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Consumer Habits and Innovation

How do our spending decisions shape the economy?

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The Big Innovation Centre is an initiative of The Work Foundation and Lancaster University. Launched in September 2011, it brings together a range of companies, trusts, universities and public bodies to research and propose practical reforms with the ambition of making the UK a global open innovation hub as part of the urgent task of rebalancing and growing the UK economy, and with the vision of building a world-class innovation and investment ecosystem by 2025.

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Executive summary

The UK's only viable route to sustained growth is a major improvement in its international competitiveness and trade performance, which can only come through innovation. But too often, thinking on innovation is limited to questions of technology and science. Innovation policy tends to focus on enabling R&D, increasing patent registrations, technology transfer and other similar measures. While technology plays a central role in innovation, it is only part of the picture. The process of commercialising new ideas, of turning them into things that people want, is equally important, and needs to be considered much more prominently within innovation policy. This paper is an attempt to shift the innovation debate towards a greater focus on consumers, whose decisions and purchases play a key role within the innovation process. Unless the UK gets better at capturing the tastes of global consumers, it will be hard to drive through an innovation-led recovery.

This report looks at innovation through the lens of consumer spending, focusing on the markets that have been fastest growing and most innovative over the past decade and a half. We consider how consumer preferences have changed, and what impact these changes have had on the shape of the UK economy and its trade performance. Our analysis highlights several worrying trends:

- The **UK economy is relatively weak in the fastest growing and most innovative consumer markets**, including clothing and consumer electronics. Growing demand in these areas is increasingly being met by imports, rather than domestic production.
- In most of these key consumer growth markets, the UK runs a substantial trade deficit, suggesting that **the preference of consumers for imports is holding back and creating serious imbalances in the UK economy**.
- Some parts of the UK economy, particularly retail, have been successful at adding and capturing value from imported goods, while other sectors, such as business services, have made significant contributions to UK exports. **However, changes in the services sector alone will not solve the UK's consumer-driven trade problem.**

The UK has real strengths in some areas of manufacturing, such as pharmaceuticals, and in business services like law, computer consultancy and design. But these industries do not export enough to make up for the UK's large trade deficit in consumer products. It will be hard to generate lasting economic growth if the UK does not export more of what global consumers want to buy. There are two key ways in which UK policy makers should seek to solve this innovation and trade problem:

- **The UK should export more of what it is good at.** Removing barriers to export for UK services – especially business services – should be an important part of the UK's economic strategy. However, services are difficult to export *en masse*, and so there is a limit to the potential benefits from such policies.

- **Supporting investment and innovation in the most innovative consumer markets of the future.** Whilst the consumer growth markets of recent decades are already firmly established, the UK has an opportunity to get ahead in the fast-growing markets of the next twenty years, and put in place the conditions to enable businesses to flourish in these areas. To help achieve this, policy makers must combine intelligent foresight and investment in disruptive technologies with measures to promote the creation of new growth markets.

Future research from the Big Innovation Centre will look at the role of policy in overcoming the substantial barriers businesses face when creating new markets. Part of this challenge is about spotting, creating and investing in new technologies. The other side to the challenge, which has too often been overlooked, is about the customer. The UK must get better at making things that people want, and become more aware of what is needed to create new markets.

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Chapter 1 Introduction

Consumer spending is the biggest source of growth in the UK economy, and the things that we as consumers buy play a huge role in shaping the economy. Some businesses sell their wares directly to consumers, while others operate in the background, supporting other businesses, but they all derive a large share of their demand from consumer spending.

Consumer spending patterns are a key part of the process of innovation. Innovation helps to shape the things we buy, but it also depends on consumer tastes; after all, innovation can only be successful if it creates products and services that people want to buy. It is no surprise that many of the fastest growing consumer markets – such as for consumer electronics – are often those that experience rapid innovation.

The Big Innovation Centre believes that innovation and the growth of the UK economy stem from the innovation ecosystem that forms between businesses, the state and a wide range of institutions. Consumers are as much a part of this innovation ecosystem as anything else. Consumers help to select and set the value of new ideas, and their choices play a vital role in shaping the commercialisation of new ideas. They also shape the thinking of businesses, either through their choices, or directly as co-creators of innovation. Any model of an innovation ecosystem that excluded consumers would be a weak one. That is why the Big Innovation Centre is pursuing research into the role of consumers in innovation.

Data on consumer spending also provides a useful lens through which to look at the UK's innovation performance. This paper looks at how patterns of consumer preferences have changed over the past decade or so, and considers how this has shaped the economy. The analysis gives us an insight into the fastest growing markets in the UK economy, and the extent to which the UK economy has benefited from these markets.

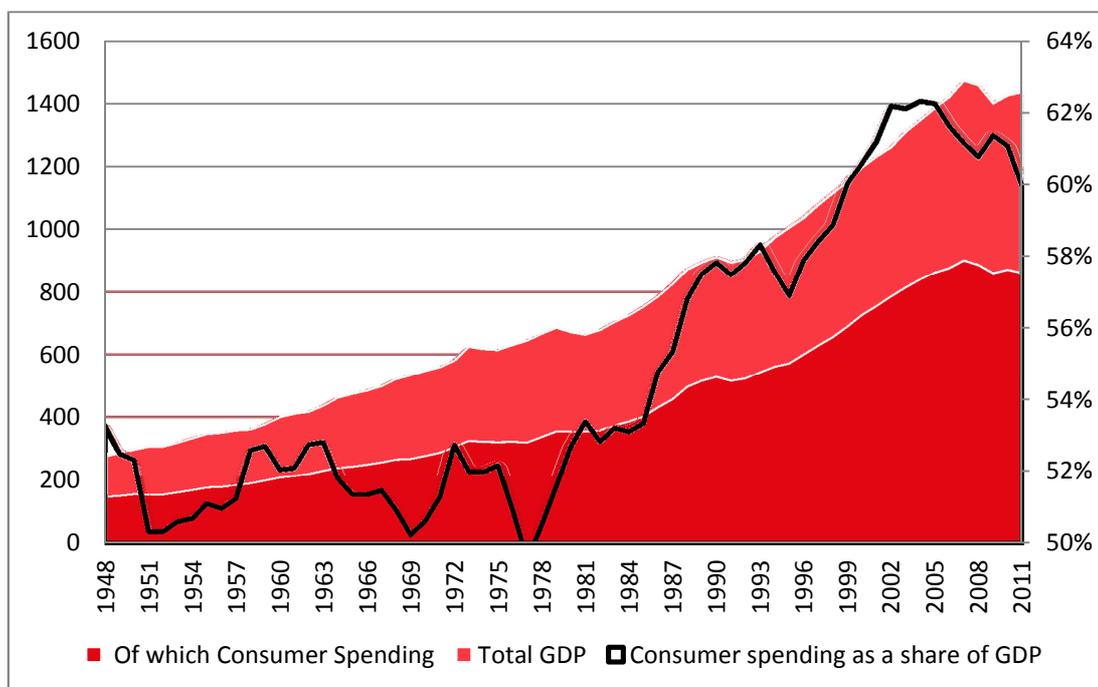
How important is consumer spending to the economy?

Consumer spending by households is the largest component of aggregate demand, equivalent to over 60% of GDP, and this proportion has grown significantly since the 1980s.¹ Since they comprise such a large component of UK spending, changes to household consumption are a significant driver of changes to UK economic output. Data illustrated in Figure 1 shows how consumer spending and GDP have changed since 1948. Between 1997 and 2009, the period covered in detail by this report, more than two thirds of GDP growth was driven by consumers, compared to around a quarter by government spending and 15% by investment from business and households. The deterioration in the UK's trade

¹ Source: ONS United Kingdom Economic Accounts, Q1 2012.

balance between 1997 and 2009 reduced GDP by just under 10%, meaning that these three previous figures sum to more than 100%. It is clear from these figures that consumer spending is a key factor in determining how the economy changes, and how quickly it grows.

Figure 1: Consumer spending and GDP since 1948 (£bn)



Source: ONS – United Kingdom Economic Accounts, Q1 2012.

Note: All prices in Chained Volume Measures at 2009 prices. Consumer Spending is the National Concept (ie, includes expenditure of UK residents abroad, but excludes spending of non-UK residents in the UK).

Consumer spending has steadily increased as a share of GDP since the 1980s, as the black line plotted on the right-hand axis in Figure 1 shows. Having averaged around 55% of GDP between 1948 and 1979, consumer spending has grown to account for over 60% of the economy since then. This reflects the fact that consumer spending has been the main source of growth in final demand in the UK economy over the past 30 years.

Consumer decisions are extremely important to innovation. If consumers are unwilling to buy newly developed consumer products, then the economic impact and benefits of those innovative products will be small. Similarly, innovations in the processes used to make consumer goods and services help businesses to lower the cost of those products, meaning consumers are able to purchase a greater quantity.

Consumers also play a role in helping new technologies to evolve and mature, as critical lead users (Von Hippel 1986) or as co-creators. This informed feedback and adaptation can help to increase the value-added in innovative new products. Having sophisticated consumers who engage in this type of behavior may also help to attract innovative firms to the UK, and to make the development of new markets more successful. At the same time, there is a wide range of ways for consumers to get directly involved in developing new ideas,

from open source projects to crowd-sourcing exercises.

Future research from the Big Innovation Centre on market making and innovation will explore the links between the consumer and innovation further.

Methodology

The main analysis used in this report looks at changes in the volume of consumer spending in different product categories between 1997 and 2009. This data is drawn from ONS Consumer Trends data, and also used as part of the Supply and Use Tables. This data enables us to look at changes in the things that UK consumers buy, and identify the fastest growing consumer markets.

The report also considers how these changes in consumer markets affect the shape of the economy by looking at export and import patterns, plus domestic production for different product categories. This data is drawn from the ONS Supply and Use Tables. Further analysis comes from the OECD STAN database, and from various aspects of the literature.

Our analysis of consumer spending has deliberately excluded imputed rentals paid by owner-occupiers of housing, and FISIM (Financial Intermediation Services Indirectly Measured), because both measures are implied estimates rather than direct consumer spending. As a result, it is not as easy to conceive of these as consumer markets as such.²

The most significant methodological challenge in this paper arises from the difference between a 'market' (defined here as a category of product or service that consumers buy) and an 'industry' (a business sector that produces different products and services). While there is often a neat parallel between markets and industries (for example, the market for clothing is mostly provided for by the clothing industry), this is not always the case and industries often span several different markets. This distinction becomes a problem when trying to match consumer markets with import and export patterns. Our solution to this problem is to match consumer spending onto industries using data in the Supply and Use Tables, and then take a weighted average of import and export shares for the industries supplying those markets.

Box 1: The difference between volumes and prices in consumer spending

This report analyses consumer spending primarily in terms of volume measures. That means that the price level for each product type is held constant over time, to measure the actual amount of the product being consumed.

² In order to exclude FISIM we need to remove all financial services, as the data source used for imports and exports in this report does not separate out both components.

However, each of the product categories used in this report has a price level that changes at a different rate. Some of the product types have fallen in price since 1997, others have increased. Of course, these price changes have effects on the volume of products consumed. In general, products whose prices fall tend to see their volume of consumption increase.

But these variations in product price levels give rise to a serious challenge of interpretation. The problem is that if the price of a product type falls significantly, the amount consumers spend on it may also fall, even if the volume increases. As it turns out, many of the areas that have taken up a larger share of consumer spending – particularly fuel and housing – have done so mostly because their prices have increased so much. These areas have not seen very large increases in the volume consumed, but they take up more of consumer budgets because they are so much more expensive.

What does this mean for the analysis presented in this report? We have focused on growth in the volume of consumer markets, because this better reflects the most innovative, productive markets, and those that have benefited consumers the most. These markets have mostly seen prices fall (indicating that they have become more productive) and have increased their output most significantly,³ which is why we have chosen to focus on them. When we talk about fast-growing markets in this report, we are referring to increases in the volume consumed unless otherwise stated; but that does not mean that we spend more of our income on them.

The paper proceeds in four sections:

- Section 1 looks at recent trends in consumer preferences, including rapid growth markets.
- Section 2 considers how the UK captures value from these fast-growing markets.
- Section 3 looks at the outlook for future consumer spending patterns.
- Section 4 concludes by considering the policy implications arising from this analysis.

³ In some cases, particularly concerning consumer electronics, volume measures fail to capture rapid improvements in the quality of products (eg rapid increases in computer processing power).

Chapter 2 Recent consumer trends and their effect on the economy

How have the UK's consumption patterns changed?

As noted in the introduction, consumer spending is the principal driver of demand in the UK economy. By looking at consumer spending at the level of individual product classes, we can get an idea of which types of goods and services have been purchased in greater quantities by consumers over recent years. Table 1 shows the 15 markets with the largest increase in consumer demand between 1997 and 2009.

Table 1: The markets with the fastest growth in consumer demand, 1997-2009⁴

Market	Change in volume of consumption 1997-2009 (2008 £bn)	Change in volume of consumption (%)	Consumer spending 2009 (2008 £bn)
Clothing	31.6	238%	44.8
Consumer electronics	20.7	779%	23.4
Other recreational equipment	15.4	132%	27.1
Vehicles	10.3	37%	37.9
Telephone services	8.1	124%	14.7
Personal care	7.1	52%	20.6
Transport services	6.1	26%	29.7
Recreational and cultural services	5.2	21%	29.4
Food	5.1	8%	67.8
Operation of transport equipment	4.4	8%	56.2
Footwear	4.3	146%	7.2
Alcoholic beverages	4.2	45%	13.5

⁴ We exclude from the analysis imputed rents for owner-occupiers and financial services indirectly measured (FSIM), as these are not paid explicitly by consumers.

Other major durables for recreation and culture	3.3	88%	7.2
Furniture	3.0	26%	14.7
Medical products	3.0	59%	8.0
Total	230.9	37%	858.2

Source: ONS – Consumer Trends Q4 2011.

Several interesting points stand out. Firstly, some specific products have experienced particularly large increases in consumer spending. In 2009, UK consumers bought almost eight times the volume of consumer electronics products than in 1997, and more than twice as much clothing. Secondly, most of these markets were fairly small in terms of consumer demand in 1997, and have grown extremely fast since then. In particular, households bought considerably smaller amounts of clothing, consumer electronics, telephone equipment and telephone services at the beginning of the period. By contrast, some of these markets – such as food, and operation of transport equipment – are large markets that have grown relatively slowly in percentage terms, but make the list because of their absolute increase. Caution must be taken against labeling all of these markets as equally fast-growing.

Finally, other than telephone and health services, all of the top 15 fastest growing consumer products are goods, and indeed this is reflected across all consumer products; goods demand rose by 62%, but consumer demand for services grew far less at 17% over the period. This looks surprising, given the ongoing shift in the economy away from manufacturing and towards services, but may be explained by different relative price changes between goods and services, as explained in the next section.

Changing consumer prices and their effect on consumer preferences

As explained above, the growth of the markets identified above has been measured in terms of volume. But how have the prices of these products changed, and what effect have they had on consumer preferences?

Between 1997 and 2009 the general price level faced by consumers increased by around 20%, but this was driven primarily by increases in the price of services, which rose by 50%, and non-durable goods such as food and fuel, which rose by 40%. In comparison, the prices of semi-durable and durable goods fell by 38% and 32% respectively, meaning there is considerable variation in price level changes across these markets. Table 2 presents a full breakdown of price changes.

Table 2: Changes in price level for each growing consumer market

Market	% Change in consumption 1997-2009	% Change in price 1997-2009
Clothing	238%	-52%
Consumer electronics	779%	-81%
Other recreational equipment	132%	-21%
Vehicles	37%	-8%
Telephone services	124%	-23%
Personal care	52%	16%
Transport services	26%	43%
Recreational and cultural services	21%	50%
Food	8%	36%
Operation of transport equipment	8%	64%
Footwear	146%	-35%
Alcoholic beverages	45%	11%
Other major durables for recreation and culture	88%	24%
Furniture	26%	11%
Medical products	59%	14%
Total	37%	22%

Source: ONS – United Kingdom Economic Accounts

Most of the fastest growing consumer product markets – especially clothing, consumer electronics, recreational equipment and vehicles – have seen significant falls in their price levels, and most have seen lower price changes than the average across all products. These price falls are most likely a big part of the reason why the volume of consumer demand for these products has increased so significantly. In other words, these fast-growing markets appear to have been extremely innovative. Prices have fallen (suggesting strong productivity growth), while demand has increased (suggesting the continual development of newer and more valuable products). That generates huge benefits for consumers, who get more products at a lower cost.

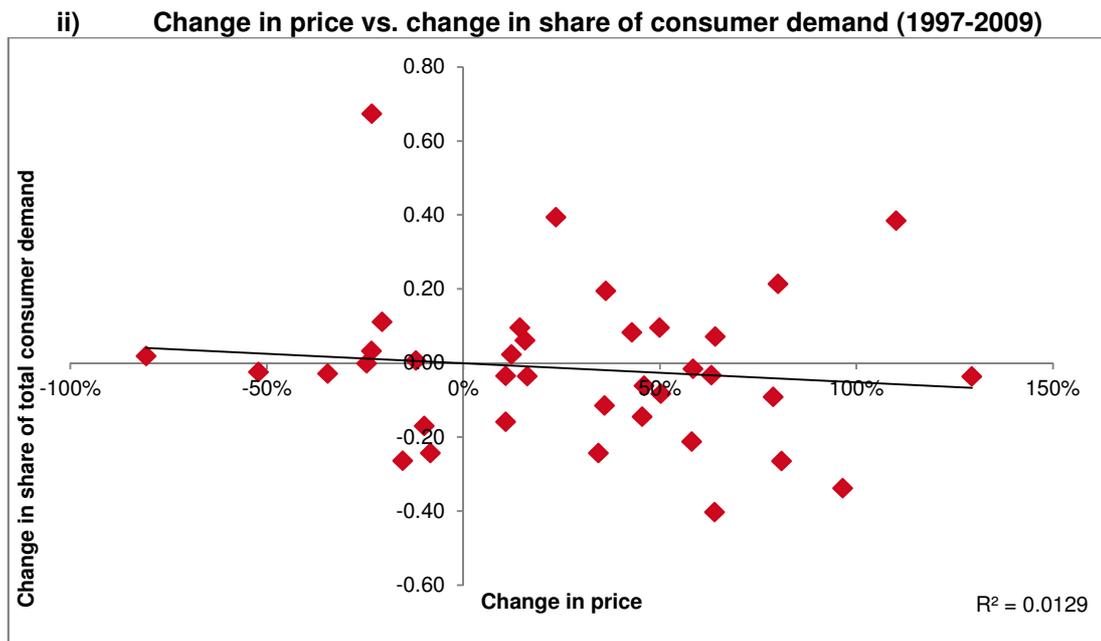
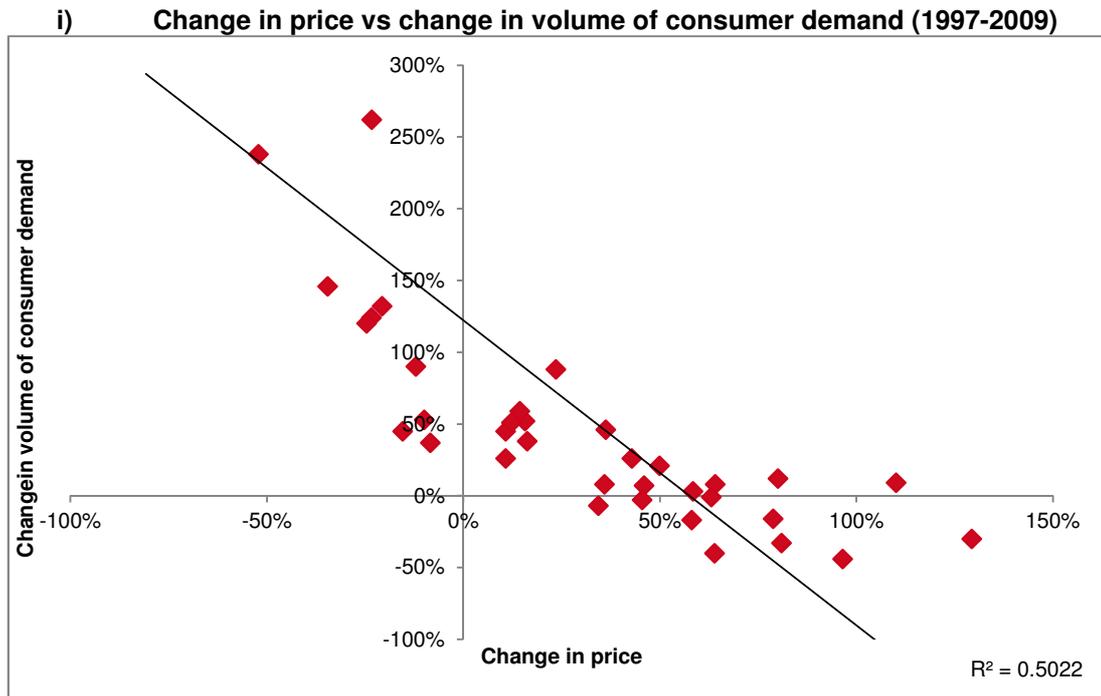
Why have these growth markets seen such rapid innovation and increases in productivity? Advances in technology have made new or previously expensive electronics much cheaper,

better quality, and available to a wider group of consumers. Revolutions in the way production is organised internationally have meant the cost of lower-tech goods such as clothing has fallen dramatically. Increased global competition has also played a part, both due to lower wage costs in emerging economies (this has been a particularly significant factor in clothing) and increased pressure on firms to innovate and cut costs.

But the rapid innovation and growth in demand in these fast-growing consumer markets do not necessarily mean that consumers spend a larger share of their total income on them. In fact, it is in areas where prices have risen where consumers are spending more of their money. Electricity and fuel costs more than doubled from 1997 to 2009; as a result, they took up a significantly larger share of consumer spending, despite growing by just 9% in volume terms.

The chart i) in Figure 2 shows a correlation between price increases and increases in the volume of consumption; chart ii) repeats it for prices against change in the share of total consumer spending. There is a reasonably strong negative correlation on the volume chart; real consumption tended to increase for products that got cheaper. But for the price chart, there is no correlation whatsoever. For some product types, higher prices meant consumers dedicated more spending to them; for others, higher prices reduced consumption sufficiently to override this price effect.

Figure 2: The relationship between price changes and consumer demand⁵



Source: ONS Consumer Trends 2011

The split between manufacturing and services

Another angle to the distinction between price and volume is the split between manufactured

⁵ Excluding consumer electronics, which, with growth in demand volume of more than 700%, skews the results.

goods and services. The price of manufactured goods fell significantly, by 3%, while volume consumed increased by 62%. Meanwhile, the price of consumer services⁶ rose by 49%, with volumes increasing by just 17%. So while consumers were able to buy far more goods at lower prices, real consumption of services was limited by price increases.

This suggests that the markets for manufactured goods have been significantly more innovative – or at least have become more productive – than the markets for consumer services (although not necessarily the services sector as a whole). Part of this shift is probably down to increased globalisation and competition in the manufacturing industry, with competition, innovation and lower wages from overseas boosting productivity and driving down costs. This also chimes with the findings of a Nesta growth accounting exercise (Haskel, et al. 2011), which calculated that manufacturing contributed 42% of innovation in the UK market sector.

Despite this significant innovation in the manufacturing sector, the next two sub-sections suggest that the UK economy has not benefited from the growth in consumer goods markets by as much as expected. What is clear, however, is that there has been a huge amount of innovation in the global manufacturing industry over the past decade or so, especially in consumer-facing markets.

How have these changes influenced UK imports?

As described previously, shifts in the composition of consumer demand have a large effect on the structure of the economy and its international trade picture. If consumers demand more of a specific product such as clothing, either domestic production or imports of that good have to increase in order to satisfy demand. Looking initially at imports, Table 3 shows the percentage of consumer demand that was met through imports for the 15 fastest growing consumer products between 1997 and 2009.

⁶ It is important to note that consumer services represent only a relatively small share of total services sales; the majority of services are sold from business to business.

Table 3: Import share of supply for high-growth consumer markets

Market	Change in volume of consumption 1997-2009 (2008 £bn)	Share of demand met by imports 2009 (%) ⁷	Percentage point change in import share 1997-2009 ⁸
Clothing	31.6	34%	7%
Consumer electronics	20.7	41%	6%
Other recreational equipment	15.4	22%	4%
Vehicles	10.3	29%	1%
Telephone services	8.1	9%	5%
Personal care	7.1	17%	4%
Transport services	6.1	16%	0%
Recreational and cultural services	5.2	8%	-1%
Food	5.1	21%	6%
Operation of transport equipment	4.4	14%	7%
Footwear	4.3	43%	5%
Alcoholic beverages	4.2	18%	1%
Other major durables for recreation and culture	3.3	31%	5%
Furniture	3.0	25%	7%
Medical products	3.0	30%	4%
Total goods	154.1	29%	5%
Total services	63.7	6%	1%

Source: Column 2 drawn from ONS Consumer Trends (Q1 2012). Columns 3 and 4 drawn from ONS Supply and Use Tables (2011 edition), and include authors' calculations.

Compared to the average across consumer demand (13%), all of the fastest growing

⁷ The share of imports figures are calculated as a weighted average of the import share of supply of those industries that supply these products to consumers; this method is used because the markets and industries do not always match up, as outlined in the Methodology section. These figures show imports as a share of total supply / demand, which includes domestic production; imports; retailers' margins; and taxes less subsidies.

⁸ This change is the percentage point shift since 1997 in the share of imports met by demand figure. So if the share of imports was 27% in 1997, and 34% in 2009, the change figure will be 7%.

products, with the exception of telephone services and recreational and cultural services, have a larger share of their demand met through imports.

Since many of the fastest growing consumer markets are for goods, which tend to be more easily tradable across countries, we would perhaps expect this result. But even when compared to the national average import share of goods (29%), five of the fastest growing consumer markets – consumer electronics, clothing, footwear, medical products and recreational durables – are supplied by imports to a greater than average extent.

Looking at how import shares of supply have changed over time, all of the fastest growing consumer markets are also increasingly supplied via imports, with the exception of transport services and recreational services. This implies that not only has consumer demand risen for internationally-facing goods, but also that those goods became more internationally-facing throughout the period. This reflects the increasingly international nature of markets and continued trade liberalisation, as well as consumer demand changes being targeted at tradable goods in particular.

This should not necessarily be interpreted as a negative development. As seen in the previous section, continued trade liberalisation and openness to imports has lowered the price of many consumer goods. It has been a major boost to welfare in the UK, and has made consumers considerably better off. But it can also be said that, whilst consumer demand makes up a significant proportion of spending in the economy, the UK does not seem to have been successful in producing the goods that consumers increasingly want to buy.

The UK's trade performance in high-growth consumer markets

As many of the high-growth consumer products are goods, and therefore expected to be internationally-facing, it is important to consider the export as well as the import sides of these markets. The UK has for a considerable period experienced a substantial trade deficit in manufactured goods, and a smaller trade surplus in services. The UK's trade performance in high-growth consumer markets tells us whether this picture is the same or different for those specific products that experienced significant growth in consumer demand in recent years.

Table 4 lists trade indicators for those 1997-2009 high-growth consumer markets with readily available import and export data.⁹

⁹ Trade balance data (consisting of export data and import data) is not readily available for many consumer markets, because exports cannot be directly related back to domestic consumer markets. As a result, we have only provided export and trade balance data where industries match closely to markets. This means the consumer product categories in Table 4 do not match those used in Tables 1-3.

Table 4: UK trade in high-growth consumer markets, 2009¹⁰

Market	Exports (2009 £bn)	Imports (2009 £bn)	Trade balance (% of GVA)	Trade balance (£bn)
Clothing	5.6	16.3	-718%	-10.7
Consumer electronics	22.5	39.8	-197%	-17.3
Vehicles	19.3	27.3	-183%	-8.1
Telephone services	4.5	4.1	2%	0.5
Personal care	3.9	3.7	10%	0.2
Operation of transport equipment	13.0	15.0	-251%	-2.0
Footwear	1.8	5.1	-149%	-3.3
Alcoholic beverages	5.3	7.0	-57%	-1.7
Furniture	0.8	4.1	-114%	-3.3
Medical products	21.2	14.2	63%	7.1
Other manufactured goods	7.9	10.8	-106%	-2.9
Goods	205.5	285.4	-63%	-79.9
Services	165.0	96.6	7%	68.4

Source: ONS Supply and Use Tables 2009

What this shows is that for most of the high-growth consumer markets included, the UK ran a substantial trade deficit, with imports larger than exports. For several, including clothing, consumer electronics and vehicles, the deficit is particularly large. Taken together, these three products alone account for more than 40% of the UK's deficit in goods. There is a sizeable surplus in medical products, reflecting the UK's leading position in the global market for pharmaceuticals, and smaller trade surpluses in telephone services and personal care

¹⁰ These figures are calculated using the ONS Supply and Use Tables for 2009, which map consumer spending by product onto output by industry. Since this is not a one-to-one mapping, several consumer products are excluded from this table as they do not map precisely onto specific industries. Recreational equipment and durables, for instance, encompasses output from a wide range of industries including animal feed, motor vehicle production and publishing services. The products included are all reflected in the economic activity of a single classifiable industry, other than 'other manufactured goods', which is included since it includes many of the recreational and personal effects products that have seen large growth in consumer demand. The table is sorted by trade balance, with the largest relative trade deficit (in clothing) at the top and the greatest surplus (medical products) at the bottom.

products. On the whole, however, the increasingly internationally-facing nature of high-growth consumer markets has been reflected mainly through increased imports and has not featured a compensating rise in exports.

Initially these findings seem worrying, suggesting that in many key high-growth product markets the UK may be missing out. Whilst UK consumers have a great appetite for certain goods and services, UK producers have been unable to meet this demand through domestic production, leaving it to imports to fill the gap. The reasons for this are likely to be complex. For some products such as clothing and footwear, it is likely the labour cost differentials between the UK and other producer countries are so large and persistent that domestic manufacturers cannot compete to supply UK consumers with clothes. For consumer electronics, the UK may have lacked the complex supply chains and innovation ecosystems that gave many other advanced and developing countries an early lead in these types of products.

Nonetheless, the fact that the UK was unable to capitalise fully on these particular markets has meant the UK's historically high trade deficit is increasingly driven by the preferences of domestic consumers for imported goods, and by a relative lack of exports in global consumer goods markets.

Is this true in general for all advanced countries? A recent report (Dobbs, et al. 2012) looked at the trade patterns of advanced economies and found that the composition of the UK's longstanding trade deficit is in fact very different to most comparable countries.

The majority of advanced economies have a trade deficit driven by large imports of primary resources such as oil and gas, smaller trade deficits in non-advanced manufacturing, and a trade surplus in advanced, knowledge-intensive manufacturing. The UK on the other hand, with substantial domestic production of oil, has a smaller primary resources deficit, but has much larger deficits in all forms of manufacturing than the international advanced economy average.

What this means is that whilst it may be factually incorrect to label most advanced economies as having a trade deficit purely driven by their lack of manufacturing, this is the correct diagnosis of the UK's trade problem. This reinforces our view that consumers' recent appetite for imported goods is a large driver of the UK's trade deficit and a worrying trend for the UK economy.

Chapter 3 How does the UK capture value from imported consumer goods?

The first section of this report analysed recent consumption patterns in the UK, finding that we are not manufacturing the goods that consumers increasingly want to buy, and that this damages the UK economy through its negative effect on the trade deficit. But these figures do not tell the full story. When a UK consumer purchases an imported product, not all of the value flows to the international manufacturer. It may have been designed or marketed in the UK; the retailer that provides the consumer with the product will take a margin; and they in turn will spend on outsourcing business functions such as logistics. These three methods of adding/capturing value can be summarised as follows:

- **Retailer's margins:** Retailers place mark-ups on imported goods, firstly in order to cover their basic costs such as transport and rent, and secondly to reflect the value they add to goods through efficient design and management of supply chains; branding; and customer service.
- **Outsourcing:** The basic costs paid by retail outsourcing flow into other sectors of the economy such as logistics and business services.
- **Trading value-added:** Many goods that are imported into the UK were originally developed, branded and marketed by UK businesses, with manufacturing and assembly taking place internationally.

Consumer spending on imported goods therefore generates a great deal of economic activity in the UK, which can partly explain why the UK service sector has grown so much. In this section we look at these three ways of capturing value.

The importance of retailers

Retailers play a vital role in getting goods into the hands of consumers. In the case of many product markets, retailers add significant amounts of value to domestically produced and imported goods. Of the total value of manufactured goods in the UK, approximately a quarter flows to retailers through margins.¹¹ Some of this figure reflects costs associated with real estate, logistics, and other inputs into the retail and wholesale industry, but a significant amount represents value added through workers, the efficiency of retail and wholesale processes, their importance as a price-setter in supply chains, and branding and design. Indeed, wholesale and retail are extremely important to the UK economy as a whole, accounting for approximately a tenth of UK GVA and a similar proportion of its employees.¹²

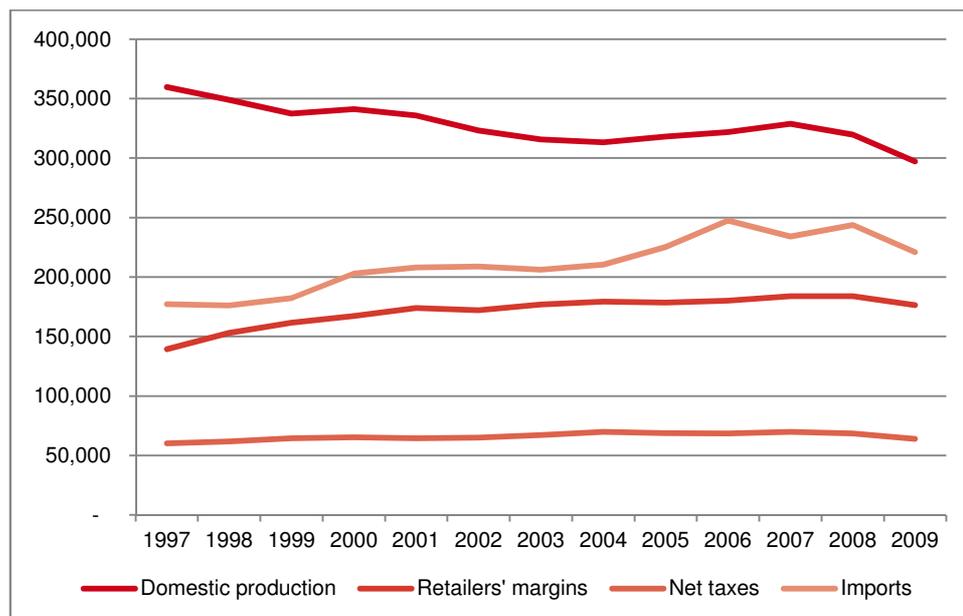
Figure 3 illustrates the evolution in the supply of manufactured goods between 1997 and

¹¹ By way of comparison, domestic production accounts for 39% and imports 30% of total manufacturing supply.

¹² GVA figure from ONS Supply and Use Tables 2011. Employee figure from ONS Business Register and Employment survey 2009.

2009. Domestic production fell fairly steadily throughout the period. Imports rose substantially, before falling slightly throughout the financial crisis and subsequent recession. What is more interesting, however, is the rise in retailer margins between 1997 and 2009. This reflects the increasing importance of retail and wholesale to the supply of goods, and their ability to capture an increasing share of value, something often missed in debate around the UK's trade deficit.

Figure 3: Components of goods supply, 1997-2009 (£m)¹³



Source: ONS Supply and Use Tables 2009

The growing importance of retail margins makes the fall in domestic production and corresponding rise in imports marginally less concerning, as it implies the UK's distributors are capturing an increasing share of the value of goods sales. But it is still the case that the UK has a substantial trade deficit in goods, one not matched by a sufficiently large surplus in services. Retail is not an export industry, and cannot compensate for problems with the UK's trade balance. Further, growth in imports between 1997 and 2006 was greater and faster than the growth in retailers' margins, although the latter held up better during and immediately after the recession.

Box 2: Could online retail become an export sector?

Although retail plays an important role in the UK economy, it is not an export sector. However, continued innovation in the retail market – particularly around online retail – may create opportunities for the UK to generate exports from the sector. The share of all UK retail sales carried out over the internet has grown from 3.4% in 2007 to 8.3% in 2011, with internet sales worth over £500 million a month in May 2012 according to the ONS. A report

¹³ Deflated using a 2007 prices GDP deflator.

from Boston Consulting Group (Boston Consulting Group 2012) puts the internet's share of retail sales slightly higher, at 13.5% in 2010, and forecasts that it will increase to 23% by 2016.

The UK is among the world's fastest adopters of online shopping, ranking second in the EU-27 in terms of online expenditure, and first on a measure of internet engagement (Boston Consulting Group 2012). When this rapid adoption of ecommerce is combined with the strength of the UK's retailers and the UK's competitive computer services sector, it appears that online retail has the potential to be an important source of comparative advantage for the UK economy.

But could retail become a significant export sector? The shift to online retailing may create opportunities for exports, either directly (with UK retailers selling products to customers around the world), or indirectly, through technical IT support provided to overseas retailers. Turning UK retail sites – and perhaps web addresses, such as “.co.uk” – into trusted international brands might help promote retail exports.

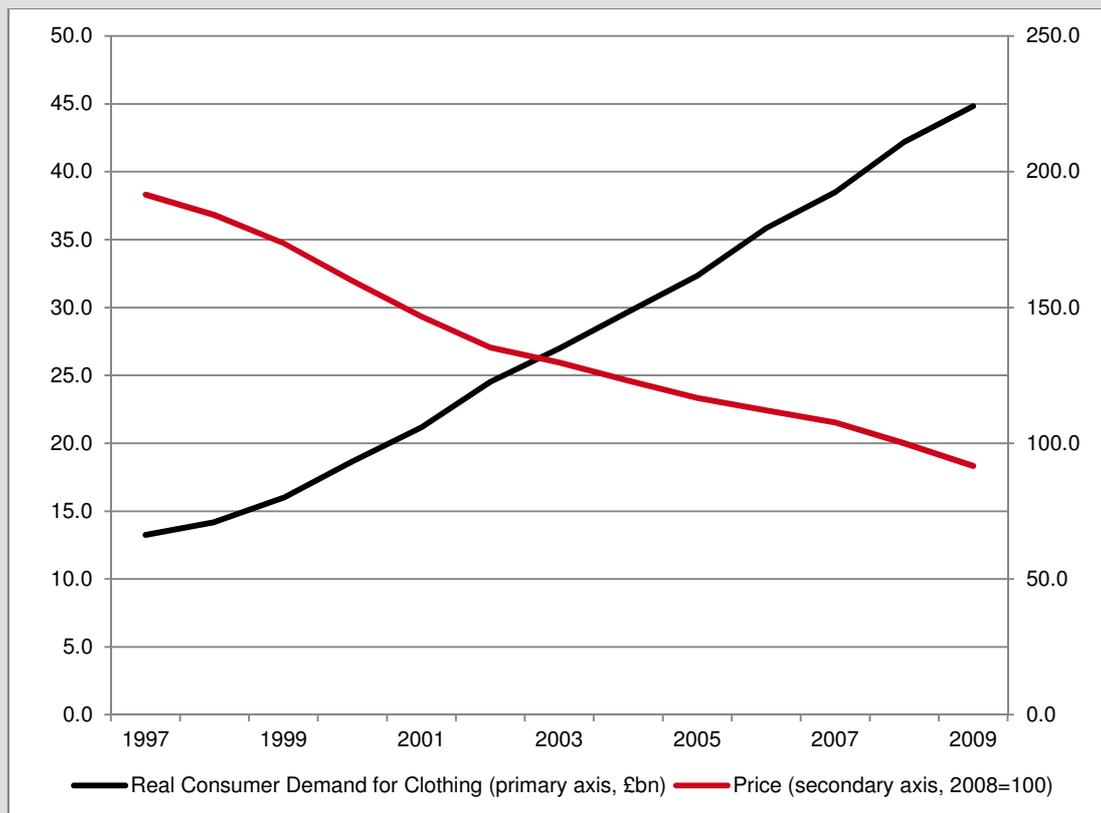
On top of the shift towards online shopping, the continued development of 3D printing technology may also provide an opportunity for retail to develop into an export sector. If there is a further unbundling of manufacturing supply chains, such that consumers can order a personalised product online and have it manufactured locally to them, the design and retail elements of this process may become more valuable and more tradable. This may provide an opportunity for UK based retailers and designers to sell digitised versions of products around the world, and significantly boost UK exports.

These developments are largely hypothetical at this stage, and have some way to go before reaching maturity, but they merit consideration from government as potential future export markets.

Box 3: UK clothing retail

As noted earlier, clothing products have proved massively popular with British consumers in the last decade or so. In 2009 UK consumers purchased almost two and a half times the volume of clothing they bought in 1997. What caused this massive increase? It is likely trade liberalisation and the increasing efficiency of clothing supply led to a large drop in the price of clothing, which stimulated a large increase in consumer demand. Figure 4 illustrates this using the evolution of clothing price and consumer spending on clothes.

Figure 4: Consumer spending on clothing (£bn) and its price, 1997-2009



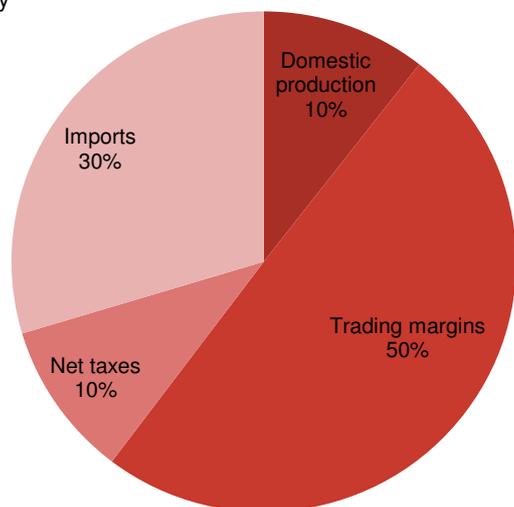
Source: ONS Consumer Trends

This shows a fairly stark negative correlation between the two, suggesting that price may have had a strong effect on consumer demand for clothing. It is also likely other factors such as rising incomes and changing preferences had an important role in the large rise in spending on clothing.

Figure 5: Shares of clothing supply 1997 and 2009¹⁴

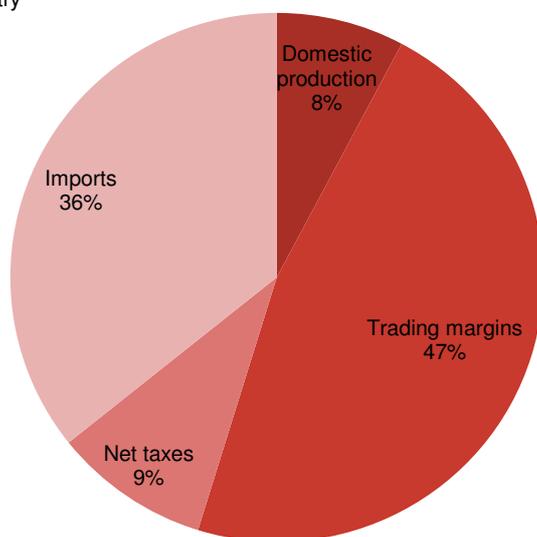
i) 1997

Total supply of the clothing industry (2009 prices): £13.8bn



ii) 2009

Total supply of the clothing industry (2009 prices): £45.6bn



Source: ONS Supply and Use Tables 2011 and ONS Consumer Trends 2011

¹⁴ Total figures deflated by a consumer price deflator for clothing. Total supply of clothing in 2009 does not exactly match total consumer demand for clothing in 2009 (see Table 1); this is because Figure 5 shows total supply of the clothing *industry*, which is close to but not exactly the same as demand for clothing *products*.

How was this massive increase in demand met? Figure 5 plots the shares of each component of clothing supply in 1997 and 2009. In 1997 approximately 10% of the supply of clothing was produced domestically, and this fell to 8% in 2009. Conversely, imports increased from around 30% of supply to 36% over the same period. There was indeed a slight shift in clothing supply from domestic to overseas producers, although it was fairly small.

What is surprising, in the case of clothing specifically, is the strength of retailers in capturing value. In 2009 approximately 47% of the supply of clothing was accounted for by the margins of retailers. Whilst this is down from their share in 1997 (50%), it is still striking that they capture by far the majority of the value of clothing sales. Indeed, since the market for clothing grew over the period, with consumers purchasing many more clothes in 2009, the largest proportion of that increase in sales was captured by retailers and not by domestic or overseas producers.

(Dicken 2010) explains this pattern as arising from the highly concentrated purchasing power of a small number of large retail chains, allowing them to drive down prices paid to clothing manufacturers globally, combined with rapid fashion cycles needing equally as rapid production cycles. The global market for clothing has therefore become increasingly 'buyer-focused'.

But, as noted in table 3, in 2009 the UK ran a substantial trade deficit in clothing, at over 700% of GVA in the UK clothing sector. This is up from a smaller but still large deficit of 242% of clothing GVA in 1997. This fits with the conclusion of a trade liberalisation-driven fall in the price of clothing increasing demand for imports. Whilst UK retailers have managed to capture a significant portion of value from clothing imports, the large volume of imports is still worrying, and accounts for around an eighth of the UK's total trade deficit in goods.

The outsourcing effect

Outsourcing of business functions has increased in recent decades, enabled by ICT technologies and driven by a business focus on core activities and the ability of markets to coordinate separate business functions across firms. The implications of this for consumer demand are that the immediate direction of consumer spending against specific products or industries may mask complex networks of other businesses and sectors involved in providing goods and services.

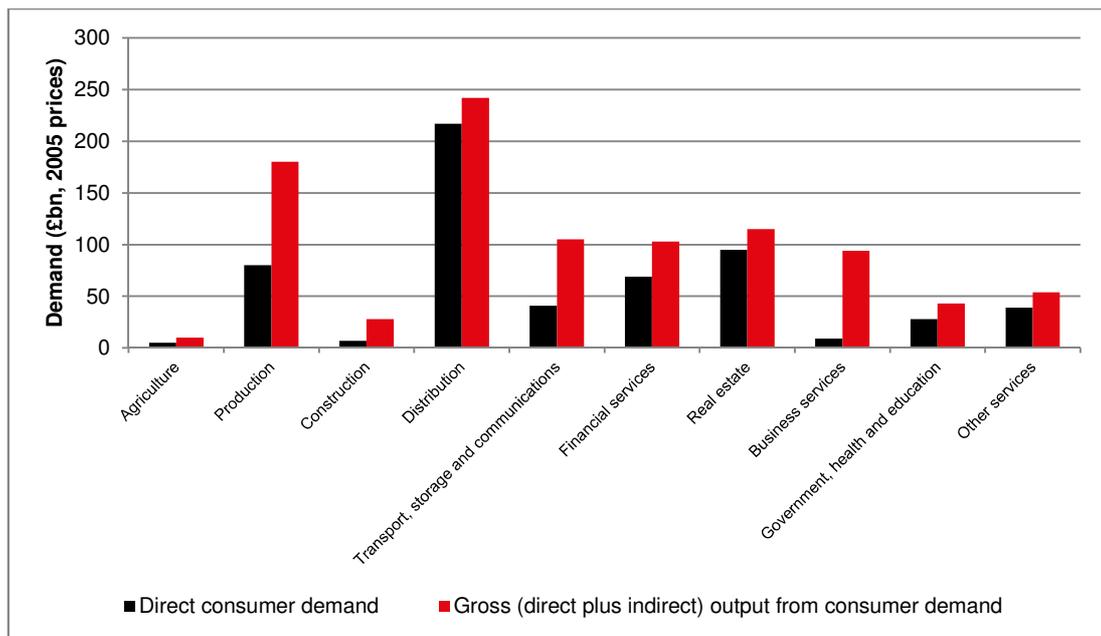
For example, when a consumer purchases a product from a retailer, that retailer may have purchased the product from a wholesaler, and may have outsourced business support functions such as cleaning, logistics and human resources to other companies. Consumers in 2005 spent approximately £590bn on goods and services. Adding in the total amount of economic activity that consumer spending generated, through outsourcing and other input

purchases, gross output generated was £974bn. Therefore almost £400bn of economic activity is generated by consumers indirectly.¹⁵ It is worth noting, though, that these outsourced services have contributed significantly to productivity gains in other industries, including consumer goods markets.

Whilst it is difficult to disentangle these complex networks of activity at the level of specific products and distinct sectors, for broader industrial groups we can trace the effects of consumer spending through the economy. Figure 6 illustrates this effect, using data from the OECD Input-Output Database for 2005.

In this chart, the black bars refer to direct consumer spending on different sectors of the economy. Spending on distribution, for instance, comprises consumers spending money in shops, on hotels and in restaurants. Direct spending on business services includes households buying legal, accountancy and similar services. The red bars include direct but also indirect spending: purchases by businesses of the inputs they use to provide consumers with products.

Figure 6: Consumer-driven direct and indirect output by industry, 2005¹⁶



Source: OECD STAN Database

What this shows is that while many industries are not particularly consumer-facing, consumer spending is nonetheless a large generator of value for those sectors. This is particularly stark for business services. In 2005 consumers spent £9bn on business services directly. But through spending on the products of other industries that outsource functions to

¹⁵ In 2005 prices. Source: OECD STAN Database

¹⁶ This decomposition follows the methodology set out in appendix 2 of (Gregory and Russo 2004).

the sector, consumer spending actually accounted for £94bn of business services output. Manufacturing shows a similar pattern. We are less likely to buy goods directly from a factory, but much manufactured output is nonetheless purchased by consumers via intermediaries in retail (classified under Distribution in the Figure 6). Transport, storage and communications also has a similar contrast between direct and indirect consumer spending. Again, this is likely to arise from consumer-facing retailers using logistics firms to get goods from manufacturers, ports and distribution centres to their businesses and shoppers.

It is important to bear this effect in mind when thinking about the effect of consumer demand focused on specific products. The UK does not have particularly large sectors in clothing and audio-visual equipment manufacturing, for instance, but through complex supply chains the value generated through sales of those products may accrue to other sectors.

Trade in value-added

The increasingly international nature of supply chains for manufactured goods has led researchers to question the use of standard import-export indicators, which record gross rather than added value. Many of today's products are designed and marketed in advanced economies, with assembly occurring elsewhere using inputs from several other countries. This implies that if the finished product is then sold back into the country of design and marketing, the UK for instance, then the value generated in the UK and embodied in the design and marketing of that product will not appear in standard trade statistics. This means trade data has a tendency to overstate the goods deficit for advanced economies. Indeed, often the strategic design, branding and marketing of a product captures the most value. One estimate of the value embodied in an Apple iPhone suggests that the largest single share, 58.5%, goes to Apple, who do not engage in any direct production themselves, outsourcing it to developing countries (Kraemer, Linden and Dedrick 2011).

A recent study (Johnson and Noguera 2011) attempts to correct for this discrepancy for a group of countries using 'value-added export to gross export' (VAX) ratios, and finds that the UK has the second highest (behind Japan) with 0.79. This suggests that approximately 80% of the value of UK exports is generated in the UK, with the remaining 20% comprising imported value embodied in exports. It also implies that some proportion of UK imports is actually value accruing to the UK, through exports of intermediate goods to other countries. For example a UK design may be manufactured in another country and then the final product sold back into the UK.

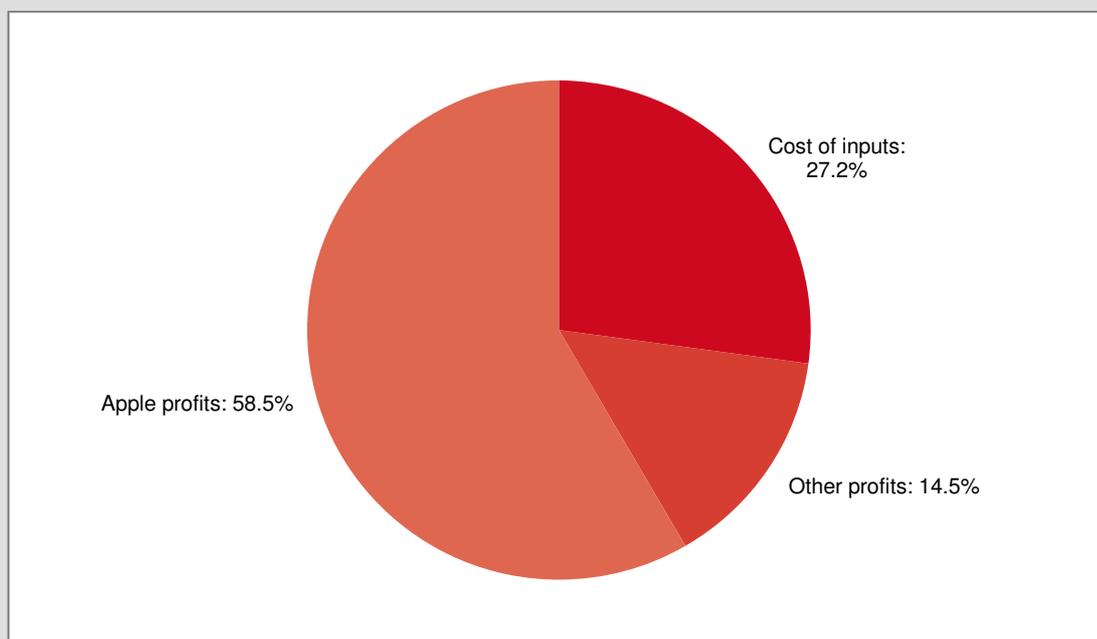
This is an important point when thinking about trade flows, as it implies the data may be overstating the severity of the UK's trade deficit in goods. But it does not discount the fact that the UK still runs a substantial trade deficit overall.

Box 4: Who makes money from consumer electronics?

As set out in the previous section, one group of products increasingly popular with consumers is consumer electronics, which comprises many of the small consumer electronics now ubiquitous in work and personal life, such as smartphones, mp3 devices and laptop computers. It is also a class of products that are largely imported. Consumer electronics are particularly interesting as they have complex global value chains, with many countries and firms involved in getting a product from the minds of marketers and designers into the hands of consumers as a finished good.

As noted above, the classic example of measuring value chains for a specific product is Apple's iPhone. Research set out in (Kraemer, Linden and Dedrick 2011) illustrates how the value generated by an iPhone sale is distributed between costs and profits, shown below in Figure 7.

Figure 7: Distribution of value for an iPhone, 2010



Source: (Kraemer, Linden and Dedrick, 2011)

Approximately 27% reflects labour and materials input costs. The remaining 73% is profit, with by far the largest share (59%) going to Apple themselves. What this illustrates, for the USA. (where Apple is based) in particular, is that whilst it appears imports of iPhones are contributing to a trade deficit in goods, the majority of value from the iPhone sale is in fact generated and captured by a domestic company, Apple. It is the strategic design, retail, branding and marketing of the iPhone that makes it such a high-value consumer good, not the assembly and costs of inputs from other nations for its manufacture.

What does this imply for the UK? It may mean that our conventional measures of the trade deficit in consumer electronics masks flows of value to the UK from strategic R&D, patents and other intellectual property, the design and marketing of consumer electronics. This

would suggest the UK should be less concerned about its trade picture than would otherwise be the case. But the UK has a relative lack of leading consumer electronics businesses. There is no UK equivalent to Apple, Nokia, Phillips, Siemens or Samsung. There are some UK strengths in components design, with companies such as ARM holdings earning substantial licensing incomes from electronics inputs, but the scale of such activities is small in comparison to the overall size and growth of the market.

We cannot form a full picture of these effects for the UK, as the available data is unable to map international value chains at an industry- or economy-wide level. But if the UK is weak in this area, then not only does the UK have a substantial trade deficit in consumer electronics, it is also unlikely we occupy a strong position further up the supply and value chains.

Should we still worry about the trade deficit?

The previous three sub-sections illustrated the ability of the UK to add value to imported consumer goods, suggesting that we need to go beyond a simple view of imports and exports of manufactured goods to understand the economic effect of innovative consumer goods. Some of the findings imply we should be less concerned about the deep trade deficit in manufactured goods, and manufactured consumer goods in particular. There is a great deal of economic activity generated in the UK from retail of imported goods and flows of consumer spending through the economy. And some of what we measure as imports is in fact value generated in the UK through complex international value chains.

Whilst these forces are real and apparent, it does not alter the fact that the UK still runs a large trade deficit in goods, particularly in innovative high-growth consumer products, and this is a drag on the UK economy. In 2009, retailers' margins, at around £240bn, were dwarfed by the cost of importing goods valued at £320bn in the same year. And the UK's royalties and licensing income, a useful if approximate measure of how much UK businesses earn from strategic value-added on products manufactured internationally, was only £9bn in 2009.

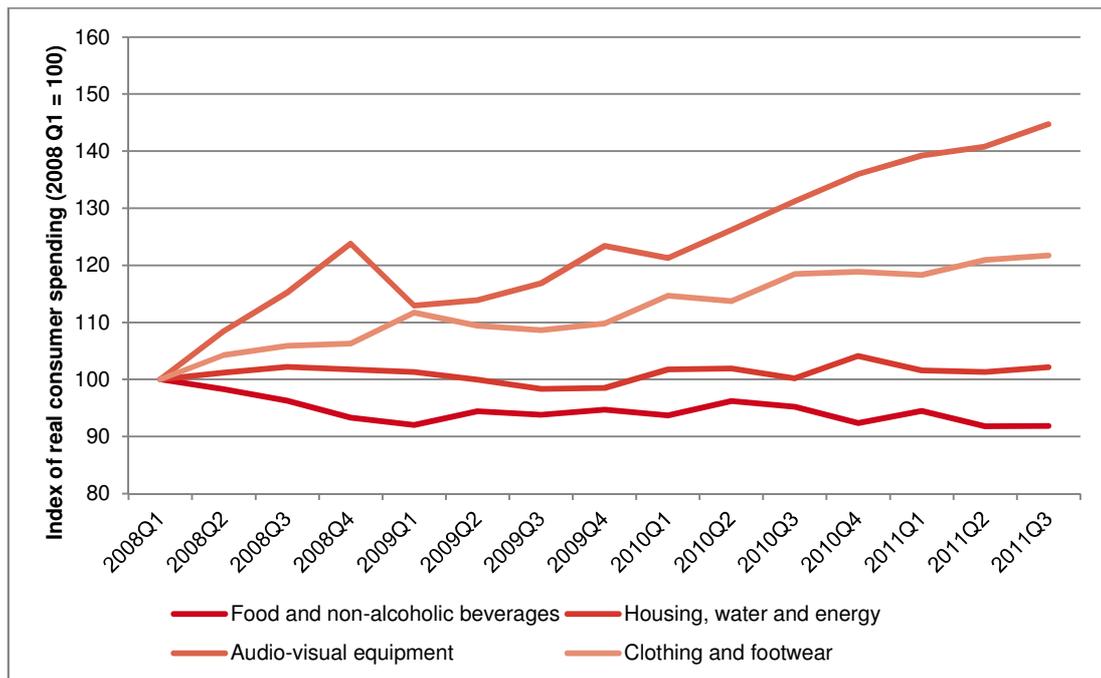
This suggests that whilst it is useful to have a nuanced and considered view of how imported goods get into the hands of consumers, as set out in this section, the UK's fundamental trade problem remains, caused in large part by UK consumers' appetite for imported goods and the UK's lack of a corresponding strength in consumer goods markets or strong exports from other sectors such as business services.

Chapter 4 The outlook for consumer spending

How has consumer spending evolved since the 2008-2009 recession, and how is it expected to change over the medium term? Consumer spending as a whole largely stagnated during and after the recession, growing by less than 0.1% between 2009 and 2011. Low wage growth, high inflation and rising unemployment all acted together to depress consumer spending. A potentially lengthy process of deleveraging, whereby individuals increase saving in order to pay off debts accumulated in previous years, is also underway.

Data from the Office of National Statistics reveals that consumers cut back on most levels of spending, with real decreases in essential purchases such as food and non-alcoholic beverages, and stagnant growth in others such as housing, water and energy. Amongst more discretionary purchases, audio-visual equipment, clothing, footwear, accommodation and restaurants all suffered initial declines, but have since started to recover more strongly in real terms than non-discretionary products. Consumer spending for a selection of these products is illustrated in Figure 8.

Figure 8: Consumer spending 2008-2011, selected consumer products



Source: (Gittins and Luke 2012)

This, perhaps surprising, composition of post-recession consumer spending highlights the continued resilience of innovative, high-growth consumer markets, characterised by high productivity and falling prices, even in the face of unprecedented pressures on household and consumer budgets. The fact that consumers seem to still have a large appetite for imported goods is likely to be part of the reason why the UK trade balance remains in deficit, with strong export gains as a result of weak sterling being offset by continued rises in imports, despite their increased cost.

It is unlikely that consumer spending will recover to its pre-recession levels over the medium-term. Recent research by the Royal Bank of Scotland estimates it may not be until 2019 before household debt falls to sustainable levels (Walker 2012), so the deleveraging process will continue to depress consumer demand. Whether the discretionary, high-growth consumer markets that currently appear to be performing well continue to do so remains to be seen.

This has implications for the future growth and composition of consumer spending, and by extension the economy as a whole. With consumer spending accounting for two thirds of economic growth between 1997 and 2009, sustained muted spending growth implies that future growth may have to come from other sources of demand, such as government spending or investment. The most recent Office of Budget Responsibility forecasts are more optimistic about the consumer spending outlook, suggesting that it is household consumption, along with business investment, that will drive the demand-side recovery of the UK economy.

It is likely household spending will remain a key market for the products of consumer-facing businesses and their supply chains. Slower growth of consumer spending will only intensify competition amongst businesses to provide goods and services more cheaply via process innovation and the rationalisation of supply chains, or to supply new, innovative products that consumers are willing to buy.

As we have seen, the products that have experienced the greatest growth in consumer spending tend to rely on imports, and where data is available also tend to be in markets where the UK has a trade deficit. If consumer spending on these products continues to increase it is likely they will become a greater drag on UK economic output through their effect on net trade.

Chapter 5 Conclusions and policy recommendations

Consumer spending is extremely important both as a driver and a mirror of innovation and change in the UK economy, and this is likely to continue. In recent years several product groups have seen a massive increase in spending from households, but these tend to be in goods markets that are not UK strengths, such as clothing and consumer electronics. These markets have experienced massive global innovation both in the products themselves and in the way they are supplied to consumers. Some of the increase in spending has been captured by retailers, who are good at adding value to imported goods, and also through the complex UK and global supply chains involved in getting products to consumers. But as a whole, it appears that the tendency for consumers to buy imported goods, and the UK's poor performance in supplying the new, innovative products that consumers want to buy, is acting as a drag on the economy through its negative effect on net trade.

This shift in the UK's capacity to provide consumer goods and innovate in consumer product markets is strongly related to continuing globalisation and liberalisation of international trade and opening up of other markets for both imports to and exports from the UK. Global competition has spurred productivity gains in competitive UK industries, particularly services, with a rise in global demand. One example of this process of productivity gains combined with demand increases is financial services. The experience of UK manufacturing, with a select few notable exceptions such as pharmaceuticals, has followed two separate trends. Much low-tech manufacturing has been unable to compete with new international competition, which has meant an increased reliance on imports for certain low-value goods such as clothing, but a corresponding fall in consumer prices that has increased the welfare of consumers, meaning they can now purchase much more of these products. On the other hand, advanced UK manufacturing has seen considerable innovation and large productivity gains, but has not seen demand for the products it makes rise either domestically or internationally, which means it is now a relatively smaller sub-sector in terms of output and employment than it was in the past. These two separate trends have led the UK to be relatively weak in most types of manufacturing, unable to excel in low-tech products because of cost pressures, and not engaging on the scale needed with growing global sources of demand for innovative, advanced manufacturing output.

What can the UK do to correct this situation? The UK has many areas of strength, both in particular niche manufacturing sectors such as pharmaceuticals and in business to business services such as design, legal services and accountancy. In these sectors the UK is internationally competitive, running trade surpluses. But we do not export enough in these sectors to make up for our deficit in high-growth consumer goods, partly because these activities are much harder to trade. One solution to the UK's trade problem would be to turn these markets where the UK is relatively strong into mass export sectors.

Another would be to gain a foothold in the emerging consumer technologies and markets of the future. It is not likely that the UK will be a competitive place to produce enough clothing to meet consumer demand, and most consumer electronics markets are at a stage of

maturity where incumbent firms are of such strength that new market entrants from the UK face an uphill struggle. Instead, it makes sense for the UK to focus on getting ahead in key growth markets of the coming decades, by focusing on new technologies and seeking to build functioning markets for them.

Getting ahead in some of these future growth markets would have benefits not only in terms of correcting the UK's long-standing reliance on imports, with consumers spending more of their money on domestically produced products, but will also make the UK well-placed to benefit via exports from increased global demand for new goods and services. Many modern technologies, such as software, smartphones and social networks, offer significant first-mover advantages, and many of the technologies that define the next couple of decades will likely share this trait. Countries that take an early lead in these growth markets are likely to derive significant benefits from them, and the UK should strive to put itself in this position as often as possible. As noted earlier in this report, gaining a lead in a particular product does not necessarily imply production and assembly has to take place within the UK, so long as more strategic high added-value functions such as research and development, branding, design and marketing are carried out by UK businesses.

Given the need to get ahead in such markets, there is a case for government be pro-active in ensuring the UK is well placed to be a world leader in the supply of new consumer-facing goods and services. This will involve combining technology foresight¹⁷ with strategic investments in key technologies, while creating functioning markets and ecosystems in these areas.

While technology is an important part of this mix, it is only part of the challenge. The business of creating new markets, even for the best technologies, is not a straightforward task. The emergence of new markets can be held back by a lack of infrastructure, by barriers to investment, by poor legal regulation or by consumer reticence. These delays may cost the UK its leading place in these markets. In many cases, these challenges can only be solved through coordinated action between government, businesses and other institutions. Where such coordination is needed, the government should actively seek to facilitate the creation of new markets.

This challenge runs to the heart of the UK's future as an innovation economy. If the UK is to return to prosperity, it must be able to create new ecosystems and build markets in the growth areas of the future.

Future research by the Big Innovation Centre will look both at which markets are most likely to undergo rapid innovation,¹⁸ and how the UK can get better at making new markets. Other projects, including the Government Office for Science's Foresight project, have carried out

¹⁷ The Government Office for Science's Foresight project has been the key source of technology foresight in the UK, and could be used more proactively by government.

¹⁸ See (Sissons, The Next Wave of Innovation 2011) for our initial thoughts.

horizon-scanning exercises for new technologies, looking at where the UK has strengths and opportunities in emerging technologies. This type of work must be used more proactively if the UK is to take advantage of the many available opportunities for innovation.

The following sections outline an emerging framework of what a policy agenda would look like in this area.

Box 4: Boosting exports in areas of UK strength

The UK should take action to boost exports in the areas in which it is strongest. For the most part, this means making it easier to export knowledge-based services, and enabling more small businesses to begin exporting.

Priorities for boosting exports of business services include:

- Pushing for the implementation of the EU Services Directive – Completing the EU Single Market, by implementing the Services Directive, should significantly increase business service exports and benefit the UK. This has been a priority for the UK government, and it should continue its efforts in this area.
- Expanding UK airport capacity – Service exports depend on people being able to move freely and easily into and out of the UK. A lack of airport capacity, especially in the south-east of England, constrains this movement, and must be addressed as a matter of priority.
- Easing controls on highly-skilled migrants – The free movement of people into and out of the UK is also constrained by migration restrictions. The UK's migration policy must operate in a way that does not hamper the movement of highly skilled people.

Wider recommendations for boosting exports in UK areas of strength include:

- Providing export support to more SMEs – Small businesses face a host of barriers to exporting, from information failures to an inability to find trusted partners in overseas networks. UKTI works to support SMEs facing these constraints, but cuts in the number of export advisers available may reduce its ability to support export behaviour.
- Building links in emerging economies – The UK's export markets are shifting towards emerging economies. However, exporting to these markets can be challenging, and building national links helps to facilitate effective trade into these countries.
- Exploring ways to turn online retail into an export sector – The UK has been a rapid adopter of online retail, and is also strong in many of the computer-based services that underpin the growth of online activities. The government should actively explore

ways to turn this industry into an export sector, especially with the potential of 3D printing to disrupt global retail markets.

For a fuller discussion of the logic behind these policy recommendations, see previous work from The Work Foundation in (Sissons, Britain's Quiet Success Story: Business Services in the Knowledge Economy 2011)

Box 5: Getting ahead in new markets

The UK must get better at creating new markets for breakthrough technologies. This requires both strategic investment in promising new technologies, and coordinated action to open up new markets once the opportunity emerges.

Recommendations for promoting the development and translation of new technologies include:

- Take horizon scanning more seriously – Developing a better understanding of which new technologies are likely to shape the economy can help the UK to make better informed decisions about where to focus its efforts. Work on horizon scanning would benefit from more investment, and could be used to influence government policy more.
- Increase strategic investment in new technologies – Many emerging technologies are hard for the private sector to invest in, owing to uncertainties around their success. Strategic government investments in these areas help to overcome these challenges, and enable the government to hedge risks against many different technologies. The government should aim to increase strategic investments in technologies with potential through the Technology Strategy Board, research councils and other channels. While the majority of these investments will not pay off, the social returns on a few investments are likely to be large; the government must adopt a more risk-friendly approach to such investments.

Besides the investment in new technology, the government should consider market making as an explicit new area of policy action. Where there are barriers to the creation of new markets, government may play a facilitating or coordinating role to overcome them. Such obstacles may include:

- A lack of infrastructure, or coordination failures within existing infrastructure;
- Failure to agree on functioning market standards;
- Inappropriate regulation, which may be too weak to enable confidence in new markets, or too strong such that it stifles innovation;
- The lack of effective intellectual property standards for new markets. Intellectual

property rules may be either too weak or too strong to promote innovation;

- The slow emergence of complex ecosystems between firms and supporting institutions;
- Failure to secure consumer interest in new markets.

In all of these areas, government may be able to help businesses overcome these obstacles by working collaboratively. However, these circumstances will vary from market to market, and the government must never be prescriptive about market making policy. The Big Innovation Centre will be producing research into market making over the coming months.

Developing effective policy in these areas should be a priority for the UK. Against a backdrop of stagnant consumer spending growth, with what spending there is increasingly directed at highly tradable goods, simply getting better at selling imports to domestic consumers is unlikely to offer a sustainable route to the UK's recovery, and will only increase the trade deficit. Gaining an advantage in innovative, emerging product markets producing what consumers here and globally want to buy offers an opportunity to engage in much needed re-balancing, away from imports and an over-reliance on retail towards exports and UK growth. Anything else could leave the UK economy locked in a position of low growth and significant imbalance.

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