Googling the present

Graeme Chamberlin
Office for National Statistics

Summary

Google Trends data provides weekly reports on the number of search queries made by people in a geographical area and by category. As over three quarters of those who access the Internet regularly are looking for information on goods and services – this information may be a useful indicator of economic activity. For example, the volume of queries may relate to future patterns of spending. This article investigates this use of Google Trends data for various search categories, looking at its correlation with official data on retail sales, property transactions, car registrations and foreign trips.

Introduction

The Office for National Statistics (ONS) conducts an annual survey to measure Internet access and individuals' use of the Internet across the UK. The 2010 results show that Internet usage continues to become more widespread among the adult population with the range of activities undertaken online also increasing.

Figure 1 shows that in 2010 there were 38.3 million Internet users in the UK, defined as those that had accessed the Internet in the three months prior to being interviewed for the survey. This represents 77 per cent of the UK adult population aged 16 and over. Of those, the number of adults accessing the Internet everyday has grown year on year to 30.1 million in 2010, 60 per cent of UK adults aged 16 or over. This is nearly double the level of 16.5 million (35 per cent of UK adults aged 16 and over) in 2006.

At the same time the proportion of adults who have never used the Internet continues to fall (**Figure 2**). In 2001 nearly half (48.5 per cent) of the UK adult population had never used the Internet. This fell to 35 per cent (16.7 million) by 2006 and then to 18 per cent (9.2 million) in 2010. As Figure 2 also shows, those who have never used the Internet are concentrated in the older generations. In 2010, 60 per cent of adults aged over 65 had never used the Internet, making up nearly two–thirds (64 per cent) of the UK total, whilst only 1 per cent of those aged 16–24 had never used the Internet.

Frequency of use has grown hand in hand with the technology available to access the Internet. Now, almost all home access is via a broadband connection, compared to almost none about one decade ago when connections were via dial–up (**Figure 3**). The use of other forms of ICT has also

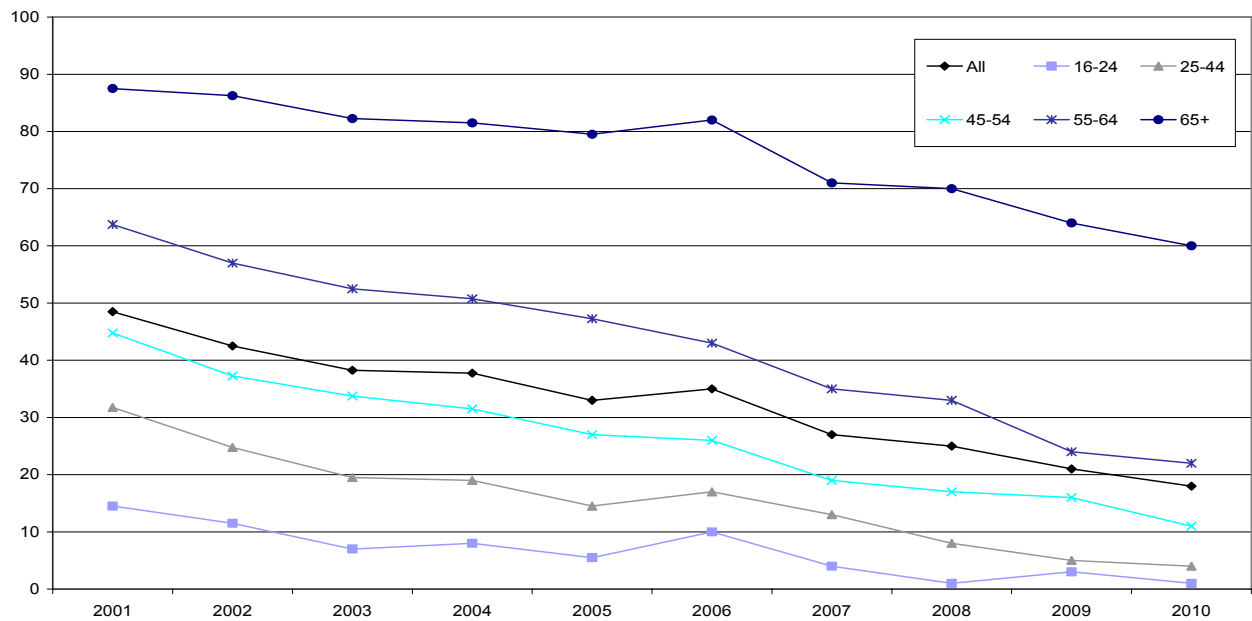Figure 1   **Frequency of internet access**

United Kingdom

Millions of adults aged 16 or over
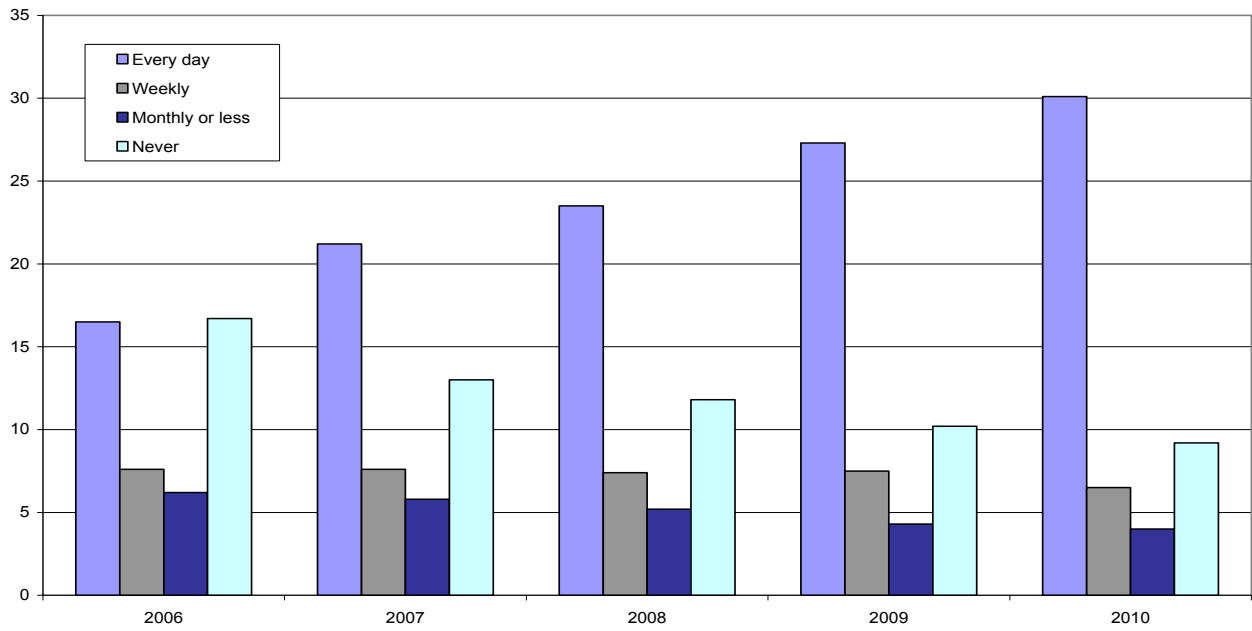
Source: Internet Access 2010

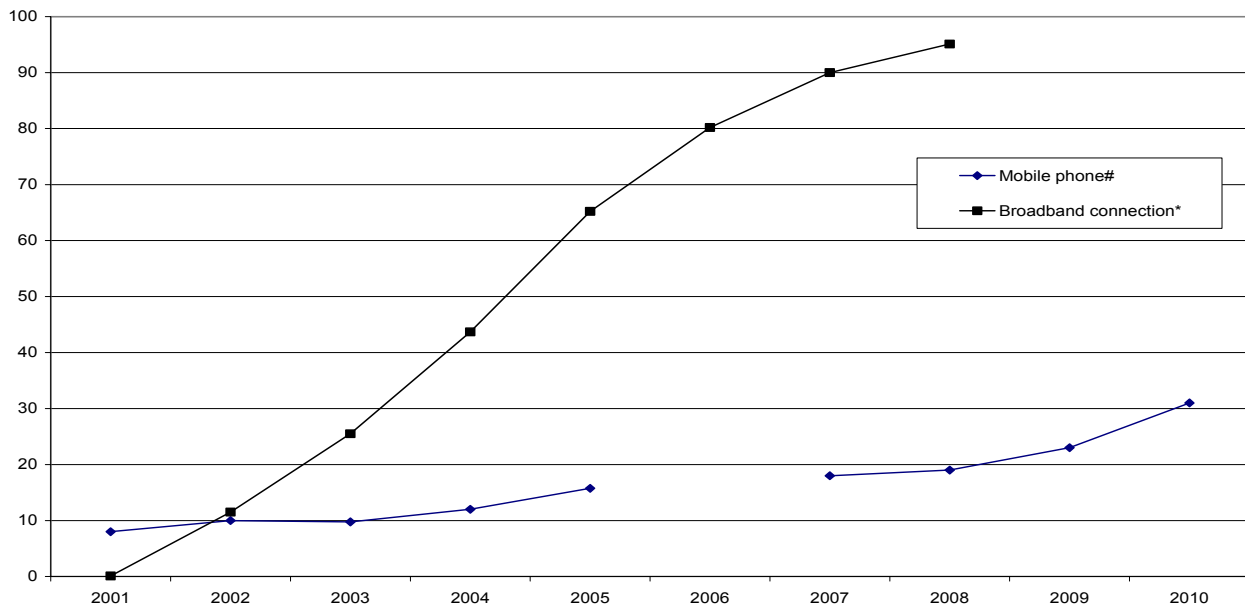Figure 2   **Adults who have never used the internet by age**

United Kingdom

Per cent

Source: Internet Access 2010

Figure 3   **Modes of accessing the Internet[1]**

United Kingdom

Per cent

Notes

1. Per cent of those who accessed the Internet in the last three months

* As opposed to a dial–up connection

Data missing for 2006

Source: Internet Connectivity 2008 and Internet Access 2010

become more significant. Away from business or home, the mobile phone has become the most popular way to access the Internet wirelessly. In 2010, 31 per cent of those who accessed the Internet in the last three months did so with a mobile phone, up from 23 per cent a year earlier. This proportion was particularly high in the 16–24 age category, where 44 per cent of those who had accessed the Internet in the last three months had done so with a mobile phone. Wi fi hotspots in places such as cafes, hotels, railway stations and airports have continued to expand accounting for 2.7 million (7 per cent) of regular Internet users in 2010, up from 0.7 million in 2007.

Figure 4 shows the main types of activity undertaken online by individuals in the UK. A number of these have become more significant over time such as social networking and chat sites, Internet banking and online radio and television (on demand entertainment). The use of the Internet in these cases has undoubtedly been helped by improvements in technology allowing faster and more secure access. However, the main reasons for using the Internet have, as a proportion of total users, been relatively unchanged over the last decade. Email remains the most widespread activity undertaken, but finding information about goods and services and using the Internet for planning and making travel arrangements have also been ranked consistently high. In 2010, almost 29 million adults who had accessed the Internet in the three months before the survey had

used it to find information about goods and services and 24 million for using services related to travel and accommodation.

## Figure 4   Internet activity[1]

United Kingdom

Per cent
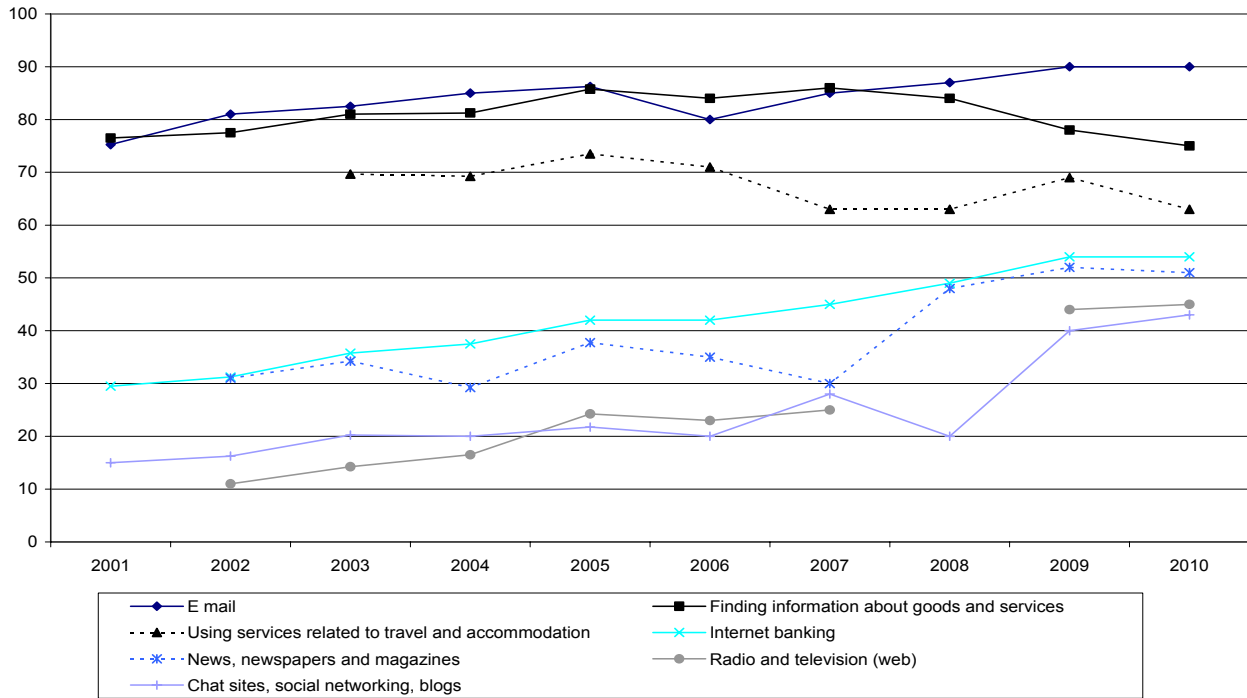
Notes

1. Percentage of those who accessed in the last three months

Source: Internet Access 2010

Actual purchases of goods and services over the Internet have also been on the increase. According to the latest Internet Access survey, in 2010, 31 million UK adults bought or ordered goods and services online in the 12 months before the survey – this is 62 per cent of all UK adults. **Figure 5** shows the distribution of these purchases across different categories of spending. Over half (52 per cent) of those who had purchased online in 2010 had bought clothes and sports goods. Films and music took second place (47 per cent), followed by holiday accommodation (44 per cent), household goods (44 per cent), books, magazines and newspapers (39 per cent) and other travel arrangements (36 per cent). The majority of those purchasing films and music and books, magazines and newspapers online did so by downloading or accessing directly from websites rather than delivered by post. The main reasons for purchasing over the Internet are convenience, easy to use websites, availability of goods and services not in the local area and lower prices (**Figure 6**).

Figure 5   Purchases over the Internet in 2010[1]

United Kingdom

Per cent
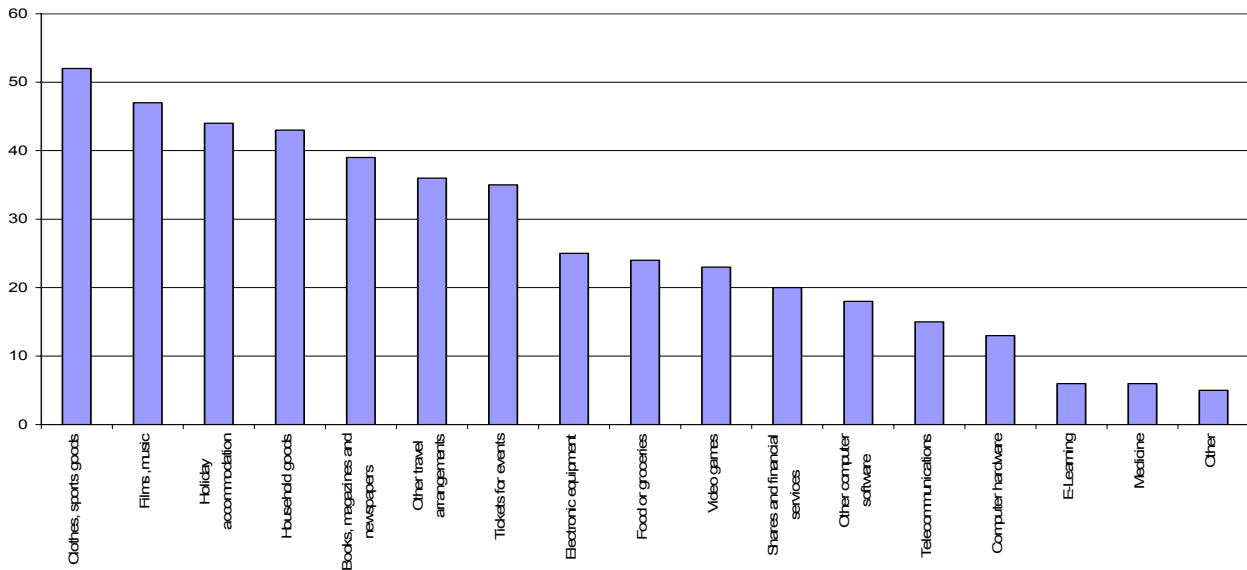
Note

1. Adults who had bought or ordered goods and services in the last 12 months

Source: Internet Access 2010

Figure 6   Reasons for[1] and for not[2] purchasing over the Internet

United Kingdom

Per cent
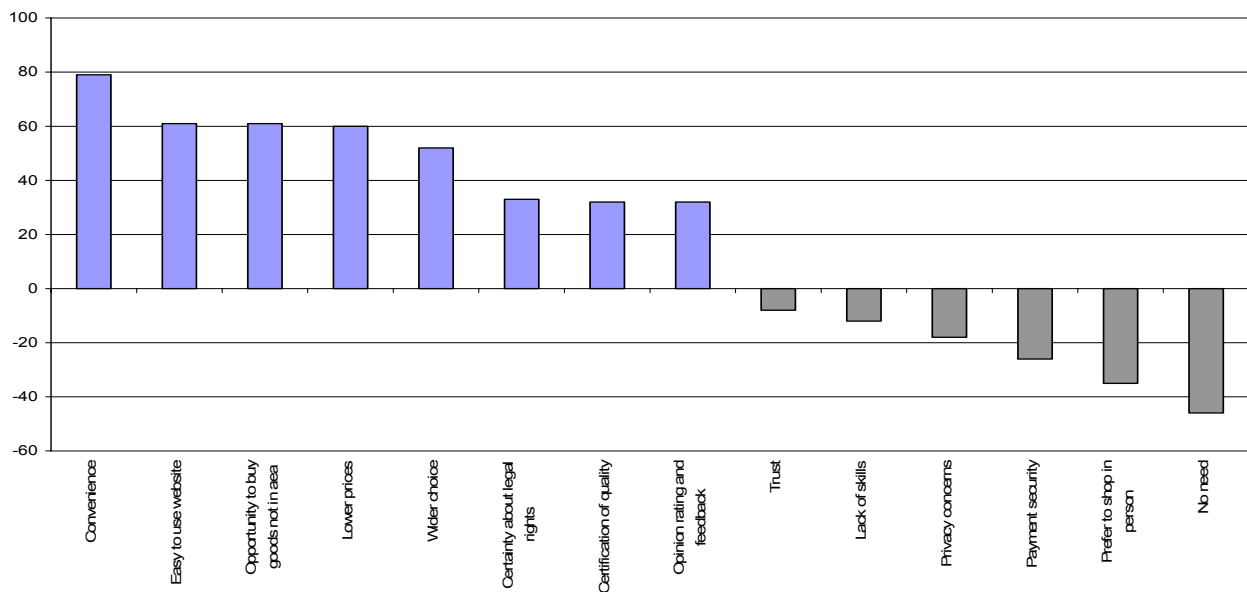
1. Shown in blue and based on adults who had bought online in the last 12 months

2. Shown in the grey bars as negative percentages – based on those who had not bought online in the previous 12 months (including never).

Source: Internet Access 2009

These trends have been reflected in official measures of retail sales where the proportions of online sales are now reported separately (see McLaren 2010 for the latest methodology). In October 2010, average weekly Internet sales were £543.1 million – constituting 9.6 per cent of total weekly retail sales of £5.69 billion. This proportion has risen steadily since the start of the time series in 2006 (see **Figure 7**, note that the figures reported here are not seasonally adjusted).

Figure 7   **Internet retail sales**

Great Britain

Per cent of total retail sales, Not seasonally adjusted   £ million

Source: Retail sales October 2010

ONS also runs an annual E–Commerce survey reporting on business use of Information and Communication Technologies (ICT) in the UK. The number of busin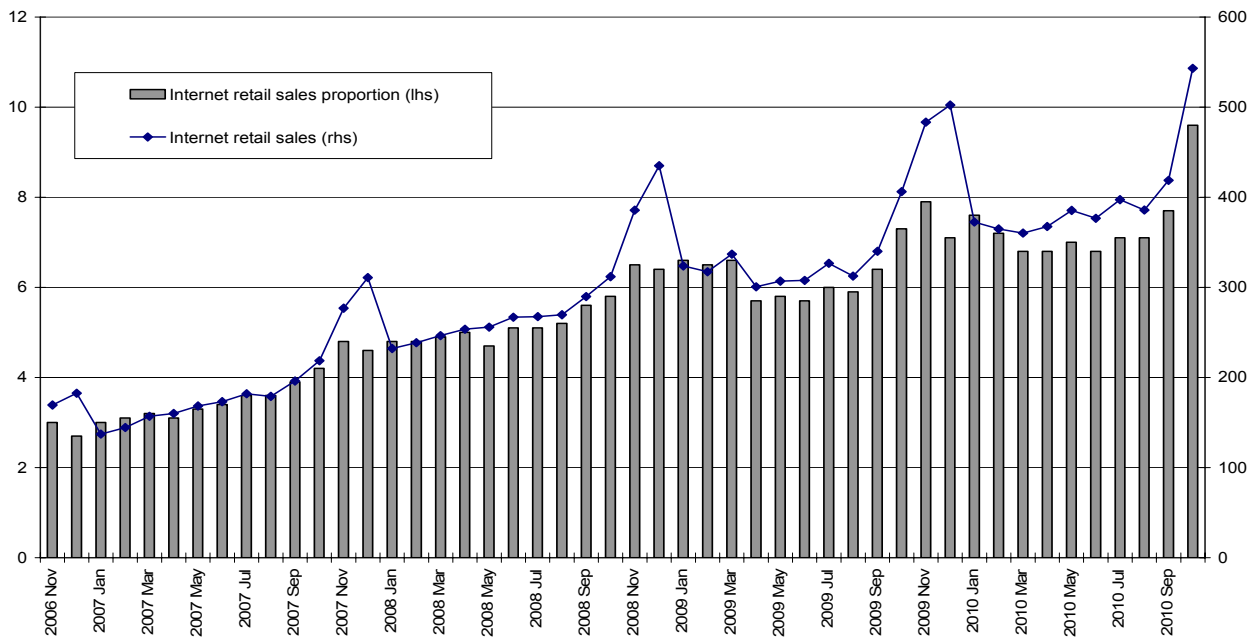esses with a website has increased year on year to 76.0 per cent in 2009, up from 66.9 per cent in 2004 (**Figure 8**). In 2009 almost all large businesses, defined in terms of numbers of employees, had a website. The proportion of smaller businesses with a website has increased between 2004 and 2009 but is still lower than for larger businesses.

The E–Commerce survey also reports on the percentage of businesses that make sales over websites. **Figure 9** shows the proportion of businesses making sales over a website by size (in terms of employment) and by industry in 2009. In line with the data on businesses with a website, larger businesses are more likely to make sales over a website than smaller businesses. 37.8 per cent of businesses with over 1000 employees made sales over a website compared to 13.2 per cent of those with 10–49 employees. Businesses in the utilities, wholesale, retail, transport and information and communications industries were more likely to make sales over a website.

Figure 8   **Businesses[1] with a website**

United Kingdom

Per cent
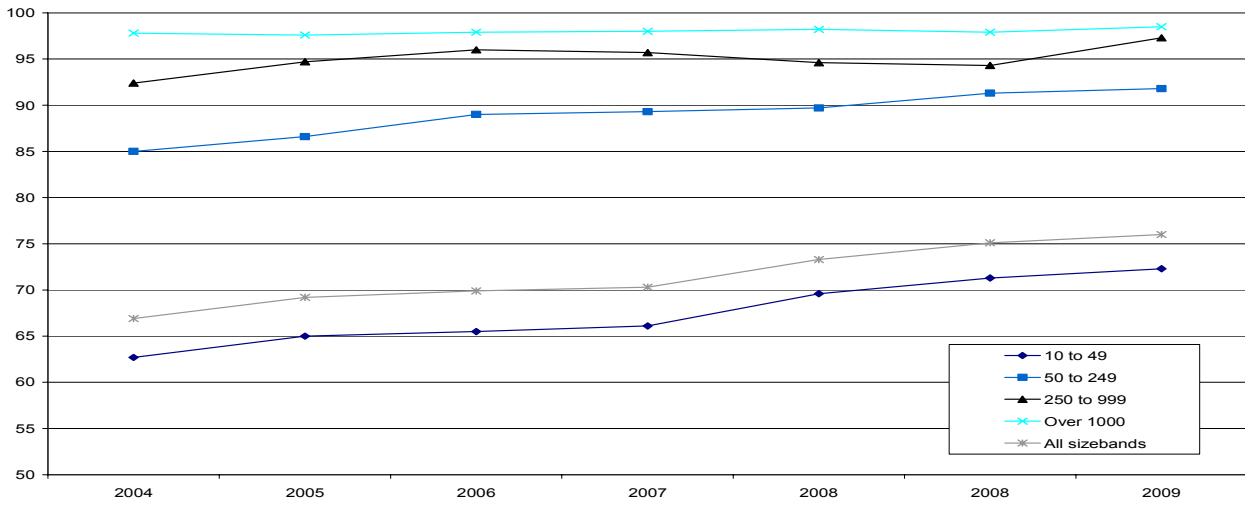
Note

1. Businesses are shown by size in terms of employment

Source: E–Commerce survey 2009

Figure 9   **Sales over a website by size[1] and industry[2], 2009**

United Kingdom

Percentage of firms making sales over a website

Source: E–Commerce Survey 2009

Notes

1. Size is shown by employment bands in the grey bars

2. Industry is shown in the blue bars

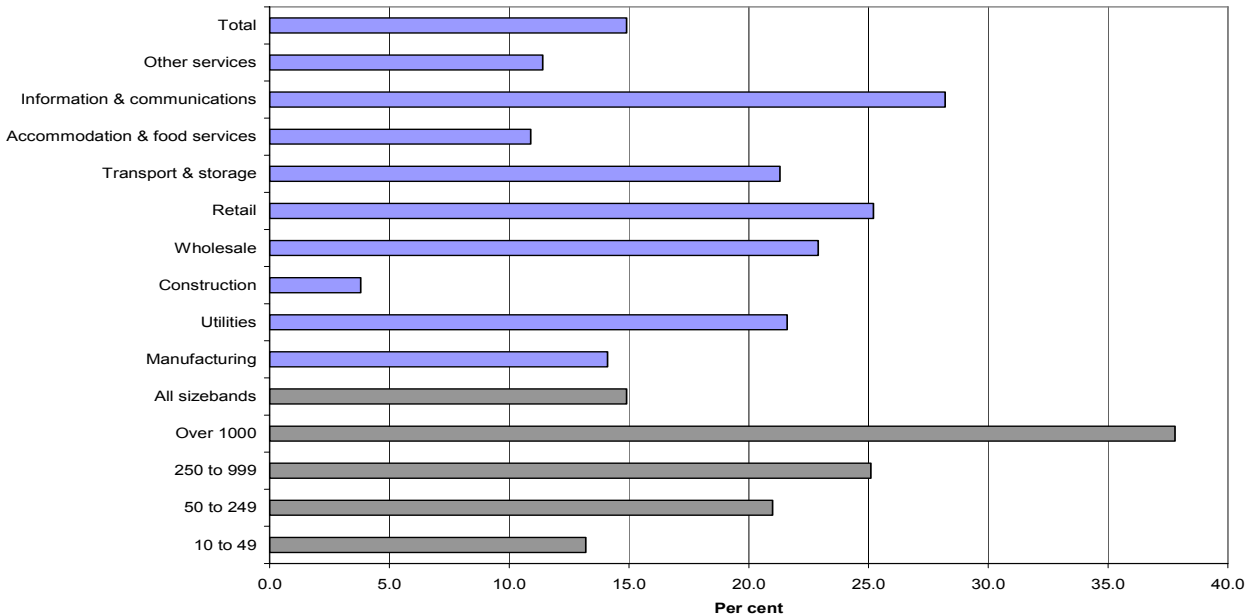Evidence from household and business surveys clearly show the high and growing importance of the Internet for communication and finding out information. The main focus of this article is to investigate whether the use of the Internet for information gathering bears any relationship to actual activity in the UK. For example, do Internet searches for types of products or vendors relate to actual retail sales? Other examples considered in this article include car registrations, property transactions and trips overseas and whether Internet searches show any correlation with actual activity. The next section outlines the source of this Internet search information before its correlation with various economic time series is assessed.

Google Trends

Search engines, such as Google (www.google.com), are widely used by people to navigate their way around the World Wide Web. By collecting data on the search queries made by people, Google Trends provides indices of the volume of Google queries by geographic location and category. This offers a potentially interesting resource for analysing people's intentions – including their expenditure decisions. (see www.google.com/insights/search).

Choi and Varian (2009), two economists affiliated to Google, examined the usefulness of Google Trends data for predicting various types of spending. Their argument is, because Google Trends data are practically available in real time, any statistical relationship between actual sales and Google Trends can be exploited to produce more timely estimates of data. For example, official retail sales data are only available with a lag of several weeks, whereas a model based on Google Trends data could produce estimates much faster. This approach to producing more rapid estimates of present data is commonly referred to as nowcasting, as the idea is to predict the present rather than the future (forecasting).

This article replicates some of this original study, which was applied to the US, to various aspects of UK data. It stops short of producing nowcasts, but investigates whether there is any association between various categories of searches and activity in retail sales, car registrations, property sales and financing, and overseas visits. Any such relationship is predicated by the widespread use of the Internet by individuals and businesses described in the previous section.

Google Trends data are presented in the form of a *query index* rather than the raw number of searches for a particular category or item. This is based on the query share, which is the number of searches for that particular category or item in a given geographic region at a point in time as a share of the total number of queries. This is then normalised so that they start at zero on 1 January 2004, with the index at subsequent dates showing the percentage change in the query share relative to 1 January 2004.

An approach based on query share therefore needs to be interpreted carefully. For example, a falling query share over time is not necessarily an indicator that the raw number of searches are also falling over time. In fact, due to the large rise in total searches in recent years as Internet use becomes more frequent and widespread, a falling query share might just reflect lower than average growth. Particular examples of where this is likely to be the case are categories consisting of a high

proportion of early Internet users such as travel websites (lastminute.com) and computer retailers/wholesalers (Dell). In 2004 these are likely to have had a relatively high share of total Internet searches, but over time as more businesses start using the Internet, this share will naturally fall.

Choi and Varian (2009) test the significance of Google Trends data by seeing if it offers a statistical improvement over a basic seasonal autoregressive model. That is, the following regression is run on monthly data:

$$y_t = \beta_0 + \beta_1 y_{t-1} + \beta_2 y_{t-12} + \beta_3 x_t$$

where

y is the variable of interest and x is a relevant category (or categories) of Google Trends data. If the coefficient β_3 is statistically significant, then it suggests that Google Trends data improves the fit of the model. Their motivation is to assess the nowcasting potential of Google Trends data. Given its relative timeliness it can enter the above regression contemporaneously and then be used to form estimates of y before it is officially published.

This article estimates similar models for various categories of spending and activity in the UK. However, given the earlier point of trends in query shares it arguably makes more sense to estimate the model in first differences (that is monthly changes rather than levels).

$$\Delta y_t = \beta_0 + \beta_1 \Delta y_{t-1} + \beta_2 \Delta y_{t-12} + \beta_3 \Delta x_t$$

This removes the issue of longer term trends from the analysis, essentially narrowing the focus on Google Trend's ability to predict short–term movements in the variable of interest. Estimating the model in first differences also makes sense from the econometric perspective as the normal way of dealing with non–stationary data. Otherwise, trends in the time series may lead to a spurious finding of significance.

Finding a significant β_3 coefficient implies that using Google Trends data offers an improvement over a simple (naïve) backward–looking time series model and suggests that it may be a useful indicator for nowcasting. Of course, a better test of nowcasting potential is to test the significance of Google Trends data out of sample and, where relevant, on real time data. This is not investigated in this article but is something that could be explored by interested readers.

However, it should also be noted that if the coefficient β_3 is found to be insignificant it does not necessarily imply that Google Trends data is without use. For example, if the variable of interest has behaved in a very orderly way then past lags of the data may have high statistical significance (predictive ability) reducing the scope of Google Trends data to improve the model fit. That does not imply that the Google Trends data itself is not an interesting and timely indicator of certain activity.

Google classifies search queries into 27 categories at the top level and 241 categories at the second level using an automated classification engine. Queries are assigned to particular categories using natural processing methods. For example, the query 'Car tyre' would be assigned

to the category 'Vehicle tyres' which is a subcategory of 'Auto parts' which in turn is a subcategory of 'Automotive'. **Table 1** shows a number of official data sources and potentially relevant Google search categories. The top searches and rising searches in each category are shown in the **Appendix**. Many of the official data sources are drawn from ONS retail sales, and given the evidence from the E–Commerce survey, time series relating to large businesses are used where available.

Table 1   **Official data and relevant Google Trends categories**

Official data	Source	Relevant Google Trends categories
All retailing (large firms)	ONS Retail Sales	'Shopping'
Non-specialised food stores (large firms)	ONS Retail Sales	'Food retailers'
Non-specialised non-food stores	ONS Retail Sales	'Mass merchants and department stores'
Textiles, clothing and footwear (large firms)	ONS Retail Sales	'Apparel', 'Clothing retailers' and 'Clothing labels and designers'
Furniture and lighting	ONS Retail Sales	'Lighting', 'Home and garden', 'Home making' and 'Home furnishings'
Home appliances	ONS Retail Sales	'Electrical household appliances'
Hardware, paints and glass	ONS Retail Sales	'Home improvement'
Audio video equipment and recordings	ONS Retail Sales	'Music streams and downloads', 'Music retailers', 'Audio equipment', 'Consumer electronics' and 'Home video'
Books, newspapers and stationery	ONS Retail Sales	'Book retailers'
Computers and telecommunications	ONS Retail Sales	'Personal electronics', 'Consumer electronics', 'Mobile and wireless', 'Mobile phones' and 'Telecommunications'
Non-store retailing (large firms)	ONS Retail Sales	'Shopping portals and search engines'
Car registrations	Driver and Vehicle Licensing Agency (DVLA)	'Vehicle licensing and registration', 'Automotive', 'Vehicle shopping', 'Vehicle brands' and 'Auto financing'
Property transactions (number)	Land Registry	'Real estate' and 'Home inspections and appraisals'
Mortgage approvals (number)	Bank of England Financial Statistics	'Home financing'
Overseas visits (number)	ONS Travel and Tourism	'Travel', 'Vacation destinations', 'Hotels and accommodation', 'Air travel' and 'Cruises and charters'

Results

This section presents the results from estimating the simple time series model outlined in the previous section (based on first differences using monthly non–seasonally adjusted data) for each of the official data sources and potentially relevant Google Trends data listed in Table 1. Google Trends data is published weekly whereas official data is published monthly – therefore following Choi and Varian (2009) – Google Trends data relating to the second week of the month are used.

All retailing excluding fuel (large firms)

Figure 10 shows the time series of this measure of retail sales and the Google Trends category 'Shopping'. Whilst there appears to be a good correlation between the short–term movements in the data, with both showing the same strong seasonal variation, the regression results find the Google Trends data to be insignificant. There are two possible reasons for this.

Figure 10   **Retail sales and Shopping**

Retail Sales Index   Google Trends query share
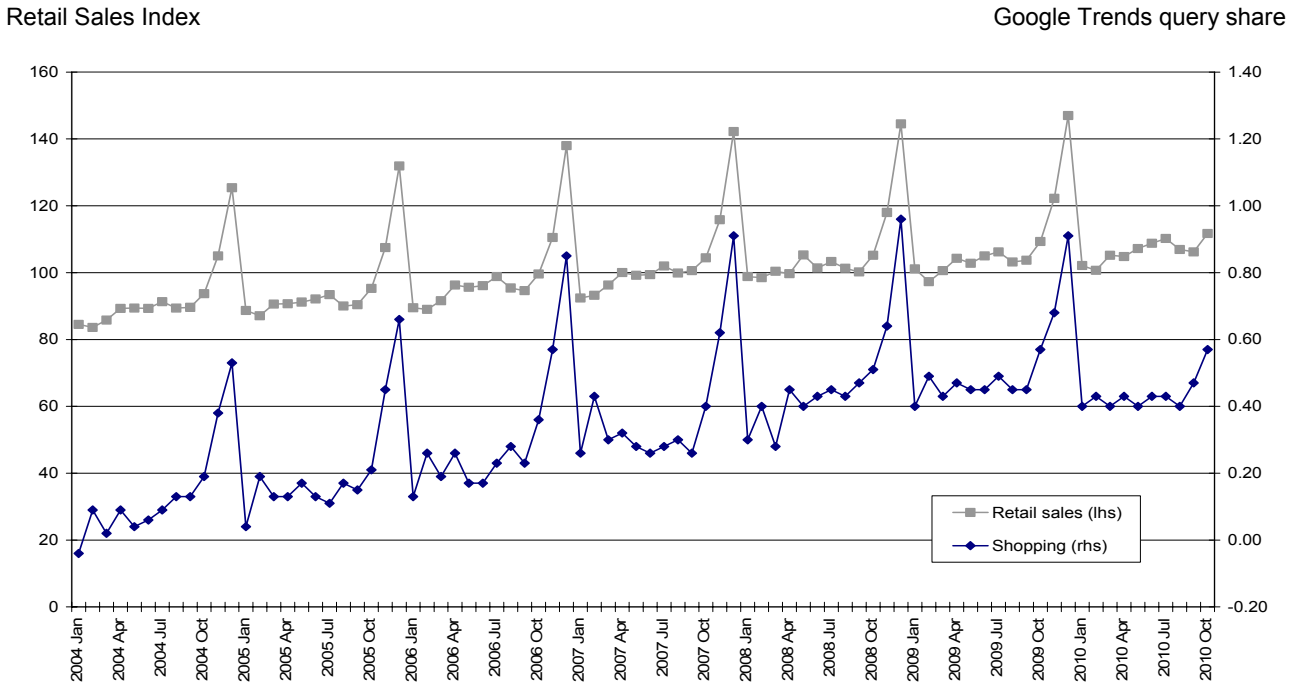
Source: ONS Retail Sales and Google Trends

Dependent Variable: All retail sales excluding automotive fuel (large firms)				
Sample: 2004M02 2010M10				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.000678	0.002445	-0.277092	0.7825
All retail sales excluding automotive fuel (large firms) (-1)	-8.34E-05	0.023321	-0.003575	0.9972
All retail sales excluding automotive fuel (large firms) (-12)	0.937521	0.059707	15.70194	0.0000
Shopping	0.032843	0.041838	0.785013	0.4349

First, the seasonal movements in the retail sales data may be adequately captured by the past history of the data, leaving little explanative room for the Google Trends data. This can be seen in the regression results where the twelfth lag of the retail sales data is highly significant pointing to a fairly regular seasonal pattern. Second, the makeup of the Google Trends 'Shopping' time series might not necessarily be a good indicator.

The Appendix shows the top searches in each category. The top search itself is normalised to 100 with the volume of other searches presented relative to this. It can be seen that eBay is by far the top search and is the UK's largest online marketplace. But as Wallis (2006) notes, whilst this auction site may be an important element of online shopping, it does not constitute retail sales in the official sense – which are defined as goods sold by retailers. Some goods are sold directly by businesses on eBay, for example IBM has sold new products and offered services in both competitive auctions and at fixed (buy it now) prices. However, the majority of goods sold are transfers between households/consumers. eBay is a service that facilitates this transfer but is not a retailer so will not form part of the Retail Sales Index. As these transfers do not generate final demand or value–added they are also not included in household expenditure and gross domestic product. Here, only the fees and commissions paid for facilitating the sales and purchases of goods and services would count as final demand. Therefore, the 'Shopping' category may not fully correspond to total retail sales. Comparing Google Trends data with specific components of retail sales though may provide more significant results.

Non–specialised food stores (large firms)

This category of (predominantly food) retail sales mainly consists of supermarkets. As **Figure 11** shows there is a high correlation with the Google Trends category of 'Food retailers', and the regression results find this to be significant. Top searches making up the 'Food retailers' category consist of Tesco (and Tesco Direct), ASDA (and George), Morrisons, Sainsburys, Aldi, Lidl, Ocado and Waitrose – all of the largest UK supermarket chains.

Figure 11   **Non–specialised food stores and Food retailers**

Retail Sales Index   Google Trends query share
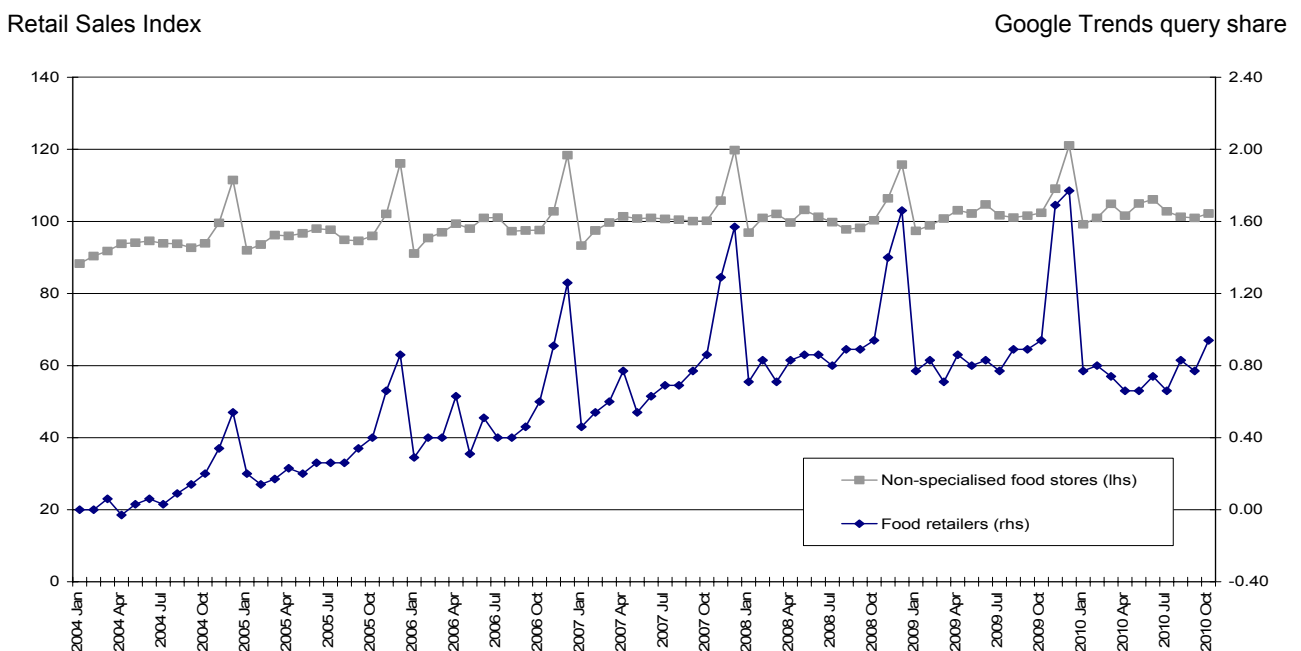
Source: ONS Retail Sales and Google Trends

Dependent Variable: Non-specialised food stores (large firms)

Sample: 2004M02 2010M10

	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.000643	0.002210	-0.291082	0.7718
Non-specialised food stores (large firms) (-1)	-0.036416	0.032208	-1.130656	0.2617
Non-specialised food stores (large firms) (-12)	0.828919	0.058382	14.19827	0.0000
Food retailers	0.037285	0.015265	2.442520	0.0169

It can be seen that Figure 11 also shows the query share of the 'Food retailers' category in total queries to be generally growing over time. This may be partly attributed to the growing online presence of the UK's largest supermarket chains. Rising searches in this category, showing the fastest growing search queries, include ASDA Direct, Tesco Direct, ASDA online and Ocado (Waitrose/John Lewis Partnership).

Non–specialised non–food stores (large firms)

Large firms in this component of (predominantly non–food) retail sales are department stores and therefore map well to the Google Trends category of 'Mass merchants and department stores' where the top search queries include Marks and Spencer (various spellings and abbreviations), John Lewis, Debenhams, Next and River Island. **Figure 12** shows a strong correlation between these two time series and the Google Trends data is found to be significant in the regression model.

Figure 12   **Non–specialised non–food stores and Mass merchants**

Source: ONS Retail Sales and Google Trends

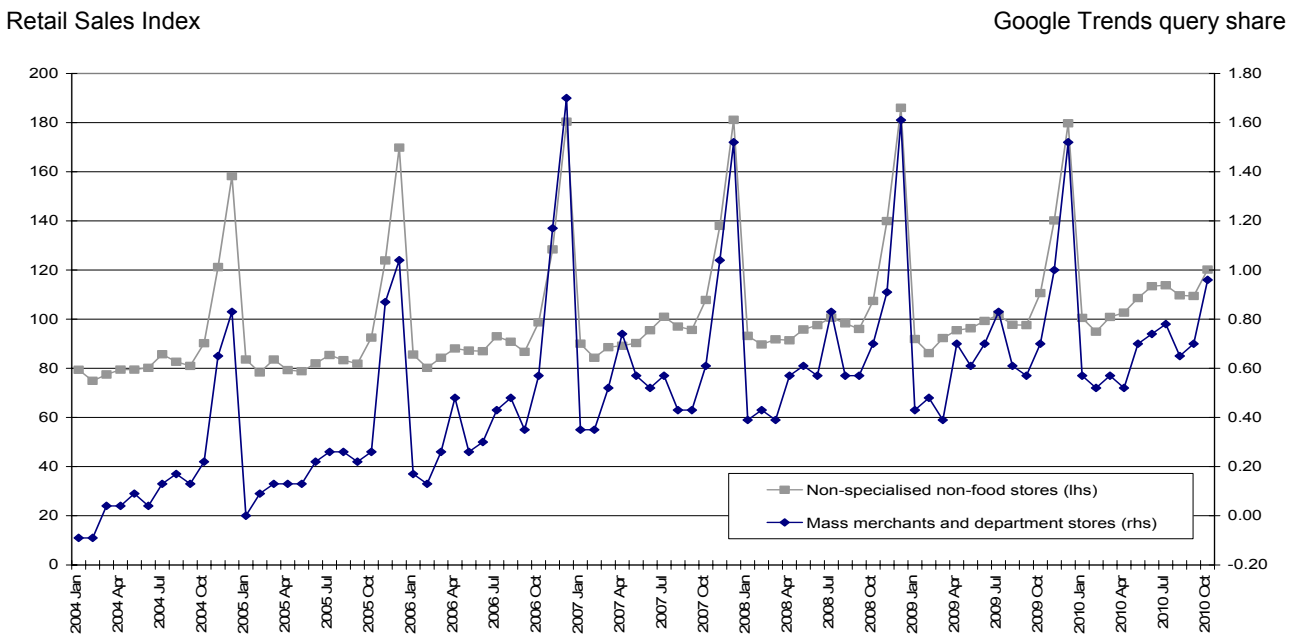**Dependent Variable: Non-specialised non-food stores**

Sample: 2004M02 2010M10

	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-3.01E-05	0.003453	-0.008730	0.9931
Non-specialised non-food stores (-1)	0.005328	0.015621	0.341071	0.7340
Non-specialised non-food stores (-12)	0.845518	0.044809	18.86949	0.0000
Mass merchants and department stores	0.078724	0.027889	2.822718	0.0061

Textiles, clothing and footwear (large firms)

There are a number of Google Trends categories that may be good indicators of clothing and footwear retail sales (other textiles are relatively small). As it happens, 'Apparel' is the most significant in terms of regression results, and as shown in **Figure 13**, it moves broadly in line with the official retail sales data. 'Apparel' consists of top search queries for items such as shoes, boots, dress and clothes, with most of the rising searches corresponding to retailers such as New Look, River Island, Dorothy Perkins, Monsoon, Topshop, Debenhams and Next. Other relevant Google Trends categories were found to be insignificant. 'Clothing retailers' primarily consists of search queries for outlet centres like Bicester Village, McAthur Glen, Ashford outlet and outlet Swindon. 'Clothing labels and designers' mainly consist of clothing brands and this too was found to be an insignificant variable.

Figure 13   **Textiles, clothing and footwear and Apparel**

Retail Sales Index   Google Trends query share
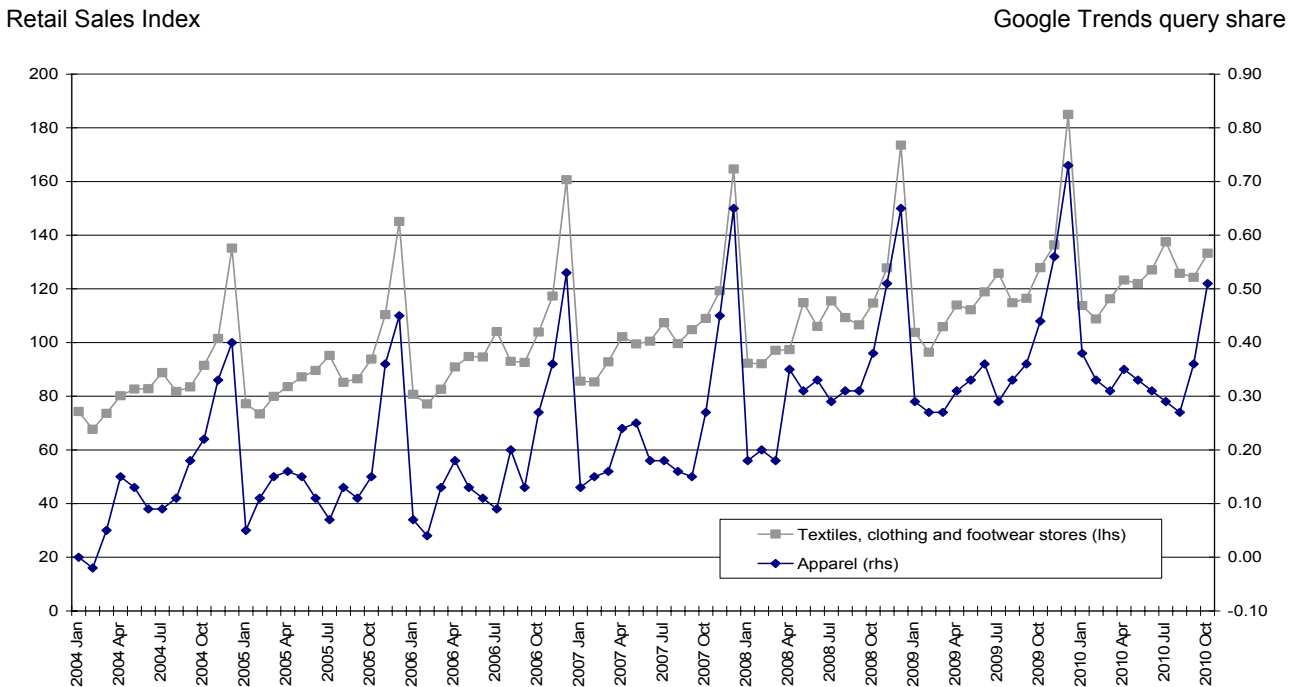
Source: ONS Retail Sales and Google Trends

Dependent Variable: Textiles, clothing and footwear (large firms)

Sample: 2004M02 2010M10

	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.762260	0.070735	-10.77632	0.0000
Textiles, clothing and footwear (large firms) (-1)	-0.098986	0.036680	-2.698638	0.0086
Textiles, clothing and footwear (large firms) (-12)	0.847713	0.064158	13.21287	0.0000
Apparel	0.284930	0.086051	3.311157	0.0014

Furniture and lighting

The 'Lighting' Google Trends category was found to be the most significant variable in the regression model among the various possibilities. And as **Figure 14** shows, there is a good correlation with movements in furniture and lighting retail sales. This is despite the top searches concentrating entirely on lighting (lighting, lights, lamps, bulbs and so on) with no coverage of furniture. Other Google Trends categories were insignificant in the regression, despite having top searches that might have been expected to be quite strongly correlated. For example, 'furniture' and 'Ikea' were the top two searches in both the 'Home and garden' and 'Home furnishings' categories. The 'Home making' category was also found to have limited significance, despite consisting of top searches such as blinds and curtains.

Figure 14   **Furniture and Lighting**
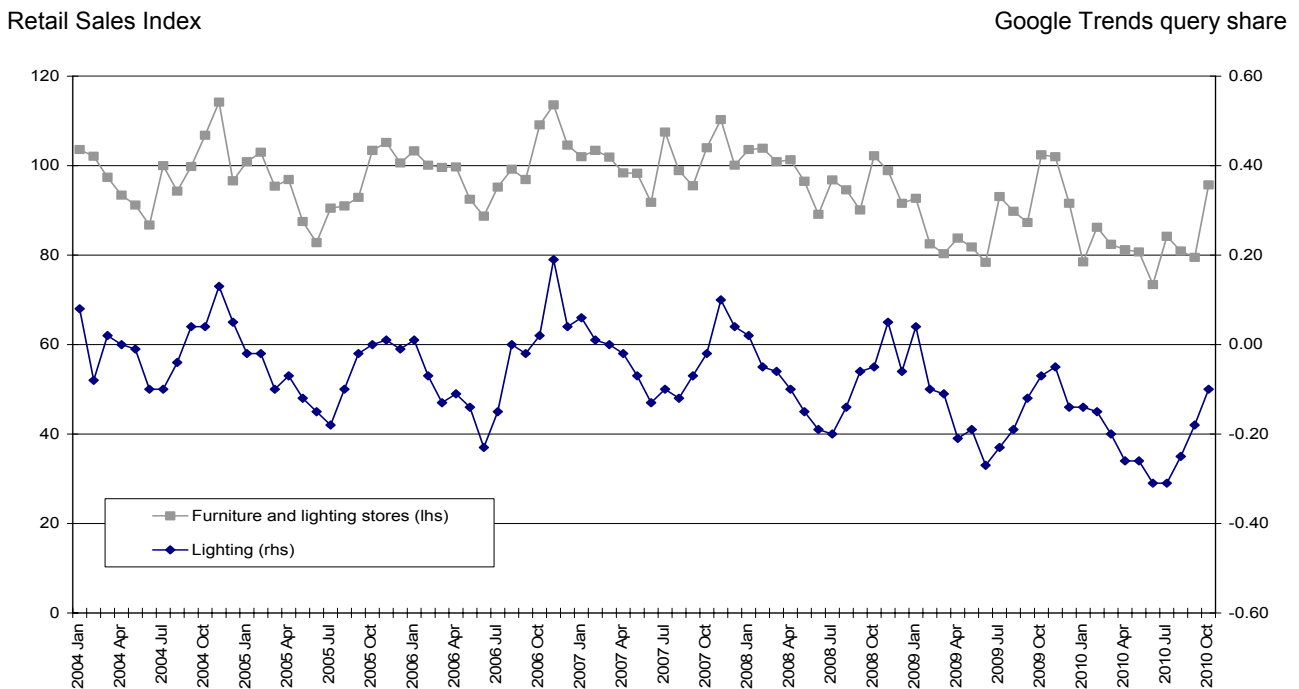
Source: ONS Retail Sales and Google Trends

Dependent Variable: Furniture and lighting

Sample: 2004M02 2010M10

	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.001585	0.005506	-0.287879	0.7742
Furniture and lighting (-1)	-0.238516	0.079849	-2.987089	0.0038
Furniture and lighting (-12)	0.631267	0.085860	7.352289	0.0000
Lighting	0.315846	0.087907	3.592973	0.0006

Electrical household appliances

On the face of it, retail sales of electrical household appliances have a strong association with the Google Trends category 'Home appliances' where the top searches consist of items like fridge, washing machine, oven, cookers, dishwasher and brands such as Hotpoint, Bosch, Dyson and Miele. However, as **Figure 15** and the regression results show, the actual correlation is weak, with the Google Trends data not reflecting the very strong seasonal pattern in retail sales which seem to peak after Christmas. It may be the case that individuals use the Internet to obtain information on these products and brands throughout the year but wait for the sales period before making purchases. Or it may be the case that this information is obtained 'in–store' rather than online, with store visits themselves driven by end of year promotions.

Figure 15   **Household appliances**

Retail Sales Index   Google Trends query share
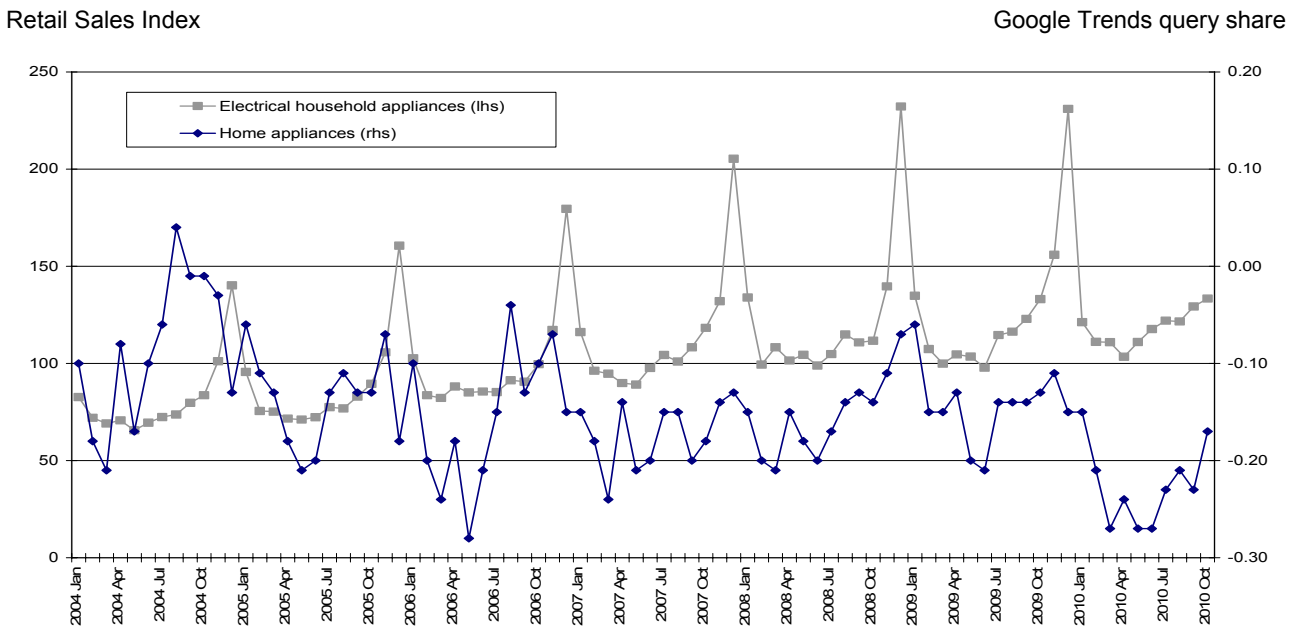
Source: ONS Retail Sales and Google Trends

Dependent Variable: Electrical household appliances

Sample: 2004M02 2010M10

	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.001452	0.008180	-0.177461	0.8596
Electrical household appliances (-1)	-0.068132	0.042030	-1.621050	0.1091
Electrical household appliances (-12)	0.960291	0.042651	22.51505	0.0000
Home appliances	0.062539	0.158712	0.394041	0.6946

Hardware, paint and glass

The 'Home improvement' category in Google Trends shows a strong correlation with the short–term movements in retail sales of Hardware, paint and glass (**Figure 16**) and reports a significant coefficient in the regression model. It is easy to see why when looking at the top searches which show the Google Trends 'Hardware' category to be strongly driven by B&Q and Homebase – the UK's two largest DIY chains. Wickes and Focus also appear in the list of top searches with Wilkinsons and Screwfix among the rising searches meaning that the Google Trends indicator is strongly based on retailers.

Figure 16   **Hardware and Home improvement**

Retail Sales Index   Google Trends query share
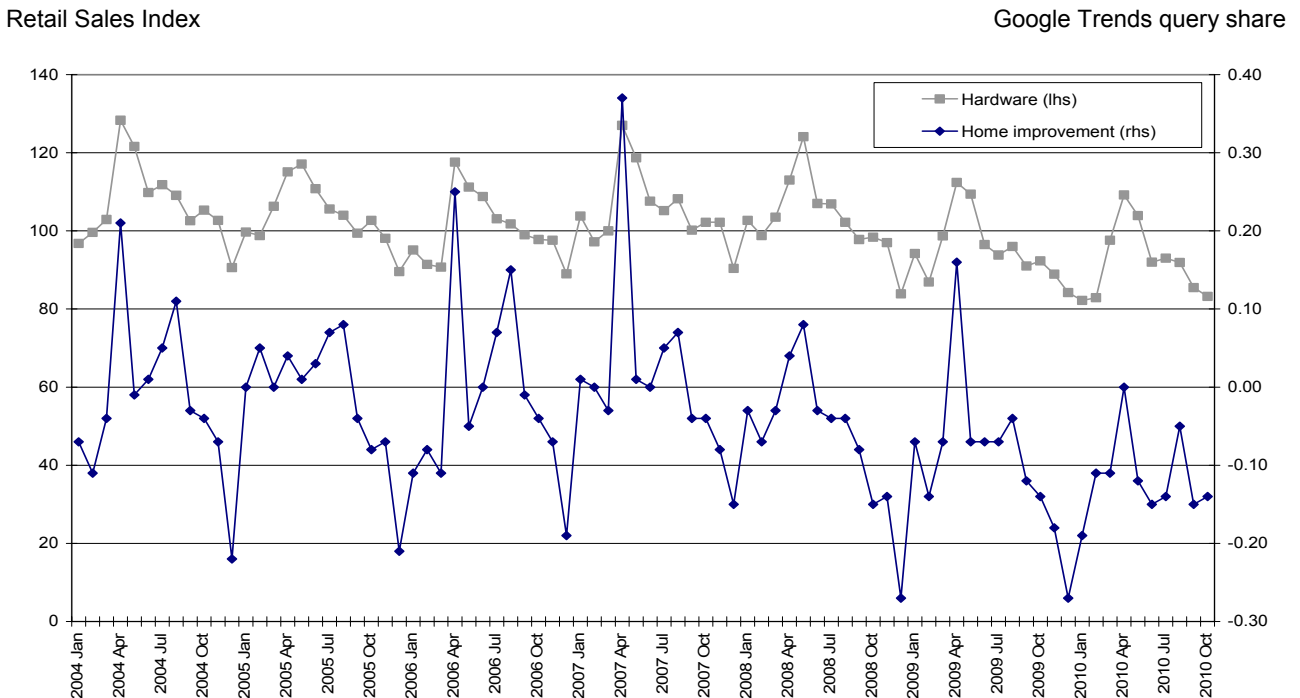
Source: ONS Retail Sales and Google Trends

Dependent Variable: Hardware

Sample: 2004M02 2010M10

	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.001689	0.004952	-0.341169	0.7339
Hardware (-1)	0.058889	0.065820	0.894694	0.3737
Hardware (-12)	0.512768	0.074151	6.915201	0.0000
Home improvement	0.318654	0.054996	5.794169	0.0000

Audio video equipment and recordings

There are several Google Trends categories that may be related to this part of retail sales although none are very significant in the regression model. A combination of 'Music streams and downloads' and 'Music retailers', as shown in **Figure 17**, appears to be the best fit – although neither is significant at the 10 per cent level and both are insignificant if included individually. Whilst the 'Music retailers' category, consisting mainly of searches for HMV, shows a similar seasonal pattern to the retail sales data, its share of search queries has fallen since 2007. At the same time the volume of search queries in the 'Music streams and downloads' category (including iTunes) has risen but this has a less seasonal pattern.

Figure 17   **Audio video and Music retailing and downloads**

Retail Sales Index   Google Trends query share
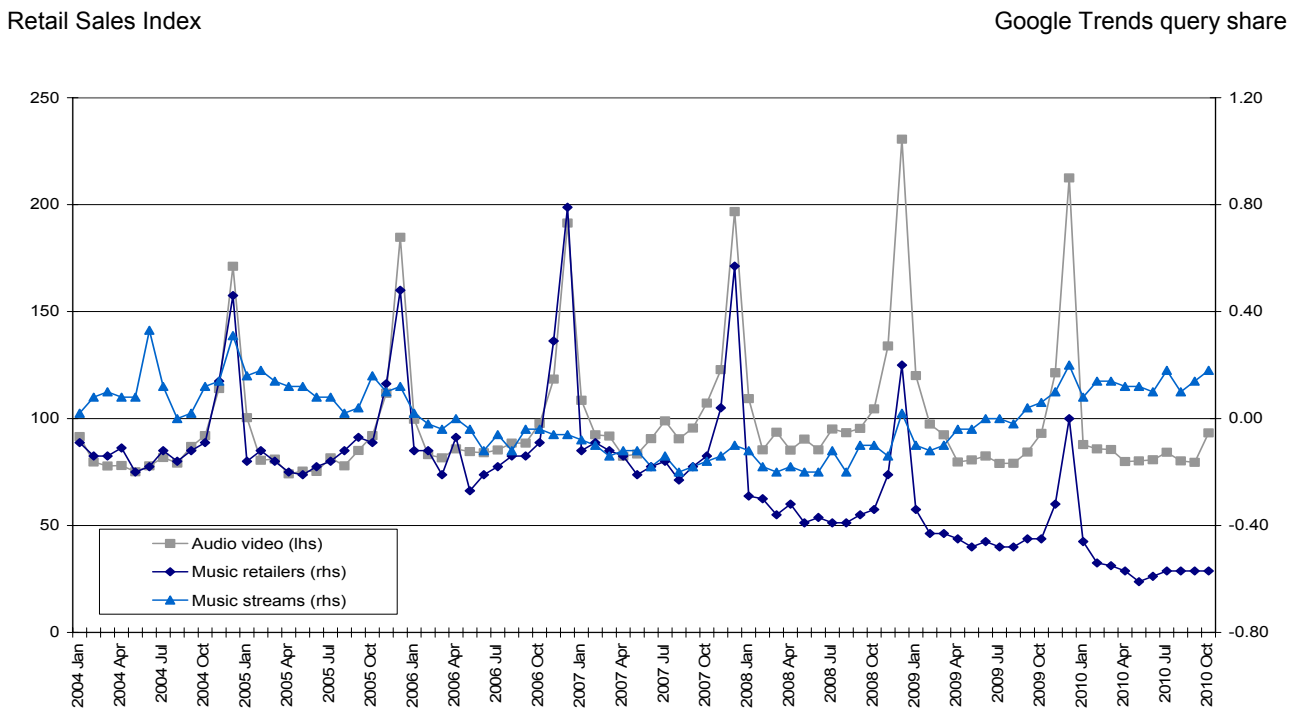
Source: ONS Retail Sales and Google Trends

Dependent Variable: Audio video

Sample: 2004M02 2010M10

	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.000937	0.007889	-0.118710	0.9058
Audio video (-1)	-0.023859	0.035811	-0.666242	0.5073
Audio video (-12)	0.867572	0.089219	9.724104	0.0000
Music streams and downloads	0.210392	0.128397	1.638600	0.1054
Music retailers	0.127788	0.087538	1.459801	0.1485

A number of other Google Trends categories were considered but found to be insignificant. These include:

- 'Audio equipment' which is driven mainly by iPod and MP3 search queries
- 'Consumer electronics' which also includes iPods along with TV, Sony, LCD, Panasonic and Samsung in the top searches, and
- 'Home video' which also includes top searches of TV, LCD, Sony, Panasonic and Samsung

The lack of any retailers among the top and rising searches may explain why these have limited significance in a regression on retail sales.

Books

Retail sales in books, newspapers and stationery are shown in **Figure 18** along with the Google Trends category 'Book retailers'. Clearly there is a strong correlation between the movements in each series and this is reflected in the regression model where the 'Book retailers' indicator is highly significant. The top searches are mainly focused around Amazon, although Waterstones and WH Smith also achieved a relatively high number of search queries. In the official retail sales data though Amazon is not categorised in books, newspapers and stationery but in non–store retailing. However, the evidence from the regression results suggest that it nonetheless still provides a good indicator of expenditure patterns. The same factors that may encourage people to go online and buy books from Amazon may also encourage purchases from other book stores.

Figure 18 **Books and Book retailers**

Retail Sales Index   Google Trends query share
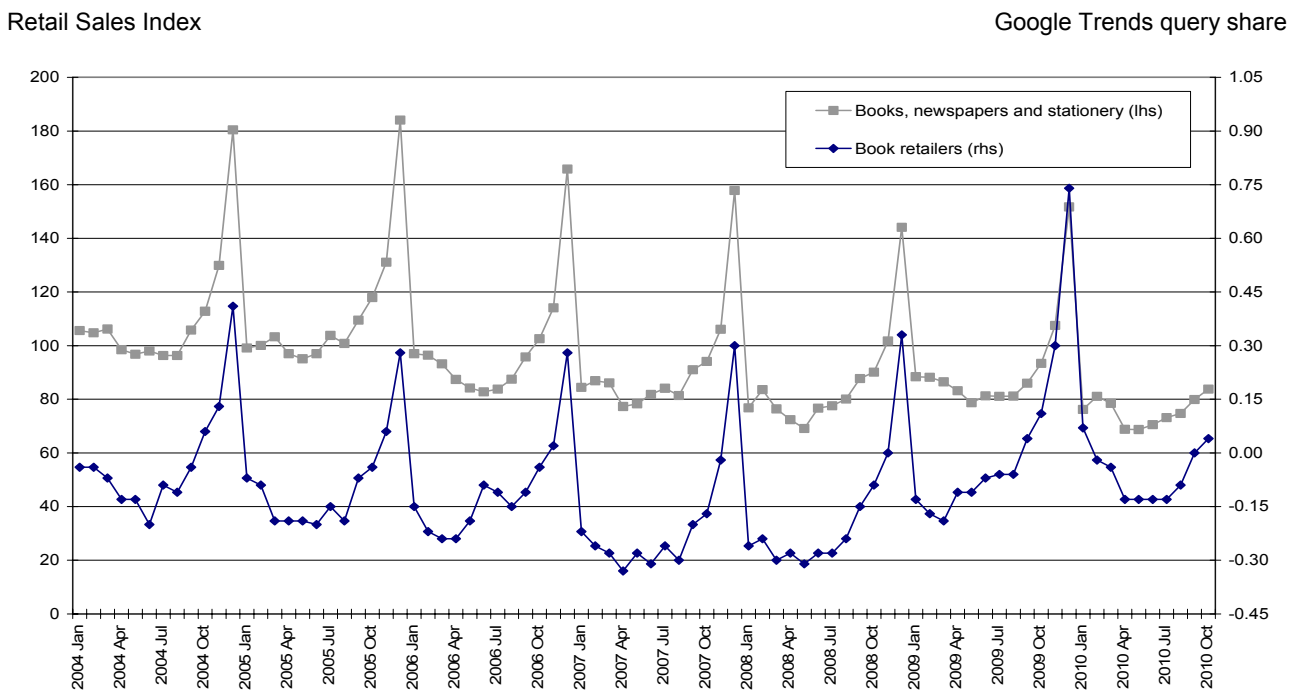
Source: ONS Retail Sales and Google Trends

Dependent Variable: Books, newspapers and stationery

Sample: 2004M02 2010M10

	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.003165	0.004873	-0.649469	0.5180
Books, newspapers and stationery (-1)	-0.064906	0.023838	-2.722810	0.0080
Books, newspapers and stationery (-12)	0.551515	0.069803	7.901055	0.0000
Book retailers	0.521628	0.078090	6.679855	0.0000

Computers and telecommunications

The Google Trends category 'Personal electronics' is found to be the most significant indicator of retail sales in computers and telecommunications. Top searches here are centred on small devises such as Palm, iPaq (an early Pocket PC), PDA and with Blackberry, iPhone and Windows mobile among the fastest rising searches. **Figure 19** shows the value in using the difference approach in the regression model, as the falling share in total search queries may reflect an initially high share in 2004 although this downward trend has arrested since 2008, perhaps partly due to the release of the iPhone. The short–term movements in the series are clearly more correlated with the retail sales data than the longer term trends.

'Consumer electronics' was also considered but found to be insignificant as this consists mainly of audio video equipment. As can be seen in the Appendix, the 'Mobile and wireless', 'Mobile phones'

and 'Telecommunications' categories all consist of broadly the same top searches (mobile, Nokia, O2, Samsung, Vodafone, Sony Ericsson, Carphone Warehouse and so on). These were also found to be significant in a regression on retail sales of computers and telecommunications but fitted less well than 'Personal electronics'.

Figure 19   **Computers and Personal electronics**

Retail Sales Index   Google Trends query share
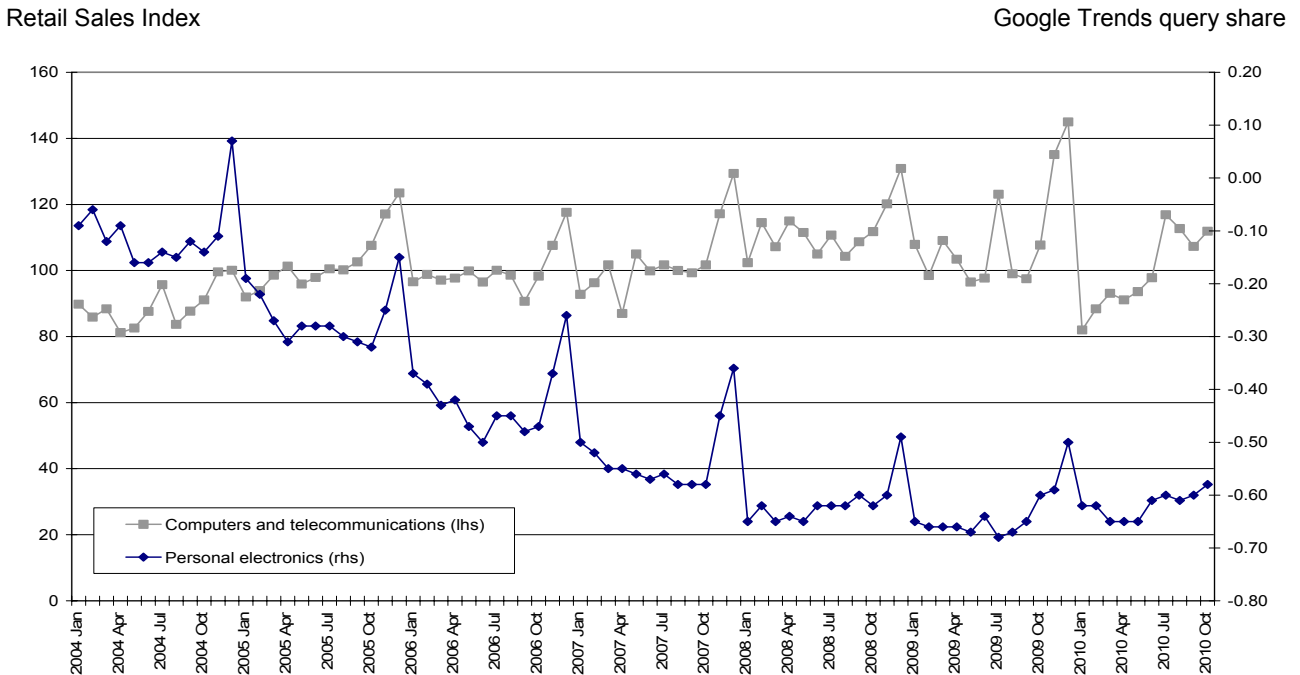
Source: ONS Retail Sales and Google Trends

Dependent Variable: Computers and telecommunications				
Sample: 2004M02 2010M10				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	0.003214	0.009720	0.330611	0.7418
Computers and telecommunications (-1)	-0.221568	0.084607	-2.618779	0.0106
Computers and telecommunications (-12)	0.449533	0.125867	3.571500	0.0006
Personal electronics	0.556862	0.149354	3.728459	0.0004

Non–store retailing (large firms)

Non–store retailing predominantly consists of mail order and market stalls, but the large firms time series is unlikely to consist of too many of the latter. The 'Shopping portals and search engine' category in Google Trends is found to exhibit similar movements and is significant in the regression model (see **Figure 20**). This category is dominated by catalogue–based retailers including Argos, Littlewoods, Additions and Empire. Although Argos operates a mail–order business, most of its

activity is still in store retailing so it is not classified in the non–store category. However, it may well still, provide a good proxy for activity in this part of retail sales.

Figure 20   **Non–store retailing and shopping portals**

Retail Sales Index   Google Trends query share
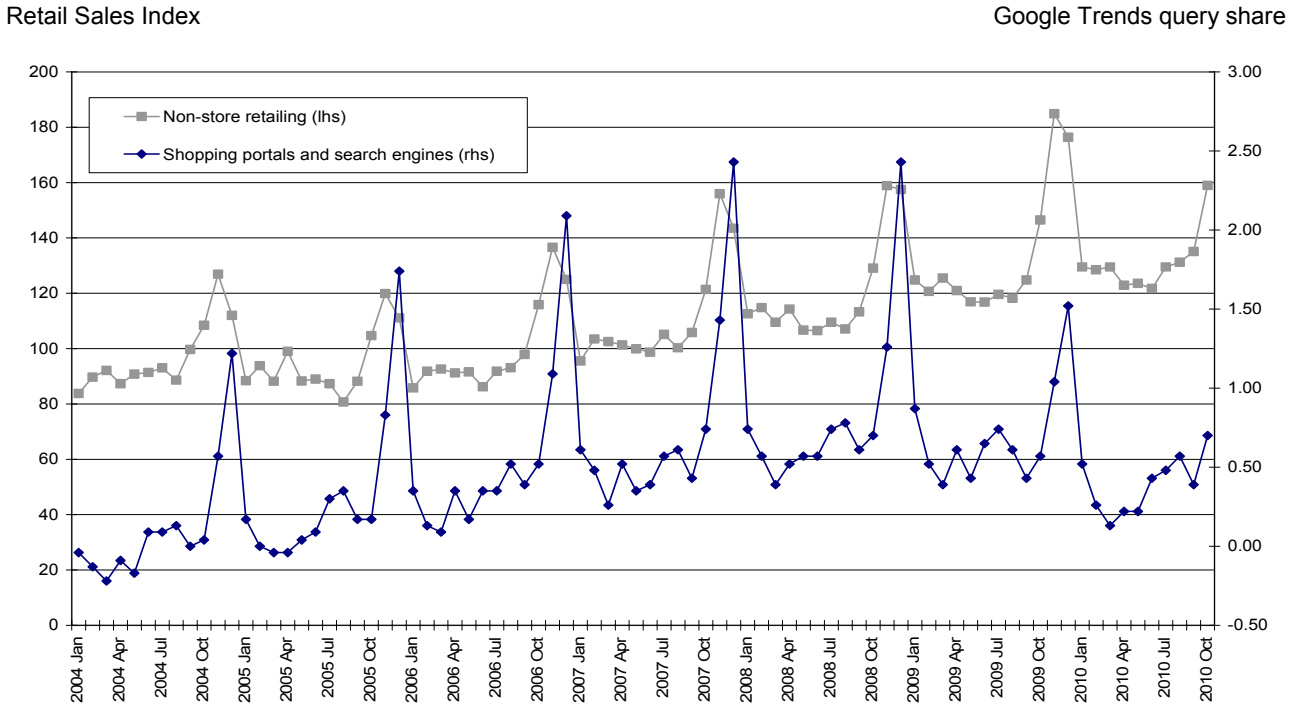
Source: ONS Retail Sales and Google Trends

Dependent Variable: Non-store retailing (large firms)				
Sample: 2004M02 2010M10				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	0.001096	0.005620	0.194989	0.8459
Non-store retailing (large firms) (-1)	-0.070876	0.063717	-1.112358	0.2694
Non-store retailing (large firms) (-12)	0.809537	0.062435	12.96605	0.0000
Shopping portals and search engines	0.039925	0.016244	2.457776	0.0162

Motor car registrations

Data on car registrations comes from the DVLA. **Figure 21** shows this to follow a very distinct seasonal pattern, with peaks in March and September each year coinciding with the latest new registration. Google Trends data on 'Vehicle licensing and registration' includes DVLA as the highest search, but does not match the strong seasonal pattern in the DVLA data and is insignificant in the regression. In fact the twelve month lag of the dependent variable itself is found to have a coefficient close to unity, implying that the time series is strongly related to its own past

seasonal behaviour. Car registration is ranked fairly low among the search queries making up the 'Vehicle licensing and registration' category which might explain its low significance. Other aspects of DVLA business including number plates, licensing and tax were also found to be among the top searches and show that the category consists of a broader array of search queries than just car registrations.

Figure 21   Car registrations and Vehicle licensing and registrations

Car registrations (thousands)   Google Trends query share
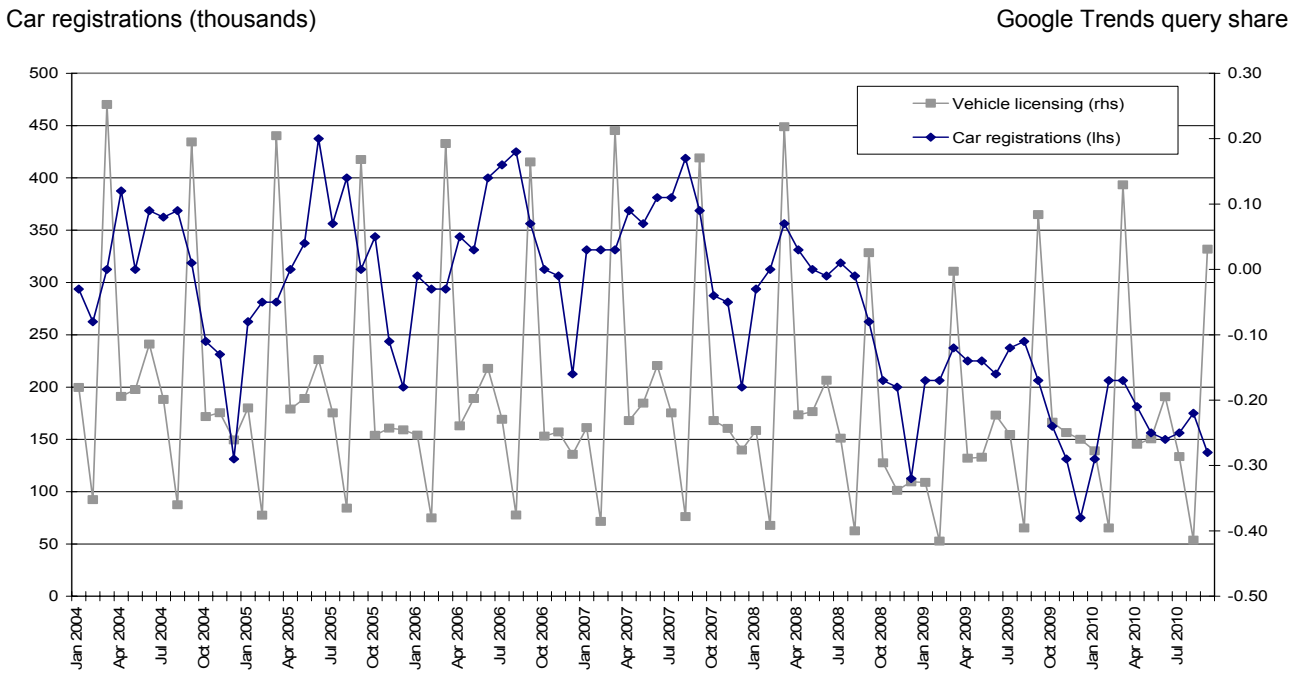
Source: DVLA Car Registrations and Google Trends

Dependent Variable: Car registrations (DVLA)				
Sample: 2004M02 2010M09				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.002254	0.010093	-0.223284	0.8239
Car registrations (DVLA) (-1)	-0.002951	0.015267	-0.193269	0.8473
Car registrations (DVLA) (-12)	1.008680	0.015127	66.67939	0.0000
Vehicle licensing and registrations	-0.180889	0.121163	-1.492935	0.1396

Testing Google Trends data as an explanatory variable for motor car sales would be more interesting than registrations. Choi and Varian (2009) do just this in their paper by investigating the relationship between sales and query shares for different vehicle brands.

There are a number of Google Trends categories which may be useful for analysing car sales, including:

- 'Vehicle shopping' – with Autotrader as the top search

- 'Vehicle brands' – which includes all the main vehicle manufacturers among the top searches

- 'Auto financing' – with top searches orientated towards leasing arrangements, and

- 'Automotive' – a general top level category of search queries

Monthly data on car sales in the UK is published by the Society of Motor Manufacturers and Traders (SMMT) although it is not made freely available to the public. Alternative sources of data might include quarterly spending on motor cars reported in ONS *Consumer Trends*, and the output of the distribution of motor vehicles industry in the monthly Index of Services.

Property transactions

The number of property transactions each month in England and Wales over £40,000 is published by the Land Registry. Google Trends data that are found to be significant include the categories of 'Real estate' and 'Home inspections and appraisals' (**Figure 22**). Top searches in the 'Real estate' category are estate agents, with the property website Rightmove not far behind. Other key words such as property, houses and mortgage also feature highly. Price comparison and property search websites feature among the rising searches, reflecting the increasing role the Internet is playing in both searching for properties and in finding the best financing options. The 'Home inspections and appraisals' category is a logical choice of indicator as these are usually carried out prior to transactions being completed.

Figure 22   Property transactions and Real estate

Number of property sales   Google Trends query share
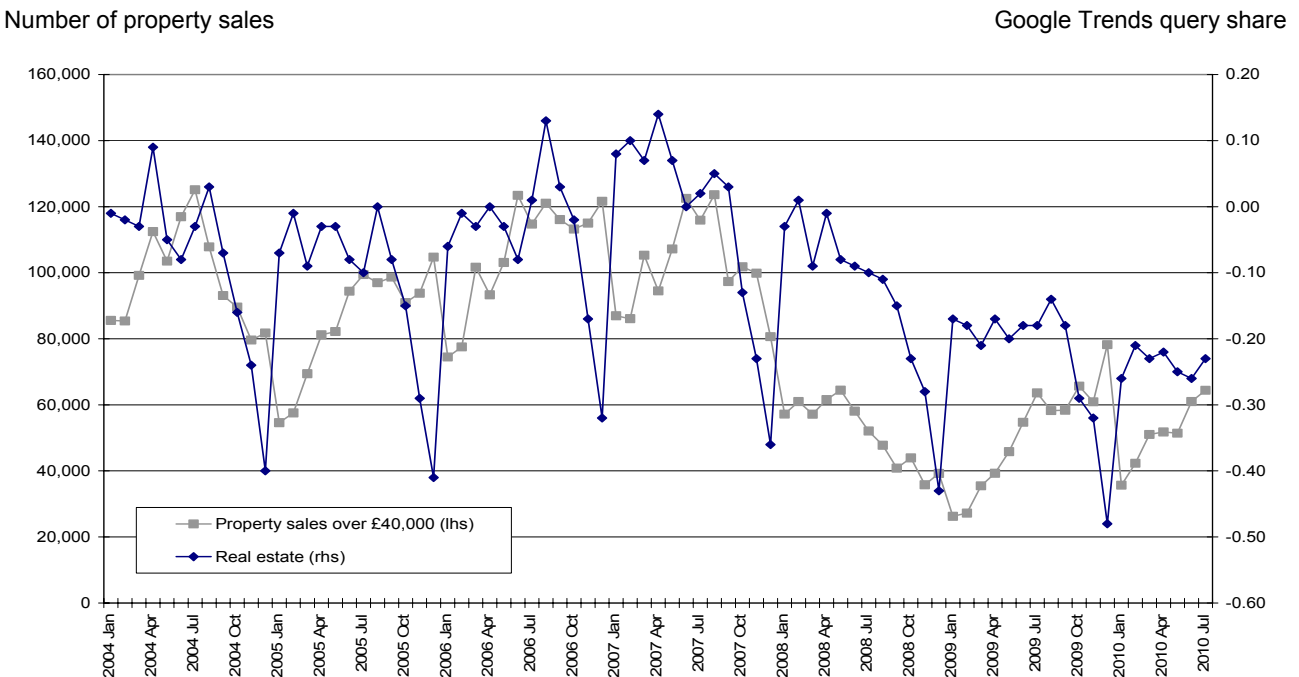
Source: Land Registry and Google Trends

Dependent Variable: Property sales (Land Registry)

Sample: 2004M02 2010M07

	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.003316	0.013665	-0.242686	0.8089
Property sales (Land Registry) (-1)	-0.157477	0.079126	-1.990209	0.0503
Property sales (Land Registry) (-12)	0.619341	0.115115	5.380191	0.0000
Real estate	-0.284405	0.145466	-1.955129	0.0544
Home inspections and appraisals	-0.286356	0.105654	-2.710324	0.0084

Mortgage applications

The number of mortgage approvals for house purchase is published each month by the Bank of England and relates to the Google Trends category of 'Home financing'. However, in the regression, a lag of the Google Trends data is found to be more significant than if the variable entered the regression contemporaneously which is evident in **Figure 23**. This probably reflects the time period between searching and approval when mortgage applications are completed and then processed (for example credit checks, proof of income, homebuyer surveys and so on). Price comparison websites like moneysupermarket.com are among both the top and rising searches.

Figure 23   **Mortgage approvals and home financing**

Number of mortgage approvals   Google Trends query share
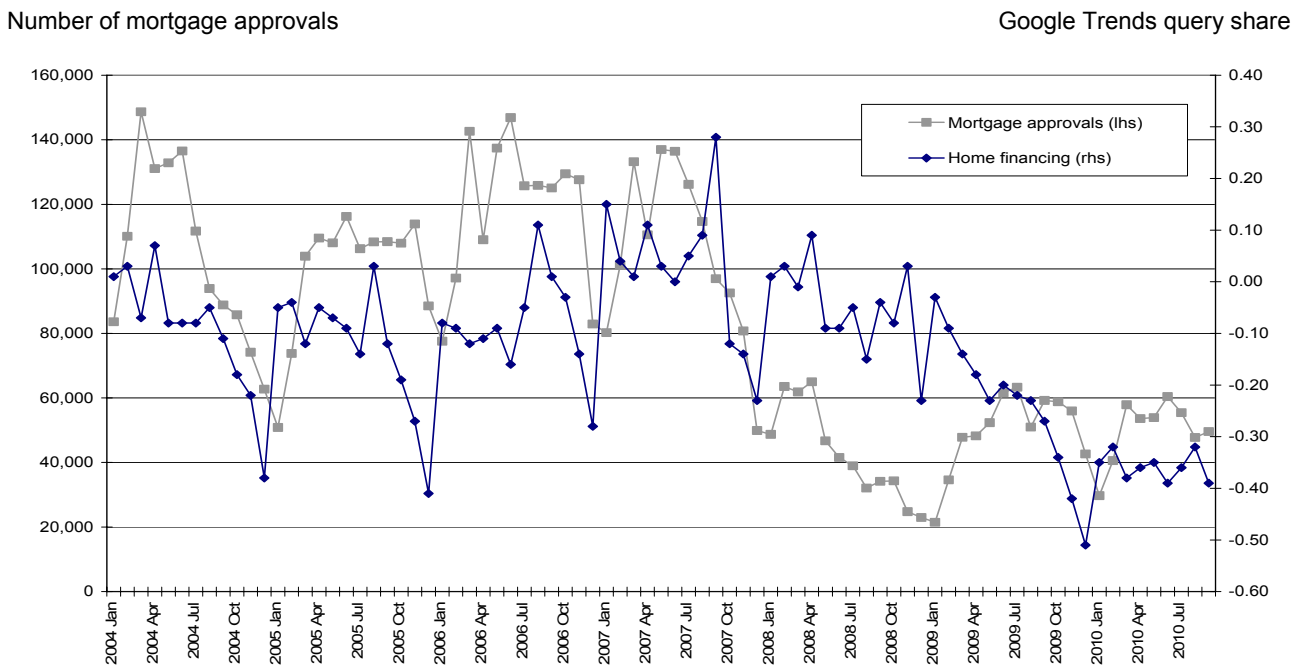
Source: Bank of England Monetary and Financial Statistics and Google Trends

Dependent Variable: Mortgage approvals (Bank of England)

Sample: 2004M02 2010M09

	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.005760	0.016813	-0.342565	0.7329
Mortgage approvals (Bank of England) (-1)	0.060705	0.089004	0.682042	0.4973
Mortgage approvals (Bank of England) (-12)	0.575170	0.102099	5.633439	0.0000
Home financing (-1)	0.280539	0.149869	1.871891	0.0651

It should also be noted that not all Internet searches for home financing necessarily lead to approvals as factors on both the supply and demand side of financial markets are important. For example, a tightening in lending conditions, as appears to be the case now, may lower the correlation between volumes of search queries and eventual approvals. The data in Figure 23 tends to show a sharper fall in mortgage approvals than 'Home financing' queries at the height of the financial crisis in the second half of 2008. Queries could fall with a slight lag relative to approvals as potential borrowers may not be immediately aware of changes in lending conditions.

International travel and tourism

ONS's monthly Travel and tourism statistical bulletin reports on the number of visits overseas by UK residents and their expenditure as collected from the International Passenger Survey (IPS). Several Google Trends categories report on queries relating to this activity. 'Travel' is a high level category consisting of search items like hotel, flights, holidays, trains and travel. Top searches in 'Vacation destinations' are New York, Las Vegas, Paris, Orlando, Barbados and Disneyland. In their article, Choi and Varian (2009) test the number of visits to Hong Kong as reported monthly by the Hong Kong Tourism Board against the 'Hong Kong' subcategory under 'Vacation destinations' and find a positive and significant relationship. 'Hotels and accommodation' is strongly concentrated in hotel chains with the Trip Advisor website among the rising searches. 'Air travel' picks up on queries for (cheap) flights, Easyjet, Ryan Air, British Airways among the top searches. And 'Cruises and charters' focuses on water transport with top searches including cruises, ferries, P&O, Royal Caribbean and Stena.

Despite there being a number of relevant Google Trends categories none were found to be significant in a regression with numbers of foreign trips, although the 'Travel' category does show similar seasonal movements (**Figure 24**). Other monthly data that might be worth testing with these indicators could be the output of the Air transport industry in the Index of Services and Airport passenger numbers as reported by the Civil Aviation Authority.

Figure 24   **Foreign trips and Travel**

Number of foreign trips by UK residents   Google Trends query share
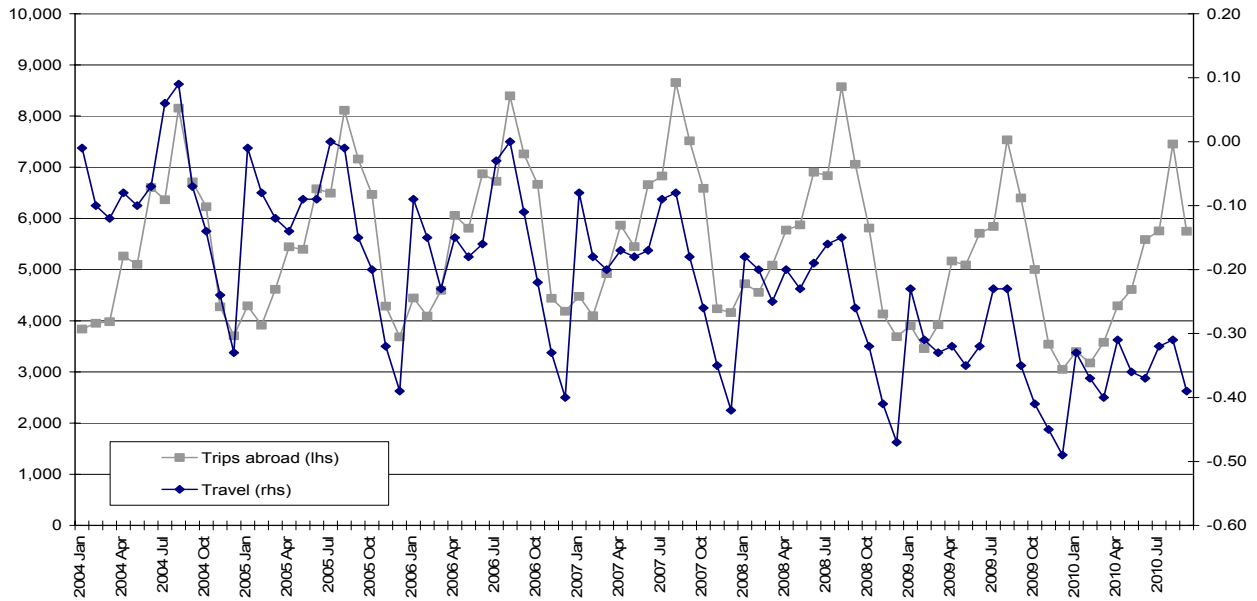
Source: ONS Travel and Tourism (IPS) and Google Trends

Dependent Variable: Visits abroad (IPS)				
Sample: 2004M02 2010M09				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.001077	0.007636	-0.140976	0.8883
Visits abroad (IPS) (-1)	-0.027541	0.043301	-0.636027	0.5267
Visits abroad (IPS) (-12)	0.930934	0.051045	18.23764	0.0000
Travel	0.083728	0.089440	0.936140	0.3522

Conclusions

This article has outlined the increasing use of the Internet by UK individuals and businesses as a means for finding out information and purchasing goods and services. It has then investigated whether the search queries made by people in a geographic area bear any resemblance to actual reported activity. As this search data from Google Trends is available in real time, any significant relationship could be potentially exploited for nowcasting. Google Trends data may also be used informally to pick up on changing patterns and rising trends in search queries and the implications they have for types of economic activity and spending.

Google Trends arranges search queries into categories, but the use is not just limited to these. Any user can form their own indicators, consisting of either individual or groups of search queries – and this may be particularly useful. For example, this article has found that Google Trends categories where large retailers are among the top searches are often significant indicators in a regression with retail sales. Therefore, composite indicators formed from search queries of major retailers or providers of goods and services in a particular field may provide useful advance information on changing patterns of spending.

Further information

Internet Access – shows information about both households with home access to the Internet and individuals' use of the Internet.
www.statistics.gov.uk/StatBase/Product.asp?vlnk=5672

E–Commerce – describes the use of Information and Communication Technology (ICT) and e–commerce activity by UK businesses.
www.statistics.gov.uk/statbase/Product.asp?vlnk=6645

Google Trends – Google Insights for Search can be used to compare search volume patterns across specific regions, categories, time frames and properties.
www.google.com/insights/search/

Contact
elmr@ons.gov.uk

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McLaren C (2009) 'An experimental measure of Internet retail sales: changes to methods', available at www.statistics.gov.uk/cci/article.asp?ID=2358

Wallis G (2006) 'Internet spending: measurement and recent trends', *Economic Trends*, March 2006, pp 65–75, available at www.statistics.gov.uk/cci/article.asp?ID=1449

Appendix: Top and rising searches in Google Trends categories

Shopping		Food retailers		Mass merchants and department stores		Apparel	
All retailing (large firms)		Non-specialised food stores (large firms)		Non-specialised non-food stores		Textiles, clothing and footwear (large firms)	
Top searches		**Top searches**		**Top searches**		**Top searches**	
ebay	100	tesco	100	marks spencer	100	shoes	100
argos	35	asda	50	john lewis	95	boots	75
ebay uk	25	tesco direct	15	marks and spencer	85	dress	55
next	20	morrisons	10	debenhams	75	clothes	45
shoes	15	sainsburys	10	times	60	next	40
boots	10	aldi	5	next	45	dresses	35
debenhams	10	clubcard	5	river island	45	nike	35
dress	10	george asda	5	m&s	25	river island	35
john lewis	10	lidl	5	marks spencers	25	watches	35
marks and spencer	10	ocado	5	woolworths	25	new look	30
river island	10	sainsbury	5	dorothy perkins	20	watch	30
topshop	10	supermarket	5	marks and spencers	20	asos	25
amazon	5	tesco clubcard	5	matalan	20	fancy dress	25
dresses	5	tesco online	5	next directory	20	topshop	25
fancy dress	5	tesco uk	5	miss selfridge	15	adidas	20
littlewoods	5	tescos	5	costco	10	debenhams	20
new look	5	waitrose	5	great universal	10	bags	15
nike	5	asda direct	0	harrods	10	dorothy perkins	15
shopping	5	asda uk	0	kays	10	monsoon	15
watches	5	online shopping	0	marks & spencer	10	trainers	15
Rising searches		**Rising searches**		**Rising searches**		**Rising searches**	
new look	300%	asda direct	4250%	m and s	400%	asos	950%
river island	200%	tesco direct	2900%	next sale	250%	new look	300%
amazon	150%	tesco deals	1100%	m&s	170%	river island	250%
topshop	120%	tesco clubcard	400%	river island	150%	dorothy perkins	170%
next	80%	clubcard	350%	times	110%	monsoon	170%
ebay	70%	asda online	190%	miss selfridge	90%	topshop	160%
ebay uk	70%	george asda	80%	dorothy perkins	80%	debenhams	130%
littlewoods	70%	asda	50%	halfords	70%	next	130%
dress	60%	sainsburys	50%	next	50%	dresses	80%
dresses	60%	ocado	40%	next directory	40%	dress	60%

Clothing retailers		Clothing labels and designers		Lighting		Home and garden	
Textiles, clothing and footwear (large firms)		Textiles, clothing and footwear (large firms)		Furniture and lighting		Furniture and lighting	
Top searches		**Top searches**		**Top searches**		**Top searches**	
urban	100	jeans	100	lighting	100	furniture	100
urban outfitters	75	abercrombie	95	lights	40	ikea	95
bicester	50	fitch	70	lamp	30	b&q	65
bicester village	40	zara	65	bulbs	25	homebase	60
mcarthur glen	20	abercrombie fitch	60	lamps	25	argos	40
designer outlet	15	abercrombie and fitch	50	light bulbs	15	b q	40
marshalls	15	north face	50	fluorescent	10	beds	30
outlet village	15	gap	45	halogen	10	kitchen	30
roupas	15	diesel	35	light bulb	10	diy	25
ashford	10	hollister	35	ceiling light	5	b and q	20
ashford outlet	10	superdry	35	ceiling lights	5	blinds	20
bicester outlet	10	karen millen	30	energy saving bulbs	5	john lewis	20
bicester shopping	10	nike	30	garden lights	5	kitchens	20
clothing stores	10	vans	30	gu10	5	lighting	20
gap kids	10	armani	25	light fitting	5	sofa	20
outlet swindon	10	burberry	25	light fittings	5	sofa sofa	20
urban rivals	10	hartlepool	25	lighting uk	5	wickes	20
bicester shopping village	5	paul smith	25	solar lights	5	focus	15
mens clothing	5	hugo boss	20	thorn	5	fridge	15
vintage clothing	5	reebok	20	wall lights	5	mfi	15
Rising searches		**Rising searches**		**Rising searches**		**Rising searches**	
roupa	Breakout	superdry	3250%	energy saving bulbs	160%	next	160%
roupas	Breakout	hollister	750%	gu10	140%	argos	90%
urban rivals	Breakout	h&m	200%	led bulbs	130%	ikea uk	70%
urban	180%	aldo	160%	led lights	110%	b and q	60%
urban outfitters	160%	abercrombie and fitch	140%	lamp shades	100%	john lewis	60%
hollister clothing	150%	karen millen	120%	ceiling light	90%	laura ashley	50%
vero moda	110%	abercrombie	90%	ceiling lights	60%	curtains	40%
bista village	70%	fitch	80%	solar lights	60%	homebase	40%
urbanoutfitters	70%	abercrombie fitch	70%	table lamp	50%	mattress	40%
banana republic	50%	fred perry	70%	light fitting	40%		

Home making		**Home furnishings**		**Home appliances**		**Home improvement**	
Furniture and lighting		Furniture and lighting		Electrical household appliances		Hardware, paints and glass	
Top searches		Top searches		Top searches		Top searches	
blinds	100	furniture	100	fridge	100	b&q	100
mfi	70	ikea	80	hotpoint	80	homebase	100
curtains	60	beds	35	bosch	75	b q	70
curtains curtains curtains	55	bed	25	dyson	70	b and q	40
bedroom	50	lighting	25	washing machine	70	diy	35
ikea	40	sofa	20	oven	55	b & q	30
colour	30	sofa sofa	20	cooker	50	kitchen	30
room	30	table	20	cookers	50	kitchens	30
decorating	25	chairs	15	dishwasher	45	wickes	30
colours	20	dfs	15	fridge freezer	40	focus	25
mirrors	20	laura ashley	15	hoover	40	paint	20
wallpaper	20	sofas	15	miele	40	dulux	15
bedroom furniture	15	carpets	10	washing machines	40	focus diy	15
bedrooms	15	chair	10	comet	35	insulation	15
kitchens	15	citizens advice	10	freezers	35	bq	10
mosaic	15	habitat	10	zanussi	35	homebase uk	10
plant	15	john lewis	10	microwave	30	tools	10
plants	15	lights	10	ovens	30	wicks	10
wardrobes	15	mattress	10	radiators	30	machine mart	5
interior design	10	tables	10	whirlpool	30	screwfix	5
Rising searches		Rising searches		Rising searches		Rising searches	
samsung pc studio	Breakout	homebase	80%	casas bahia	Breakout	wilkinsons	170%
decoracion	550%	scs	80%	you yube	Breakout	bq	150%
laura ashley	160%	furniture village	70%	beko	70%	screwfix	110%
hillarys blinds	60%	land of leather	70%	fridge freezer	40%	bandq	100%
bedroom ideas	40%	john lewis	60%			howdens	70%
curtains	40%	harveys	50%			b and q	50%
ikea uk	40%	ikea uk	50%			homebase uk	40%
		laura ashley	50%				
		dfs	40%				
		harveys furniture	40%				

Music streams and downloads		Music retailers		Audio equipment		Consumer electronics	
Audio and video equipment and recordings		Audio and video equipment and recordings		Audio and video equipment and recordings		Audio and video equipment and recordings	
Top searches		**Top searches**		**Top searches**		**Top searches**	
itunes	100	hmv	100	ipod	100	ipod	100
download	75	cd wow	10	mp3	20	tv	70
music	70	hmv uk	10	sony	20	sony	65
mp3	60	albums	5	apple	15	lcd	40
downloads	45	cds	5	ipod nano	15	panasonic	35
free music	40	cdwow	5	ipod touch	15	samsung	25
free downloads	30	hmv music	5	speakers	15	lcd tv	20
music downloads	30	new releases	5	apple ipod	10	speakers	20
free mp3	25	records	5	creative	10	apple	15
itunes download	25	virgin megastore	5	dab	10	ipod nano	15
download music	20	virgin megastores	5	headphones	10	ipod touch	15
music downloads free	20	amazon music	0	hifi	10	richer sounds	15
musica	20	fopp	0	mp3 player	10	apple ipod	10
download mp3	15	htfr	0	richer sounds	10	bose	10
i tunes	15	new albums	0	dab radio	5	creative	10
musicas	15	new music	0	hi fi	5	currys	10
midi	10	richard branson	0	i pod	5	headphones	10
mp3 downloads	10	virgin music	0	iphone	5	iphone	10
mtv	10	virgin store	0	mp3 players	5	mp3 player	10
اغاني	10	zavvi	0	sennheiser	5	toshiba	10
Rising searches		**Rising searches**		**Rising searches**		**Rising searches**	
baixar musicas	Breakout	zavvi	Breakout	iphone	Breakout	iphone	Breakout
musicas	Breakout	maximo	200%	ipod nano	Breakout	ipod nano	Breakout
ouvir musicas	Breakout	amazon music	70%	ipod shuffle	Breakout	ipod touch	Breakout
escuchar musica	5000%	hmv	60%	ipod touch	Breakout	samsung	200%
musica	3400%	hmv uk	60%	mp4	250%	lcd tv	180%
itunes download	850%	new releases	60%	bose	130%	currys	130%
free itunes	800%	new releases music	50%	ipod	70%	lcd	130%
itunes	300%	new albums	40%	apple ipod	50%	ipod	80%
طرب	300%			headphones	50%	tv	60%
i tunes	160%			apple	40%	apple	50%

Home video		Book retailers		Personal electronics		Consumer electronics	
Audio and video equipment and recordings		Books, newspapers and stationery		Computers and telecommunications		Computers and telecommunications	
Top searches		**Top searches**		**Top searches**		**Top searches**	
tv	100	amazon	100	palm	100	ipod	100
lcd	60	amazon uk	70	ipaq	80	tv	70
lcd tv	40	books	35	pda	70	sony	65
sony	35	waterstones	30	windows mobile	65	lcd	40
panasonic	30	amazon books	15	pocket pc	55	panasonic	35
samsung	25	whsmith	10	sync	50	samsung	25
dvd player	15	abe	5	blackberry	45	lcd tv	20
hdmi	15	abe books	5	gadgets	45	speakers	20
projector	15	amazon books uk	5	activesync	40	apple	15
toshiba	15	amozon	5	gadget	30	ipod nano	15
tvs	15	blackwells	5	hp ipaq	30	ipod touch	15
blu ray	10	book people	5	firebox	25	richer sounds	15
dvd recorder	10	bookshop	5	htc	25	apple ipod	10
hd tv	10	borders	5	treo	25	bose	10
lg	10	the book people	5	active sync	20	creative	10
plasma tv	10	waterstones books	5	gadget shop	20	currys	10
samsung lcd	10	wh smith	5	ebook	15	headphones	10
samsung tv	10	wh smiths	5	o2 iphone	15	iphone	10
sony tv	10	whsmiths	5	smartphone	15	mp3 player	10
televisions	10	isbn	0	xda	15	toshiba	10
Rising searches		**Rising searches**		**Rising searches**		**Rising searches**	
hd tv	Breakout	lea walker	Breakout	blackberry apps	Breakout	iphone	Breakout
blu ray	4500%	saraiva	Breakout	htc	Breakout	ipod nano	Breakout
hdmi	1550%	lea	1000%	o2 iphone	Breakout	ipod touch	Breakout
samsung lcd	700%	imogen	400%	blackberry	550%	samsung	200%
samsung tv	500%	play.com uk	350%	windows mobile	500%	lcd tv	180%
samsung	250%	amzon	110%	ebook	140%	currys	130%
lcd tv	170%	amazon uk	80%	firebox	90%	lcd	130%
lcd	130%	amazon	70%	sync	70%	ipod	80%
lg	90%					tv	60%
tvs	90%					apple	50%

Mobile and wireless		Mobile phones		Telecommunications		Shopping portals and search engines	
Computers and telecommunications		Computers and telecommunications		Computers and telecommunications		Non-store retailing (large firms)	
Top searches		Top searches		Top searches		Top searches	
mobile	100	nokia	100	mobile	100	argos	100
nokia	90	mobile	80	nokia	85	additions	5
o2	65	phones	60	bt	65	argos uk	5
phones	55	sony	50	o2	65	empire	5
samsung	45	carphone	45	orange	65	littlewoods	5
sony	45	samsung	45	phones	50	littlewoods direct	5
vodafone	40	ericsson	40	broadband	45	mercado libre	5
carphone	35	sony ericsson	40	samsung	45	woolworths	5
sony ericsson	35	carphone warehouse	35	sky	45	additions direct	0
blackberry	30	iphone	35	vodafone	40	argos additions	0
carphone warehouse	30	mobile phone	30	carphone	35	argos direct	0
iphone	30	mobile phones	30	iphone	35	argos toys	0
mobile phone	30	o2	30	yahoo	35	asda direct	0
mobile phones	25	orange	25	blackberry	30	empire direct	0
orange	25	motorola	20	bt yahoo	30	empire stores	0
motorola	20	vodafone	15	carphone warehouse	30	freemans	0
sms	15	2	10	mobile phone	30	mercado livre	0
t mobile	15	htc	10	sony ericsson	30	mercadolibre	0
twitter	15	lg	10	iplayer	25	tesco direct	0
virgin	15	phones 4 u	10	mobile phones	20	toys r us	0
Rising searches		Rising searches		Rising searches		Rising searches	
claro	Breakout	htc	Breakout	iphone	Breakout	mercado libre	Breakout
iphone	Breakout	iphone	Breakout	iplayer	Breakout	mercado livre	Breakout
twitter	Breakout	n95	Breakout	twitter	Breakout	mercadolibre	Breakout
oi	4950%	2	80%	blackberry	400%	asda direct	4850%
htc	4600%	lg	70%	skype	350%	tesco direct	2500%
blackberry	400%	carphone	50%	bt yahoo	250%	littlewoods direct	900%
lg	70%	carphone warehouse	50%	yahoo	200%	argos direct	70%
vodafone	60%	samsung	50%	tomtom	130%	empire stores	40%
virgin	50%	vodafone	50%	sky	70%		
carphone warehouse	40%	o2	40%	virgin	70%		

Vehicle licensing and registration		Automotive		Vehicle shopping		Vehicle brands	
Car registrations		Car registrations		Car registrations		Car registrations	
Top searches		Top searches		Top searches		Top searches	
dvla	100	car	100	autotrader	100	bmw	100
driving	40	autotrader	50	car	55	ford	85
number plates	20	cars	40	auto	45	audi	80
driving licence	10	insurance	40	trader	45	vw	75
dvla plates	10	ford	30	auto trader	40	cars	55
dvla tax	10	auto	25	cars	40	peugeot	45
car registration	5	car insurance	25	parkers	15	renault	45
car tax	5	auto trader	20	used cars	15	mercedes	40
driving lessons	5	bmw	20	autotrader uk	10	fiat	35
driving school	5	dvla	20	ford	10	honda	35
driving test	5	trader	20	used car	10	nissan	35
dvla car tax	5	audi	15	audi	5	toyota	35
dvla number plates	5	ebay	15	bmw	5	volvo	35
number plate	5	honda	15	car dealers	5	porsche	30
private plates	5	mercedes	15	car sales	5	volkswagen	30
provisional	5	vauxhall	15	cars for sale	5	citroen	25
registrations	5	vw	15	cars sale	5	mazda	25
road tax	5	halfords	10	parkers guide	5	mini	25
tax disc	5	renault	10	toyota	5	land rover	20
vehicle	5	toyota	10	vauxhall	5	vauxhall	20
Rising searches		Rising searches		Rising searches		Rising searches	
dvla address	450%	pistonheads	2000%	ebay motors	600%	fiat 500	550%
dvla car tax	450%	car games	300%	autos	250%	chevrolet	190%
car tax	300%	ebay	200%	car giant	110%	bugatti	160%
dvla tax	300%	car tax	180%	autotrader	90%	what car	70%
tax disc	300%	autotrader	140%	cargiant	80%	auto trader	50%
provisional licence	190%	halfords	60%	ebay cars	60%	audi a4	40%
vosa	120%	trader	60%			kia	40%
provisional	110%	auto trader	50%			parkers	40%
car check	70%	auto	40%			range rover	40%
road tax	70%	what car	40%				

Auto financing		Real estate		Home inspections and appraisals		Home financing	
Car registrations		Property transactions		Property transactions		Mortgage approvals	
Top searches		**Top searches**		**Top searches**		**Top searches**	
leasing	100	estate agents	100	whats my	100	mortgage	100
lease	80	property	85	assessor	55	nationwide	80
leasing car	70	rightmove	75	assessors	45	money	45
finance	60	houses	55	appraisal	35	mortgages	45
lease car	40	mortgage	35	whats car worth	25	money supermarket	40
car finance	30	housing	30	home inspector	15	mortgage calculator	35
black horse	15	right move	30	appraiser	10	moneysupermarket	20
contract hire	15	houses for sale	25	assesor	10	northern rock	20
lease cars	15	nationwide	25	energy assessor	10	compare	15
lease hire	15	property for sale	20	home inspection	10	buy to let	10
black horse finance	10	mortgages	15	home inspectors	10	car insurance	10
blackhorse	10	flats to rent	10	treasurer	10	loans	10
car credit	10	gumtree	10	assesors	5	mortgage rates	10
car loan	10	halifax	10	assessor jobs	5	best mortgage	5
car loans	10	house prices	10	cedae	5	capital gains	5
contract hire leasing	10	houses to rent	10	e-vision	5	compare car insurance	5
contract leasing	10	land registry	10	investment appraisal	5	morgage	5
fipe	10	money supermarket	10	scottish assessors	5	mortgage deals	5
lex	10	mortgage calculator	10	whats my angle	5	mortgage rate	5
vehicle leasing	10	real	10	whats my speed	5	mortgage uk	5
Rising searches		**Rising searches**		**Rising searches**		**Rising searches**	
consorcio	Breakout	gumtree	3750%	assessor jobs	Breakout	compare the market	Breakout
fipe	Breakout	money supermarket	500%	energy assessor	Breakout	compare car insurance	850%
tabela fipe	Breakout	moneysupermarket	400%	home inspector	Breakout	car insurance	550%
lease car deals	400%	rightmove	350%	whats car worth	500%	money supermarket	500%
car leasing deals	350%	right move	250%	home inspectors	200%	moneysupermarket	400%
audi leasing	140%	nationwide	80%	assessor	180%	money	350%
lease a car	120%	house prices	70%	whats my	180%	compare	170%
audi lease	100%	houses to rent	70%	home inspection	130%	bbc mortgage	160%
loan calculator	60%	swansea	70%	assesor	120%	nationwide	80%
lease bmw	50%	savills	50%	assessors	120%	pret	80%

Travel		Vacation destinations		Hotels and accommodation		Air travel		Cruises and charters	
Overseas visits		Overseas visits		Overseas visits		Overseas visits		Overseas visits	
Top searches		**Top searches**		**Top searches**		**Top searches**		**Top searches**	
hotel	100	holidays	100	hotel	100	flights	100	cruises	100
flights	70	new york	95	hotels	50	cheap flights	40	ferries	100
holidays	65	last minute	75	holiday	20	easyjet	40	cruise	85
hotels	50	vegas	75	london	20	airlines	35	ferry	85
train	40	las vegas	70	edinburgh	15	ryanair	35	p&o	40
travel	40	paris	50	cottages	10	british airways	20	thames	20
holiday	30	virgin holidays	45	hilton	10	heathrow	20	ferries france	15
cheap flights	25	orlando	40	holiday inn	10	gatwick	15	p and o	15
easyjet	25	barbados	35	premier inn	10	virgin	15	p&o ferries	15
national rail	20	disneyland	35	travelodge	10	airport parking	10	royal caribbean	15
ryanair	20	jamaica	35	blackpool	5	ba	10	stena	15
train times	20	disney	30	cheap hotels	5	belfast	10	dover calais	10
virgin	20	disneyland paris	30	dubai	5	bmi	10	ferry dover	10
edinburgh	15	florida	30	holidays	5	easy jet	10	ferry france	10
gatwick	15	lastminute	30	ibis	5	flybe	10	ferry to france	10
heathrow	15	new york hotel	30	london hotels	5	manchester airport	10	irish ferries	10
thomas cook	15	cuba	25	marriott	5	monarch	10	p & o	10
trains	15	all inclusive	20	travel inn	5	ryan air	10	p o ferries	10
cheap holidays	10	caribbean	20	travel lodge	5	stansted	5	princess cruises	10
weather	10	hong kong	20	trip advisor	5	virgin atlantic	5	stena line	10
Rising searches		**Rising searches**		**Rising searches**		**Rising searches**		**Rising searches**	
premier inn	750%	travelzoo	Breakout	trip advisor	1100%	travel supermarket	2050%	cruises 2010	Breakout
trainline	130%	travel zoo	3750%	premier inn	800%	skyscanner	800%	norfolkline	450%
first choice	120%	panama	180%	tripadvisor	750%	thomas cook	140%	cruise deals	250%
national rail	120%	virgin atlantic	120%	laterooms	250%	jet2	120%	royal caribbean	250%
thomson	120%	queens	80%	premier travel inn	250%	thomson	110%	ncl	130%
thomson holidays	110%	all inclusive	70%	late rooms	200%	virgin atlantic	80%	norfolk	120%
thomas cook	100%	last minute deals	70%	travelodge	100%	baa	70%	norfolk line	120%
travelodge	100%	virgin holidays	70%	last minute	50%	ryanair	60%	caribbean cruises	100%
national express	60%			harrogate	40%	aer lingus	50%	celebrity cruises	80%
ryanair	50%			hotel reviews	40%	ba	50%	princess cruises	80%