production fell by about 40 per cent and imports by about 20 per cent, to a value of about £100 million. It might be thought that a whole £100 million of imports could be saved by the exercise of some pressure by the Government.

Not so! The effect of EU carbon reduction policies, exaggerated by British enthusiasm for compliance, threatens the very existence of the industry in Britain.

Rather than creating new cement works, the industry is creating three new harbour facilities for importing cement in anticipation of the movement of production to France and Germany where the impact of EU regulation is less.

This situation is described more fully in the report '"Rock Solid?" An Investigation into the British Cement Industry'.[3]

4. Basic Chemicals

(report by Ruth Lea and Jeremy Nicholson[4])

In 2009 the UK exported £13.4 billion and imported £13.2 billion of basic chemicals, a huge industry. It should, with government help, be able to squeeze, say, an extra £2 billion of production into its domestic market. Not at all! Like the cement industry, it is threatened by electricity prices rising rapidly both absolutely and relatively to Europe.

Ineos Chlor Ltd is a large chlorine manufacturing plant at Runcorn in Cheshire, using an efficient system to extract chlorine from brine, with electricity as its main source of energy. It is particularly affected by high electricity prices and may soon close down.[5] It provides raw materials for a large variety of downstream businesses which would also have to close or seek imported supplies. It employs directly 3,000 people and indirectly another 6,000. Taking into account the downstream users, it is estimated that a total of 130,000 jobs could be lost, with £8 billion of output gone, every year. A considerable blow to balance of payments!

In 2001 Ineos Chlor paid for detailed research into the future of electricity in Britain. Since then they have been unable to obtain any clear idea of the future of their industry from either the last Government or this one.

A clear voice for production *inside* the Government is urgently required.

Conclusion

If Britain is to have a prosperous future it must make, grow and mine more. The proposed method of analysing the required process is perhaps a useful way of understanding the problem. Actually doing something about it is a matter of politics. The new Minister for Economic Growth does not need a large staff but must have real power to negotiate with the EU and green lobbies.

Appendix
Measuring the Decline in British Manufacturing
Alan Reece and David Merlin-Jones

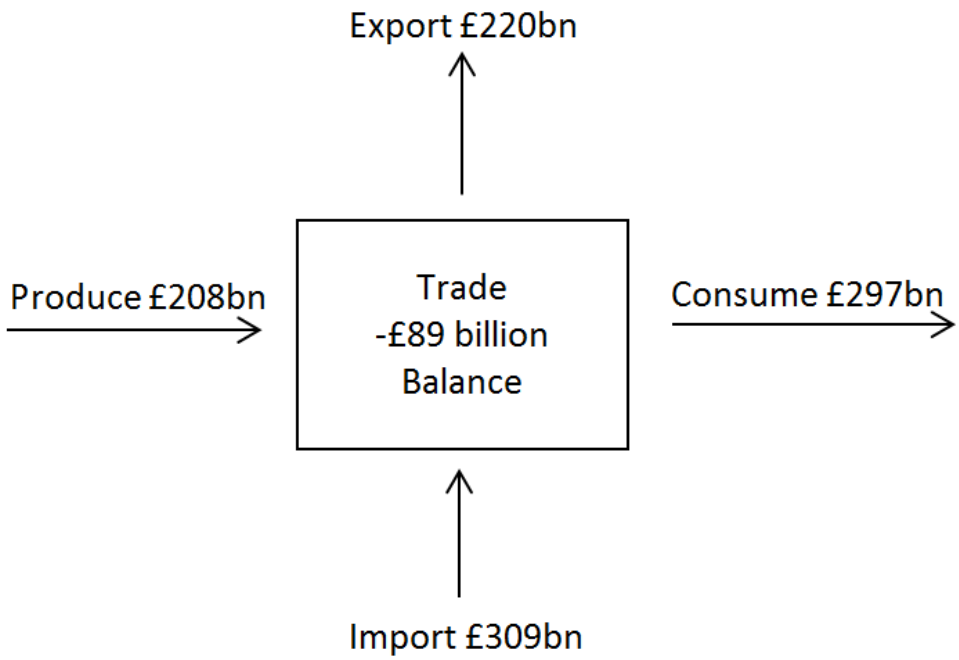
One of the main tasks of the Office for National Statistics is to measure in great detail the overall state of Britain's economy and then to publish its findings in an accessible form. This is presumably intended to help the government improve the financial position of society as a whole.

These statistics are the basis of arguments put forward in the main paper. They are all taken from the following publications:

- Table 1, The National Finances - *The Blue Book*, published annually.
- Tables 2, 3 & 4, Balance of Payments - *The Pink Book*, published annually.
- Table 5 UK Trade in Goods, analysed in terms of industries, published quarterly.

An overall picture of Britain's economy in 2007, as far as the production of goods is concerned, is summed up in Figure 3:

Figure 3: The flow of trade in the British economy



Source: Author's diagram from ONS, *The Blue Book* 2005 & 2010 editions and *The Pink Book* 2008 & 2010 editions.

The diagram is based on carefully collected statistics for production, exports, imports, taken from Table 1 and Table 2, but consumption is assumed to be simply the balance of trade added to production.

From Figure 1 (p. 2) in the main paper it is clear that for a considerable period prior to 1997 the British economy was sound but static: it made what it needed and even though the current account was negative, the negative balance was quite small, at most two per cent of GDP. A steady growth ensued until rudely interrupted by the failure of the banks in 2008. The main processes at work are, therefore, best understood by data from between 1997 and 2009.

The output of British industry

Table 1 (p. 20) is an extraordinarily complete picture of an economy growing steadily, nearly doubling in total output in 11 years.

Comparing the figures for 1997 - 2008, it is remarkable how total gross value added in the service industries increased by nearly 100 per cent. On the other hand, the increase in total production was only 14 per cent, while the figures for manufacturing show no increase at all. Taking inflation into account, this represents a steady decline of two per cent per annum, which is a loss of £3 billion every year.

As is shown in Figure 2 (p. 3) in the main paper, the growth in the value of financial services was relatively static until 2001, as is to be expected of the simple taking in of money from those with too much and the lending of it to those with too little. Then from 2001 until 2008 this sector grew from £41.5 billion to £117 billion—nearly trebling in seven years. No wonder pay and bonuses grew so wonderfully. What is the secret of its success? It remains a secret, but probably not for long.

The gross value added of all industries in the British economy grew from £739 billion in 1997 to £1,255 billion in 2009, indicating a total growth of 70 per cent, which implies an annual rate of growth of 4.5 per cent. That is a real growth of about 2.5 per cent, plus inflation at two per cent.

It is not surprising that this policy of the previous government remains the policy of the Coalition Government, except that the Coalition Government is determined to reduce the role of the state. However, nothing of any consequence is being done about the decline in manufacturing.

The current account

Figure 1 (p. 2) in the main paper shows the trade in goods and financial services and implies that the current account is the difference between the two. This is not the case. The elements that add up to the current account (sometimes called the current balance)

are made up of the items shown on Table 2 (p. 21). Table 3 (pp. 22-23) contains a more detailed breakdown of the trades in goods and services and documents additional services: in 2009, transportation (comprising rail, air and sea), had a positive balance of £3 billion, and travel, which is mainly tourism, lost £13 billion.

There are three other categories of profit and loss. An important positive element, in recent years, is investment income. According to Stephen Nickell,[1] residents of Britain own about £,5,000 billion of assets in foreign countries and foreigners own a similar asset value in the UK. In 2009, according to the Pink Book, the income from these meant that Britain made approximately £170 billion on its assets abroad while foreigners made £140 billion on their UK investments.This curious arrangement is peculiarly British. Sometimes we do a little better than the foreigners and sometimes worse. As Table 2 (p. 21) shows, we lost money from 1977 to 1997, but did well from 1997 onwards. We did particularly well during the banking crisis of 2008 and 2009.

Other ways the country can lose money are gathered together in a category called current transfers, which is mainly government expenditure abroad on the EU, NATO and war. This has increased steadily since 1957 to reach -£19.6 billion in 2010 (Table 2 p. 21). Figure 4 (p. 18), shows clearly that the driving balances in generating the current account are the trade in goods and financial services.

The balance of trade in goods

Table 3 (pp. 22-23) shows the detail of the growing deficit that has characterised the Golden Years. It is the largest deficit as a proportion of GDP of any of the major world economies. The table divides production into 13 categories, all of them negative except chemicals. No government statement about growth fails to mention our strength in advanced manufacturing. How can this be, with capital goods having a negative value of -£9.3 billion; aircraft and ships at -£2.7 billion in 2009?

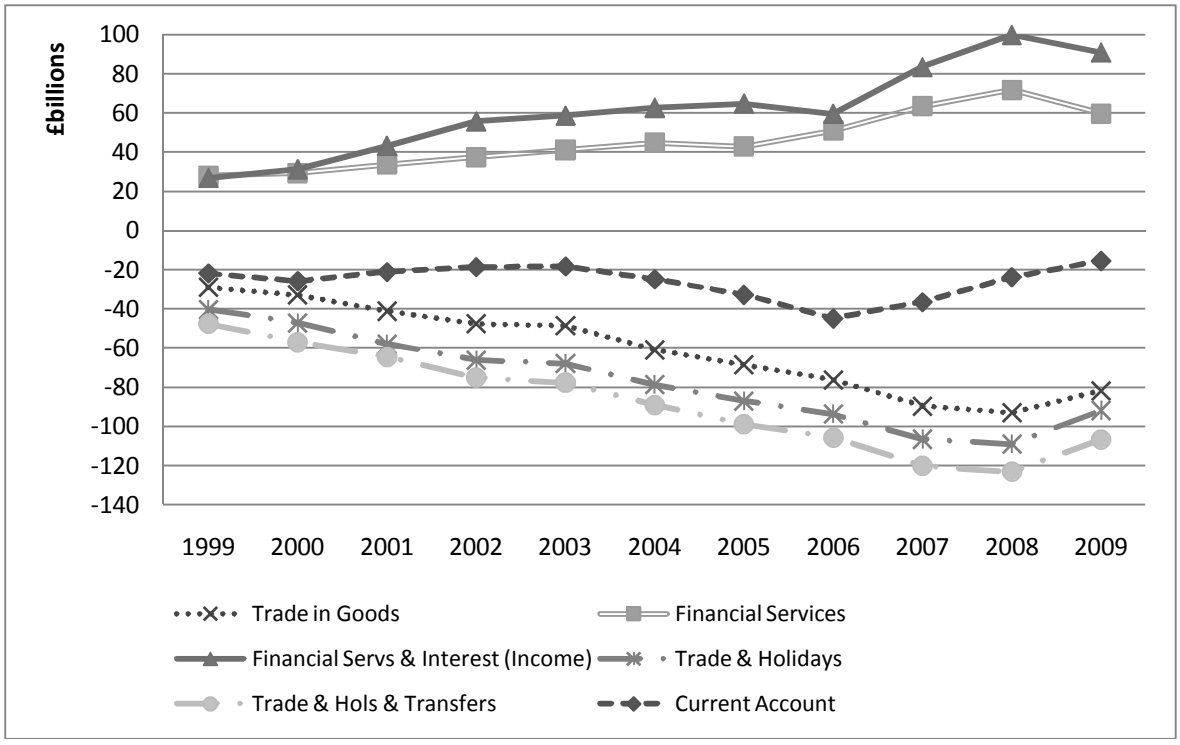
Tables 4 and 5 (pp. 24-25) give details of our exports and imports of goods, showing how greatly imports have increased and how little our overall exports have grown. If, after 11 years, our exports of finished manufactured goods have not kept pace with inflation, there is negligible hope of increasing exports substantially in the next five years.

The group of companies that stem from the writer's initiative in 1971 have reached an export turnover of about £200 million a year—but that has taken 40 years!

An important feature of successful exporting of goods is that the recipient country almost always demands transfer of the underlying technology, being intent on developing its own manufacturing.

Contemplation of Tables 4 and 5 make it quite clear that it would be easier to make a reduction in the £309 billion of imports than to increase the £227 billion of exports.

Figure 4: UK Cumulative Positive and Negative Balances and Current Account



Source: *The Pink Book*, 2010

What should we make?

Unless Government takes action through a new Minister for Economic Growth, nothing much will happen. The Minister has to review the whole economy and choose the sectors where it is most likely that imports can be replaced.

A systematic way of doing this is to study the UK's trade in goods, published by the ONS and analysed in terms of industries. This document is inconveniently arranged with exports for the first 14 pages and then imports for the next 12. To find balances you have to do much arithmetic!

Table 6 (pp. 26-27) shows that for invalid carriages imports are going up and exports are going down. This has led the writer to the study of a substantial industry producing inferior products made abroad and distributed in a very inadequate way. It is a sector extending over hundreds of millions of pounds that requires both manufacturing and retailing innovation.

The beginning of a study of all this is one of the examples given in the main paper. Table 6 shows that we imported £8.4 billion of agricultural products in 2010 and that we imported £28.1 billion of manufactured food, beverages and tobacco. Plenty to go at there!

Let's look for something simple: aluminium. Table 6 shows that we imported £1.8 billion in 2009, when the Anglesey smelter was closed down, the opposite of what was needed.

Going back to Figure 3 (p. 15) makes it clear that, for a full picture of an industry, it is necessary to know what is made in the UK as well as what is imported and exported. This is described in *Product Sales and Trade*, published annually. Examples are given in the main paper for invalid carriages and heart pacemakers.

Inflation

The information given in this paper is distorted by the effects of inflation. For example, the steady £150 billion output of manufacturing represents a continuous destruction of factories and jobs every year, given the rate of inflation.

The Blue Book allows one to work out the rate of inflation from a graph which takes the GDP in 2009 as 100 and plots the corresponding value at earlier dates as a percentage of this. It shows that inflation doubles the nominal value of GDP over a period of 21 years between 1988 and 2009, which equates to an annual inflation rate of 3.5 per cent. Over the period 1997 to 2007, the increase was 27 per cent, or 2.4 per cent per year.

This implies a steady reduction 0.024 x £150 billion = £3.5 billion per year.

Table 1: Gross value added at current basic prices: by industry

£ million

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Agriculture, hunting, forestry and fishing	10007	9222	9023	8532	8334	9008	9807	10670	7530	7788	8628	9715	8909
Total mining and quarrying	17867	15415	16945	24565	23120	21918	21442	22885	27453	31752	30849	37718	26602
Total manufacturing	150248	152042	151156	150004	149220	146307	144843	145691	148113	151455	154726	150298	139889
Total production	183904	183249	183803	190367	188000	184277	182690	184682	192251	203483	207460	209360	187547
Construction	37304	39696	42236	45626	50526	54684	59522	66029	69868	74619	80675	80756	72994
Financial intermediation	56633	62268	64963	69202	70501	73063	76588	79020	80887	83655	88280	91347	87410
Total service industries	508308	549819	587715	619756	660729	709122	762988	809569	847001	897814	954941	995832	986274
All industries	739524	781986	822774	864285	907594	957094	1015008	1070951	1116648	1183704	1251704	1295663	1255724

Source: ONS online data, *Blue Book*, Table 2.3

Table 2: Summary of balance of payments: balances (credits less debits)

£ million

	Current Account									
	Trade in goods	Trade in services	Total **goods and services**	Total **income**	Current **transfers**	Current **balance**	*Current balance as % of GDP*	Capital Account	Financial account	Net errors & omissions
1948	-152	-64	-216	203	96	83	0.7	-17	-58	-8
1953	-244	123	-121	182	143	204	1.2	-13	-177	-14
1958	34	119	153	227	4	384	1.7	-10	-411	37
1963	-123	4	-119	326	-37	170	0.6	-16	-30	-124
1968	-708	341	-367	255	-119	-231	-0.5	-26	688	-431
1973	-2573	907	-1666	902	-336	-1100	-1.5	-39	1031	108
1978	-1534	4215	2681	-440	-1420	821	0.5	-79	-2655	1913
1983	-1618	5406	3788	-1139	-1391	1258	0.4	75	-3287	1954
1988	-21553	6388	-15165	-1252	-3293	-19710	-4.1	235	16989	2486
1993	-13066	8174	-4892	-2512	-5056	-12460	-1.9	309	22278	-10127
1998	-21813	15003	-6810	11803	-8172	-3179	-0.4	489	4480	-1790
2003	-48607	22612	-25995	17523	-9835	-18307	-1.6	1466	22553	-5712
2004	-60900	28414	-32486	17845	-10276	-24917	-2.1	2064	29358	-6505
2005	-68589	25742	-42847	21855	-11849	-32841	-2.6	1503	29024	2314
2006	-76312	34775	-41537	8481	-11878	-44934	-3.4	975	41974	1985
2007	-89754	46798	-42956	20020	-13546	-36482	-2.6	2566	24790	9126
2008	-93116	55356	-37760	28035	-14051	-23776	-1.6	3241	25811	-5276
2009	-82365	52678	-29687	20552	-14719	-23854	-1.1	3284	30316	-9746
2010	-97777	49323	-48454	31885	-19661	-36230	..	3161	24743	8326

Source: ONS online date, *Pink Book*, Table 1.2

Table 3: Balance of trade in goods and services

£ million

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Trade in goods													
Food, beverages and tobacco	-5808	-7034	-7840	-7752	-8855	-9382	-10308	-11573	-13048	-14068	-14978	-17403	-17773
Basic materials	-3520	-3119	-3145	-3704	-3871	-3103	-2804	-2568	-2789	-2995	-4038	-4361	-2394
Total oil	4560	3042	4448	6536	5290	5108	3376	893	-2195	-2794	-4031	-5809	-3136
Coal, gas and electricity	-368	-421	53	505	301	613	871	-555	-2230	-2793	-3197	-7018	-5068
Semi-manufactured goods													
Chemicals	4496	4723	4452	4359	4769	4399	5234	4080	4180	5452	4246	5911	7960
Precious stones and silver	-318	-1192	-1155	-710	-551	481	792	236	303	-1155	-403	454	-1555
Other	-5014	-5260	-5473	-5849	-6833	-7379	-7579	-8077	-7280	-8796	-10011	-9937	-9533
Total semi-manufactured goods	-836	-1729	-2176	-2200	-2615	-2499	-1553	-3761	-2797	-4499	-6168	-3572	-3128
Finished manufactured goods													
Motor cars	-4465	-4908	-4848	-4225	-8573	-7503	-7191	-6616	-5854	-6548	-7186	-4036	-4414
Other consumer goods	-6683	-9344	-11065	-13731	-15593	-17808	-18480	-19314	-19958	-22032	-24693	-26355	-26505
Intermediate goods	-625	-1454	-4879	-7325	-3996	-4804	-3523	-5454	-7241	-10931	-11914	-12362	-6725
Capital goods	3573	3464	1068	-775	-748	-4529	-6751	-10790	-10902	-6937	-11576	-10136	-9286
Ships and aircraft	1646	-401	-363	-144	-2311	-3421	-1503	-237	-854	-1931	-888	-1289	-2744
Total finished manufactured goods	-6554	-12643	-20087	-26200	-31221	-38065	-37448	-42411	-44809	-48379	-56257	-54178	-49674
Commodities and transactions not classified according to kind	184	91	-304	-161	-241	-377	-741	-925	-721	-784	-1085	-776	-702
Total	**-12342**	**-21813**	**-29051**	**-32976**	**-41212**	**-47705**	**-48607**	**-60900**	**-68589**	**-76312**	**-89754**	**-93116**	**-81875**

Table 3: Balance of trade in goods and services

Cont'd	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Trade in services													
Transportation	-2092	-2277	-2416	-3297	-3514	-4400	-3787	-2353	-2563	-2012	-460	1709	3001
Travel	-3638	-5899	-8870	-10939	-13266	-14102	-15479	-15459	-15910	-15488	-16400	-17658	-13015
Communications	-185	-293	-241	-3	41	179	321	541	496	496	49	-84	444
Construction	98	217	177	165	67	91	125	136	30	165	191	151	192
Insurance	2597	2274	2705	1959	2905	4843	4649	4134	661	2853	4134	6496	7327
Financial	11145	8924	11769	13048	15107	15159	16875	18624	19460	23934	33055	39675	32919
Computer and information	952	1332	1742	2027	2078	2638	3194	4286	3749	4166	4231	3867	3084
Royalties and license fees	401	255	807	1010	1179	1177	1364	1427	2113	2716	3630	2237	1796
Other business	8018	10456	10874	11189	12420	13562	15009	16377	16794	17289	18411	19509	14493
Personal, cultural and recreational	274	391	354	526	634	804	1037	1261	1412	1280	926	1180	1284
Government	-769	-377	-1339	-683	-451	-319	-696	-560	-500	-624	-969	-1726	-1673
Total	**16801**	**15003**	**15562**	**15002**	**17200**	**19632**	**22612**	**28414**	**25742**	**34775**	**46798**	**55356**	**49852**

Source: ONS online data, *Pink Book*, Tables 2.1 & 3.1

Table 4: Trade in goods, summary of exports

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Exports											
Food, beverages and tobacco	9947	9908	9630	9993	10879	10577	10647	10945	11769	13738	14477
Basic materials	2284	2603	2571	2855	3335	3770	3981	4892	5523	6637	5207
Total oil	9123	15584	14815	14321	14608	16200	19794	23173	22756	32212	24624
Coal, gas and electricity	806	1473	1571	1679	1950	1685	1702	2128	1944	3550	2364
Semi-manufactured goods											
Chemicals	23071	24992	27514	28386	31373	32009	33388	37179	38891	43866	46912
Precious stones and silver	3633	4744	4709	4728	5138	4909	5541	4976	4770	6091	3943
Other	16669	17929	18072	17109	17981	19549	20951	22688	24608	26360	20637
Total semi-manufactured goods	43373	47665	50295	50223	54492	56467	59880	64843	68269	76317	71492
Finished manufactured goods											
Motor cars	9585	9178	8046	10297	11183	12108	13074	12557	14294	15443	11892
Other consumer goods	13840	14280	14360	14606	14997	15779	17726	18657	19105	19789	19074
Intermediate goods	36659	41130	42089	40025	37370	36672	38636	42221	37871	40423	38554
Capital goods	33324	37169	37715	34944	31500	29432	38131	55593	29844	33158	29018
Ships and aircraft	5730	7261	6978	6508	7143	7302	6917	7338	8294	9027	8813
Total finished manufactured goods	99138	109018	109188	106380	102193	101293	114484	136366	109408	117840	107351
Commodities and transactions not classified according to kind	1495	1685	1023	1073	863	882	1120	1286	1189	1791	2022
Total	**166166**	**187936**	**189093**	**186524**	**188320**	**190874**	**211608**	**243633**	**220858**	**252086**	**227537**

Source: ONS online data, *Pink Book*, Table 2.1

Table 5: Trade in goods, summary of imports

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Imports											
Food, beverages and tobacco	17787	17660	18485	19375	21187	22150	23695	25013	26747	31141	32250
Basic materials	5429	6307	6442	5958	6139	6338	6770	7887	9561	10998	7601
Total oil	4675	9048	9525	9213	11232	15307	21989	25967	26787	38021	27760
Coal, gas and electricity	753	968	1270	1066	1079	2240	3932	4921	5141	10568	7432
Semi-manufactured goods											
Chemicals	18619	20633	22745	23987	26139	27929	29208	31727	34645	37955	38952
Precious stones and silver	4788	5454	5260	4247	4346	4673	5238	6131	5173	5637	5498
Other	22142	23778	24905	24488	25560	27626	28231	31484	34619	36297	30170
Total semi-manufactured goods	45549	49865	52910	52722	56045	60228	62677	69342	74437	79889	74620
Finished manufactured goods											
Motor cars	14433	13403	16619	17800	18374	18724	18928	19105	21480	19479	16306
Other consumer goods	24905	28011	29953	32414	33477	35093	37684	40689	43798	46144	45579
Intermediate goods	41538	48455	46085	44829	40893	42126	45877	53152	49785	52785	45279
Capital goods	32256	37944	38463	39473	38251	40222	49033	62530	41420	43294	38304
Ships and aircraft	6093	7405	9289	9929	8646	7539	7771	9269	9182	10316	11557
Total finished manufactured goods	119225	135218	140409	144445	139641	143704	159293	184745	165665	172018	157025
Commodities and transactions not classified according to kind	1799	1846	1264	1450	1604	1807	1841	2070	2274	2567	2724
Total	**195217**	**220912**	**230305**	**234229**	**236927**	**251774**	**280197**	**319945**	**310612**	**345202**	**309412**

Source: ONS online data, *Pink Book*, Table 2.1

Table 6: Exports and imports of selected industries

Exports

£ million BOP basis seasonally adjusted

	Manufacture of agriculture, hunting and forestry	Aluminium production	Manufacture of medical orthopaedic etc equipment	Manufacture of invalid carriages	Manufacture of food, beverages & tobacco
1999	1113	909	1479	26	9187
2000	1175	1141	1518	31	9071
2001	971	1087	1775	24	8876
2002	1048	1024	1776	26	9308
2003	1338	997	1985	19	9952
2004	1197	1145	2255	22	9727
2005	1230	1449	2657	20	9811
2006	1247	1845	2979	19	10116
2007	1369	1971	2865	19	10871
2008	1657	1959	3090	12	12657
2009	1572	1295	3212	14	13369
2010	1864	1904	3342	14	14800

Table 6: Exports and imports of selected industries

Cont'd

Imports

£ million BOP basis seasonally adjusted

	Manufacture of agriculture, hunting and forestry	Aluminium production	Manufacture of medical orthopaedic etc. equipment	Manufacture of invalid carriages	Manufacture of food, beverages & tobacco
1999	4898	1219	1310	28	14634
2000	4939	1216	1559	29	14473
2001	5275	1481	1951	37	15125
2002	5689	1435	2020	43	15728
2003	5892	1420	2301	46	17487
2004	5923	1312	2771	48	18419
2005	6468	1470	3230	52	19472
2006	6831	1942	3329	50	20635
2007	7025	2086	3293	35	22058
2008	7958	2166	4037	44	26095
2009	8045	1806	4144	61	27044
2010	8396	2044	3962	47	28136

Source: ONS online data, Trade in Goods Industry BOP MQ10

Notes

Editor's Introduction

1 See Civitas website http://www.civitas.org.uk/pdf/FourIndustries.pdf .

2 HM Revenue and Customs, *UK Trade Info*, 2010 Figures.

3 EU PRODCOM statistics allows for a comparison of UK production, UK exports and UK imports. Unlike using balance of payment data, which is classified in terms of Standard International Trade Classification, and UK production data, which is classified in terms of Standard Industrial Classification, PRODCOM's import, export and production data is all classified the same, and so can be compared. PRODCOM statistics are compiled annually by the ONS. Information is gathered on manufactured items and the survey covers 21,500 businesses, 234 industries and 3,866 products. The data can be used across the EU and so the EU sets standards for data collection, which are as follows: In each Member State at least 90 per cent of production in each (four digit) class of NACE Rev. 1 product must be recorded, and any enterprise of 20 or more employees should be taken into account.

4 PRODCOM and HMRC trade data.

5 HM Revenue and Customs, *UK Trade Info*, 2010 Figures.

6 The British Glass Manufacturers' Confederation, *UK Glass Manufacture A Mass Balance Study*, 2008.

7 UK Steel, *Key Statistics*, 2010.

8 Excluding goods vehicles and motor caravans for more than ten people.

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1 Nickell, S., *The UK Current Account and All That*, Bank of England Quarterly Bulletin, 2006.

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1 Reece, A., 'Britain's Economy: The Disaster after This', in Lee, R. (ed.), *Nations Choose Prosperity: why Britain needs an industrial policy*, Civitas, 2009.

2 Pitt-Watson, D., *Tomorrow's Investor, Pensions for the People*, Royal Society of Arts, 2009; Lea, R. and Nicholson, J., *British Energy Policy and the Threat to Manufacturing Industry*, Civitas, 2010.

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2 Merlin-Jones, D., '"Rock Solid?" An Investigation into the British Cement Industry', Civitas online report, November 2010; www.civitas.org.uk/pdf/CementMerlinJones.pdf

3 Merlin-Jones '"Rock Solid?" An Investigation into the British Cement Industry'.

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5 Lea and Nicholson, *British Energy Policy and the Threat to Manufacturing Industry*.

Appendix

1 Nickell, S., *The UK Current Account and All That*, Bank of England Quarterly Bulletin, 2006.