

Understanding recent developments in UK external trade

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The sterling effective exchange rate depreciated by around 25% between mid-2007 and early 2009. That has encouraged a shift towards UK exports and away from imports, contributing to a significant narrowing in the United Kingdom's real trade deficit. This article explains these developments in more detail. It shows that the depreciation has induced considerable switching of expenditure by overseas companies and households towards UK goods exports, and by UK residents away from travel services imports. But financial services exports appear to have suffered from the financial crisis. And there seems to have been less of a response to the exchange rate depreciation in other services exports and non-travel imports. Looking ahead, both the level of sterling and developments in the rest of the world are likely to be crucial to the United Kingdom's trade performance.

Introduction

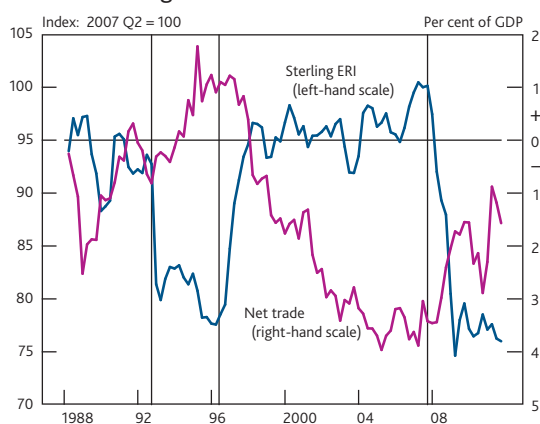
Between mid-2007 and early 2009, the sterling effective exchange rate index (ERI) depreciated by around 25%. Since then it has remained broadly flat (**Chart 1**).⁽²⁾ By making UK exports more competitive and imports into the United Kingdom less affordable, weaker sterling should boost export volumes and reduce import volumes (known as 'expenditure switching'). Such an increase in net trade (exports less imports) would boost UK GDP.

Four years after the depreciation began, a large part of the trade response to the lower level of sterling should have been completed. And indeed, between 2007 Q2 (the quarter before the depreciation began) and 2011 Q3, the net trade deficit roughly halved from 3.0% to 1.6% of GDP (**Chart 1**). In fact, the deficit in 2011 Q1 (0.9%) was the smallest since 1998.⁽³⁾

As well as the relative prices of traded goods and services, demand conditions in the United Kingdom and abroad will have affected net trade. Empirical estimates suggest that the impact of changes in demand on trade is typically stronger than the effect of changes in prices. In the 2008–09 recession, UK GDP and UK-weighted world GDP⁽⁴⁾ fell considerably (**Chart 2**). Although they have recovered, UK GDP rebounding by less, these changes will have significantly reduced the demand for UK imports and exports respectively.

The aim of this article is to describe recent developments in net trade, and to assess the impact from sterling's

Chart 1 Sterling ERI and UK real net trade^(a)



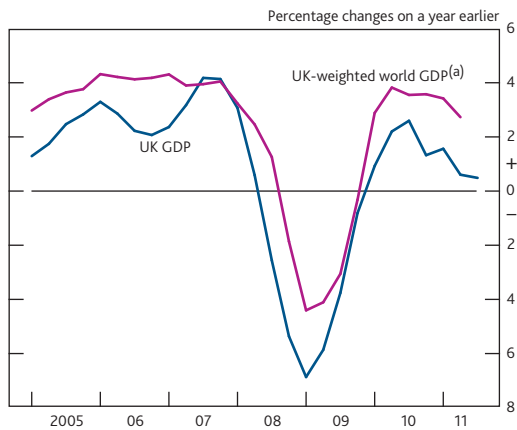
Sources: ONS and Bank calculations.

(a) The vertical lines mark the beginning of the major nominal exchange rate movements that began in 1992 Q3, 1996 Q2 and 2007 Q3. In 1992 Q3 sterling exited the Exchange Rate Mechanism, and by 1993 Q1 had depreciated by around 15%. In 1996 Q2 sterling started to appreciate, and by 1998 Q1 had increased by about 25%.

depreciation.⁽⁵⁾ In doing so, it examines disaggregated data on exports and imports of both goods and services. Different

- (1) The authors would like to thank Binod Bhoi for his help in producing this article.
- (2) The sterling effective exchange rate is weighted by 2009 UK trade shares. See Astley, Smith and Pain (2009) for a discussion of the possible reasons for the depreciation.
- (3) This article takes at face value the quarterly ONS chained-volume trade data up to 2011 Q3 published in the *UK Trade* September 2011 release on 9 November 2011. (Updating for the *UK Trade* October 2011 release on 9 December makes very little difference.) Throughout, the article excludes the estimated impact of missing trader intra-community (MTIC) fraud. Both trade volumes and prices data are volatile and prone to revision, more so than other components of demand. The improvement in net trade is much larger following the recent revisions in the 2011 *Blue Book*: prior to that, the deficit was estimated at 2.0% in 2011 Q1.
- (4) UK-weighted world GDP weights together 52 countries' GDP using 2010 UK export shares from the 2011 *Pink Book*. These countries account for 90% of UK exports.
- (5) This article focuses on the real trade balance. Nominal net trade improved roughly as much as real net trade in the first two years after the depreciation; since then it has been weaker.

Chart 2 UK GDP and UK-weighted world GDP



Sources: ONS and Bank calculations.

(a) The last observation is 2011 Q2, since many countries' GDP data for 2011 Q3 are not yet available. See footnote (4) on page 294 for a description of UK-weighted world GDP.

subsectors have been affected by distinct shocks, and so their developments have been very different. The article tries to control for demand movements by considering export and import shares — that is, exports relative to world demand and imports relative to domestic demand.

The first section of the article discusses how UK exports have performed since 2007. It considers export price developments, before examining the impact on export shares for both goods and services. The next section analyses import developments, including a particular focus on travel imports and barriers to switching away from other imports. The article concludes by drawing together the implications for net trade.

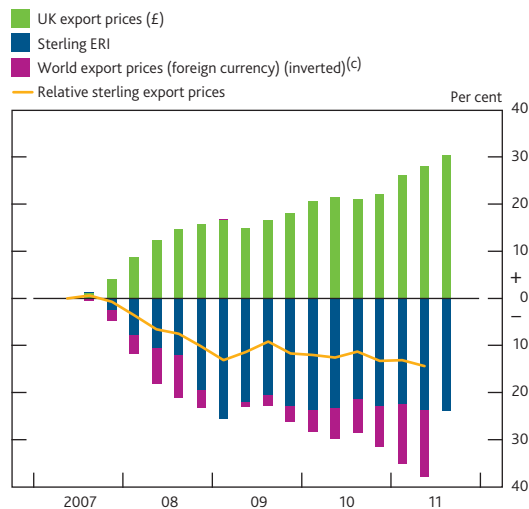
Export developments

The volume of goods and services that the UK economy exports is determined primarily by the level of foreign demand and the price of UK exports relative to prices in other countries. A depreciation of sterling should make UK goods and services relatively cheaper abroad. And foreign companies and households should respond to that price change by increasing their demand for UK exports.

Export prices

Between 2007 Q2 and 2011 Q2, UK exporters' sterling export prices rose by nearly 30% (green bars in **Chart 3**).⁽¹⁾ But world export prices in sterling terms increased by more (the magenta bars (inverted) and blue bars together). Overall, relative export prices — the sterling price of UK exports relative to world exports (in sterling terms) — have fallen by around 15%.⁽²⁾ In other words, *compared to before the depreciation*, UK exports are now 15% cheaper relative to their competitors. The response of relative export prices has been similar to that in previous episodes of large exchange rate movements (**Chart 4**).

Chart 3 Cumulative changes in relative sterling export prices and its components since 2007 Q2^{(a)(b)}



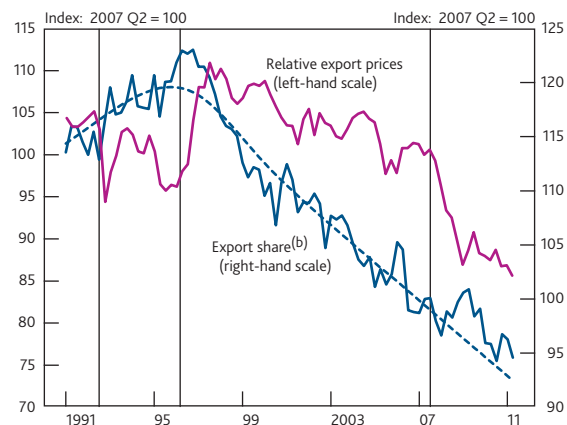
Sources: ONS and Bank calculations.

(a) Relative sterling export prices are UK export prices in sterling divided by world export prices in sterling. World export prices in sterling are world export prices in foreign currency divided by the sterling ERI. So higher world export prices reduce relative sterling export prices.

(b) The bars represent percentage changes for the individual series. The orange line represents the percentage change in relative sterling export prices. The latter is only approximately equal to the sum of the percentage changes for the individual series, since they are large numbers.

(c) The world export price series weights together 45 countries' export prices and the oil price using UK trade shares from the *Pink Book*. These countries account for 84% of UK exports. The last observation is 2011 Q2, since many countries' data for 2011 Q3 are not yet available.

Chart 4 UK export market share and relative export prices^(a)



Sources: ONS and Bank calculations.

(a) The last observations are 2011 Q2.

(b) UK exports relative to UK-weighted world trade. See footnote (1) on page 296 for a description of UK-weighted world trade. The dashed blue line is a pre-depreciation trend line, based on a Hodrick-Prescott (HP) filter estimated from 1991 Q1 to 2007 Q2.

The United Kingdom's export market share

Since 2008, world GDP has fallen and recovered sharply (**Chart 2**), which can make it hard to isolate the expenditure-switching effects of the depreciation. A closer measure of UK export demand would be UK-weighted world

(1) Companies can set prices for the goods and services they export in either their home currency or in the currency of the foreign destination. This can affect the observed price response in the short run. See MacCoille, Mayhew and Turnbull (2009) for more discussion of the currency of invoicing.

(2) Excluding oil from both UK export prices and world export prices reduces the change in both series by around 5 percentage points over the whole period, so the movement in *relative* sterling export prices is unaffected.

trade. This weights together the imports of all countries in the world according to their importance in UK exports. It has been even more volatile over this period.⁽¹⁾ In order to control for these large fluctuations in demand, it helps to look at the United Kingdom's export market share: that is, UK exports as a share of UK-weighted world trade.

The United Kingdom's export share has been on a secular decline since 1996 (Chart 4). That is likely to reflect two factors. First, the increased global presence of low-cost emerging market economies such as China and India competing with UK exporters. Second, the significant appreciation of sterling in 1996, which made UK exporters less competitive. Since the depreciation, the United Kingdom's export share has improved slightly relative to its pre-depreciation trend.

It is possible to estimate the relationship between UK export volumes, UK-weighted world trade and relative export prices, as other authors have done. Exports are typically observed to be more sensitive to demand movements than to relative price changes. Demand elasticities are usually found to be unitary, so a 10% increase in demand leads to a 10% rise in exports. Estimates for the price elasticity of exports — or equivalently, the export share — typically range from -0.1 to -0.7, with an average of -0.4 (Table A). That is, a 10% reduction in relative UK export prices on average leads to a 4% increase in the UK export share, relative to trend. The wide range reflects uncertainties about the precise magnitude of this channel.

Table A Estimates of the elasticity of export volumes to relative export prices^(a)

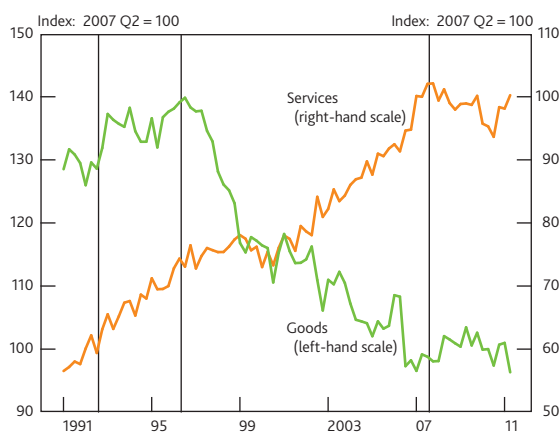
Barrell, Choy and Kirby (2006)	-0.1
Wren-Lewis and Driver (1998)	-0.3
Pain <i>et al</i> (OECD) (2005)	-0.6
Barrell, Dury and Pain (NIGEM) (2001)	-0.7
Average	-0.4

(a) These are estimates of the long-run elasticities. The sample periods used vary across studies, but none include the recent depreciation.

The equivalent observed price elasticity following the recent depreciation appears to be lower than these estimates (Chart 4). That is, the export share has increased by less than the fall in relative export price would suggest, based on past behaviour.

To understand why exports have been relatively weak, it is necessary to consider goods and services exports separately. By using detailed national accounts data from the United Kingdom's biggest trading partners, a measure for world trade in goods and world trade in services can be constructed. The aggregate export share can then be decomposed into the United Kingdom's export market shares of goods and services (Chart 5).

Chart 5 UK export market shares^(a)



Sources: ONS and Bank calculations.

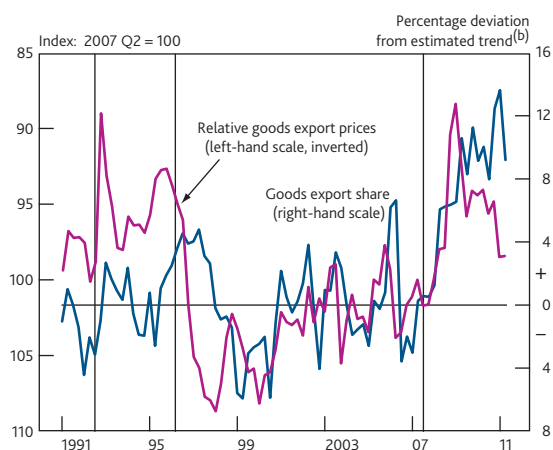
(a) UK goods (services) exports divided by imports of goods (services) in Canada, France, Germany, Italy, Japan and the United States, weighted using UK 2010 goods (services) export shares from the 2011 *Pink Book*. The last observations are 2011 Q2.

Goods exports

The goods export market share fell between 1997 and 2007 (Chart 5), with a particularly pronounced decline following sterling's appreciation in 1996. Since the depreciation in 2007, the share has been broadly flat. That suggests that weaker sterling has arrested the slide in the United Kingdom's share of goods trade with its major trading partners.

Chart 6 shows the deviation from an estimated trend in the goods export share and compares it to the relative export price for goods (magenta line, inverted). It shows that following the depreciation, relative export prices fell significantly (although some of that has reversed recently). The improvement in the

Chart 6 UK goods export market share and relative goods export prices^(a)



Sources: ONS and Bank calculations.

(a) UK goods exports (export prices) divided by imports of goods (export prices of goods) in Canada, France, Germany, Italy, Japan and the United States, weighted using UK 2010 goods export shares from the 2011 *Pink Book*. The last observations are 2011 Q2.

(b) The trend in the goods export share is based on an HP filter estimated from 1991 Q1 to 2007 Q2.

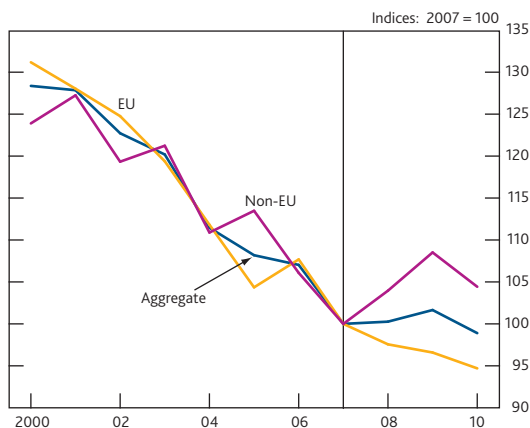
(1) The proxy for world trade used here weights together 52 countries' imports using 2010 UK export shares from the 2011 *Pink Book*. These countries account for 90% of UK exports. Domit and Shakir (2010) outline possible reasons for the collapse in world trade.

goods export share is, if anything, stronger than the past relationship would suggest. That implies there has been substantial expenditure switching in goods exports. That broad finding is robust to using alternative trends for the goods export share.

As with aggregate exports, there have been large swings in most categories of goods exports associated with the collapse and subsequent rebound in world trade. But it is not possible to accurately assess which components of goods exports have benefited most from the lower exchange rate, because it is difficult to obtain sectoral data on the relative export price or overseas demand.

But one way to split the data further is by region — for example, exports to the European Union (EU) and those to the rest of the world (non-EU). These regions accounted for 54% and 46% of the United Kingdom’s goods exports respectively in 2010. The improvement in the UK goods export market share since 2007 appears to be almost entirely a non-EU phenomenon (Chart 7). The export share with EU countries has continued to decline, albeit at a slower pace than prior to the depreciation. The divergent behaviour in export shares has occurred despite sterling depreciating by a broadly similar amount against the United Kingdom’s main trading partners.

Chart 7 UK goods export market share in the EU and non-EU^(a)



Sources: ONS and Bank calculations.

(a) UK goods exports divided by imports of goods in the other 26 EU countries, and in 35 non-EU countries (accounting for 86% of goods exports to the non-EU), weighted using UK 2010 goods export shares from the 2011 *Pink Book*. Data are only available in annual terms.

A proxy for relative goods export prices to the two regions suggests, however, that UK exporters’ relative prices to the non-EU have fallen by more than those to the EU. That may have contributed to the relatively better performance of UK exports to the non-EU. One explanation for this could be that exporters to high growth areas have used the depreciation as an opportunity to expand market share. This is consistent with evidence from the Bank of England’s Agents: they found that Asian demand has been an important driver of recent

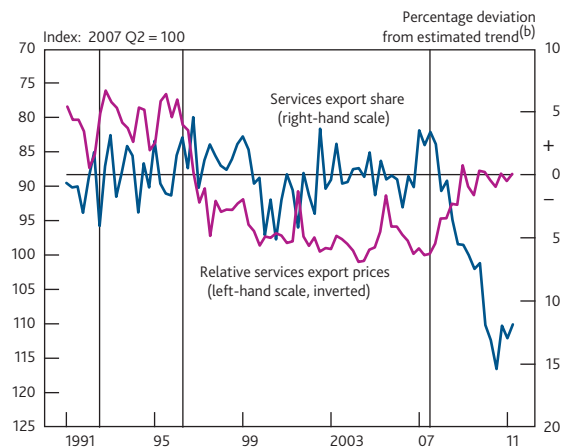
export growth.⁽¹⁾ And the United Kingdom’s loss of market share in the EU could itself reflect increased competition from emerging economies.

In summary, goods exports appear to have been boosted significantly by the depreciation.

Services exports

Exports in the services sector (which account for 40% of total UK exports), have performed rather differently to goods exports. The United Kingdom’s services export market share rose fairly steadily between 1991 and 2007 (Chart 5). But from its peak in 2007 Q4, the share fell significantly, and has only recently recovered its pre-depreciation level. Given the sizable fall in the relative price of services exports (magenta line (inverted), Chart 8), it appears surprising that the export share has fallen at all relative to its pre-depreciation trend — let alone by so much.

Chart 8 UK services export market share and relative services export price^(a)



Sources: ONS and Bank calculations.

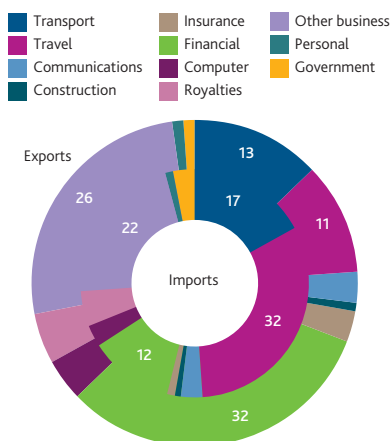
(a) UK services exports (export prices) divided by imports of services (export prices of services) in Canada, France, Germany, Italy, Japan and the United States, weighted using UK 2010 services export shares from the 2011 *Pink Book*. The last observations are 2011 Q2.
 (b) The trend in the services export share is based on an HP filter estimated from 1991 Q1 to 2007 Q2.

But services trade is generally less sensitive to the exchange rate and prices than goods trade. The main reason for that is generally thought to be that services exporters compete on the basis of product quality (and reputation) rather than price, with a rise in relative prices sometimes indicating higher quality.⁽²⁾ The relationship between the deviation of the United Kingdom’s services export market share from its trend, and the relative services export price (Chart 8), is not as close as that for goods.

(1) Even within the EU, however, there has been a divergence — with stronger growth to Eastern Europe. For more details, see Bank of England (2011a).
 (2) See Pain and van Welsum (2004), Pain *et al* (2005) and Wren-Lewis and Driver (1998). Other reasons are that intra-firm trade in services is likely to be less affected by exchange rate fluctuations, given the scope for multinationals to engage in transfer pricing. And, although aggregate services trade may be relatively price inelastic, different types of services exports have a wide range of price responsiveness.

Financial services can probably account for why the United Kingdom's services export share has not continued to increase since the depreciation. Disaggregated data on services export volumes show that financial services account for around a third of UK services exports (**Chart 9**). And their share in GDP fell by 1 percentage point between their peak and trough, while other services exports continued to increase (**Chart 10**). A box on page 299 considers developments in financial services exports in more detail.

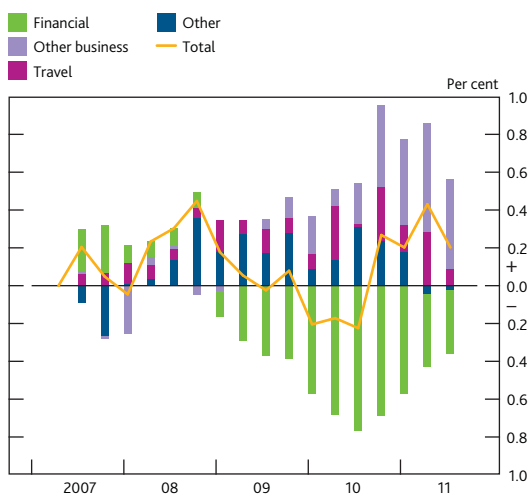
Chart 9 Breakdowns of services exports and imports volumes^{(a)(b)}



Sources: ONS and Bank calculations.

(a) Shares are for 2008, the National Accounts reference year.
 (b) Shares are only labelled for those sectors whose shares are above 10%.

Chart 10 Cumulative changes in services exports and its components as a share of GDP since 2007 Q2



Sources: ONS and Bank calculations.

Import developments

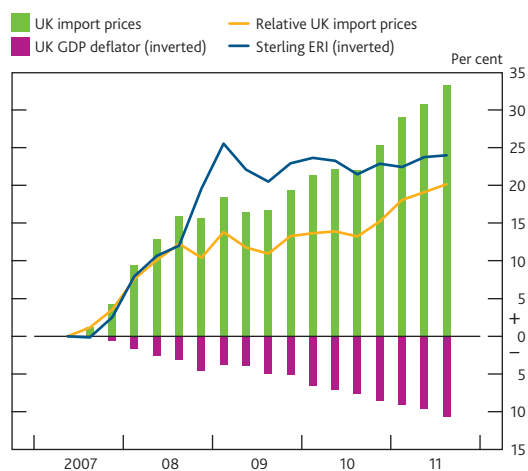
Analogous to exports, the quantity of goods and services imported into the United Kingdom depends on aggregate demand in the UK economy and the price of foreign imports relative to domestic products. A lower level of sterling should make goods and services from abroad more expensive and

UK companies and households should respond to this price change by demanding fewer imports.

Import prices

By 2011 Q3, import prices were over 30% higher than in 2007 Q2 (green bars, **Chart 11**). That is a broadly similar increase to that of export prices (**Chart 3**) — the UK terms of trade have been relatively stable.⁽¹⁾ Over that time, the prices of domestically produced alternatives (as measured by the GDP deflator) have risen by around 10% (magenta bars). So relative import prices have risen by roughly 20% (orange line).

Chart 11 Cumulative changes in sterling ERI and relative import prices since 2007 Q2^{(a)(b)}



Sources: ONS and Bank calculations.

(a) Relative UK import prices are UK import prices relative to the UK market price GDP deflator.
 (b) The bars represent percentage changes for the individual series. The orange line represents the percentage change in relative UK import prices. The latter is only approximately equal to the sum of the percentage changes for the individual series, since they are large numbers.

Import penetration

Demand for imports rebounded sharply as aggregate demand recovered following the recession (**Chart 2**). A closer measure of UK import demand is import-weighted total final expenditure (TFE). That weights together the components of aggregate UK demand by their estimated import intensities from the 2005 ONS Input-Output tables.⁽²⁾ As with exports, empirical estimates suggest that imports are more sensitive to movements in demand than to relative prices. So in order to detect expenditure switching, it is best to control for these movements in demand by considering import penetration: that is, imports as a share of import-weighted TFE.

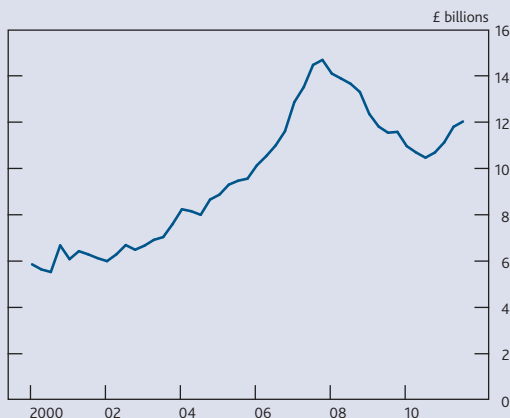
In the decade leading up to 2007, import penetration steadily rose (blue line in **Chart 12**) and relative import prices fell (magenta line, inverted). That reflects the fact that global integration and competition from low-cost economies lowered the price of imports to all advanced economies and led to an increase in the share of imports in final expenditure.⁽³⁾ It may

(1) See MacCoille, Mayhew and Turnbull (2009).
 (2) For instance, some expenditure components such as investment are more reliant on imports than others, such as government spending.
 (3) For instance, see Buisán, Learmonth and Sebastià-Barriel (2006), MacCoille (2008), Hooper, Johnson and Marquez (2000) and Pain *et al* (2005).

Developments in financial services exports

Financial services export volumes accounted for a third of UK services exports (**Chart 9**), or 4% of GDP, in 2008. Between their peak in 2007 Q4 and their trough in 2010 Q3, they fell by 29% or 1.0 percentage points of GDP (**Chart A**). Since then they have recovered somewhat. Over the longer period of comparison in **Chart 10** (2007 Q2 to 2011 Q3), they have fallen by 11% or 0.3 percentage points of GDP. This box outlines what financial services exports are and tries to explain why they fell so significantly.⁽¹⁾

Chart A Financial services exports^(a)



(a) Chained-volume measures (reference year 2008).

Defining financial services exports

The ONS publishes the breakdown of nominal financial services exports in the *Pink Book*. Monetary financial institutions, such as banks, represent the largest part (63%) of financial services exports. Securities dealers (18%), fund managers (9%) and other institutions (9%) make up the rest.

For monetary financial institutions and securities dealers, three broad types of financial services exports are published, each accounting for about a third of export values in 2008. First, commissions and fees, which are explicit charges relating to transactions. Second, spread earnings, which are margins on buying and selling transactions. Third, financial intermediation services indirectly measured, the value of the services provided by financial intermediaries (such as banks) for which no explicit charges are made; instead they are paid for as part of the margin between rates applied to savers and borrowers.

Understanding the fall in financial services exports

Although the breakdown of financial services export volumes is not available from the ONS, the split of nominal financial services exports indicates that the significant drop has been broadly based across its components.

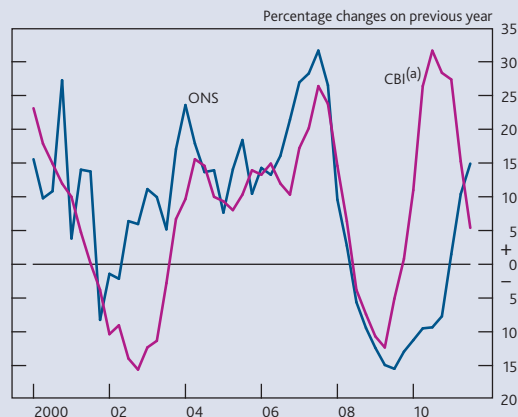
The large fall in financial services exports seems plausible for many reasons. The financial nature of the crisis, banking sector deleveraging, and anecdotal evidence of financial institutions withdrawing from activities abroad are all consistent with

lower financial services exports. And financial services exports have fallen in other countries, implying a fall in the global demand for financial services trade.

Nevertheless, there are challenges associated with measuring financial services exports, both conceptually — what should count as value added — and because of the difficulty of measuring them. For example, some services are not charged for explicitly. For a full discussion, see Burgess (2011).

Reflecting these difficulties, financial services exports as measured by the ONS are uncertain. While large revisions are relatively rare and typically reflect methodological changes, evidence from the *CBI Financial Services Survey* — although supportive of the initial large drop in exports (**Chart B**) — suggests a somewhat earlier and stronger recovery.

Chart B Financial services exports: ONS and *CBI Financial Services Survey*



Sources: ONS and Bank calculations.

(a) Volume of business with overseas customers from *CBI Financial Services Survey*, percentage balance. Four-quarter moving average, adjusted to have the same mean and variance as the ONS series over the period 2000–11.

Implications of weaker financial services exports

The United Kingdom specialises in financial services. For example, they make up a 21 percentage point bigger share of UK services exports than imports (**Chart 9**).⁽²⁾ That is, even though financial services imports also fell markedly (by 26% from peak to trough, similar to the fall in exports), the financial crisis disproportionately affected UK *net* trade.

And the sector accounts for a bigger proportion of exports than in other countries (**Chart 2** of Burgess (2011)). Therefore, even though other countries' financial services exports were also reduced by the crisis, the sector has dragged on the United Kingdom's services export and aggregate export *shares*.

Finally, it is likely that most of the fall in demand for UK financial services output in 2009 was due to exports.⁽³⁾

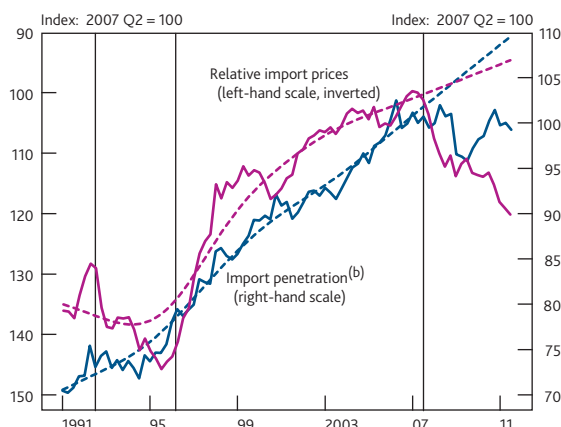
(1) It is heavily based on the boxes on pages 237 and 240 in Burgess (2011).

(2) In terms of total UK exports and imports, the difference is 10 percentage points. For example, see **Chart 13** of Astley, Smith and Pain (2009).

(3) See **Chart 6** of Burgess (2011), which is based on data prior to the *Blue Book*.

also, in part, reflect sterling's appreciation in 1996. Since the recent depreciation, the directions of both variables have reversed, although the large swing in import penetration, in part, reflects the large fall and subsequent recovery in world goods trade during and after the recession.

Chart 12 UK import penetration and relative import prices^(a)



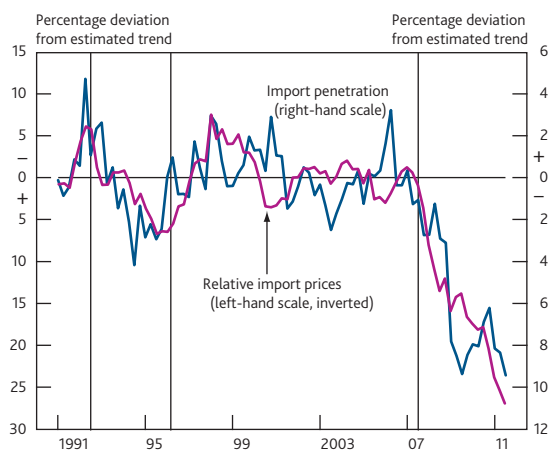
Sources: ONS and Bank calculations.

(a) The dashed lines are pre-depreciation trend lines, based on HP filters estimated from 1991 Q1 to 2007 Q2.

(b) Imports as a proportion of import-weighted TFE. Import-weighted TFE is calculated by weighting household consumption (including non-profit institutions serving households), whole-economy investment (excluding valuables), government spending, stockbuilding (excluding the alignment adjustment), and exports, by their respective import intensities. Import intensities are estimated using the *United Kingdom Input-Output Analytical Tables 2005*.

Chart 13 shows, for both aggregate import penetration and relative import prices, the deviations from the estimated trend lines in **Chart 12**. It suggests that, relative to their trends, the share of imports in final expenditure has fallen by around 9 percentage points, and relative import prices have risen by around 27%. That is broadly consistent with the historical relationship between the two variables, and with estimates in

Chart 13 Deviations from trend in UK import penetration and relative import prices^(a)



Sources: ONS and Bank calculations.

(a) The deviation from trend in import penetration (relative import prices) is the difference between the two blue (magenta) lines in **Chart 12**. The scales of the axes are such that they equalise the means and variances of the two variables over the period on the chart, to enable movements in them to be compared quantitatively. The ratio of the scales, 0.4, therefore indicates a proxy for the elasticity over this period — in line with the estimates in **Table B**.

the academic literature (**Table B**), which on average predict a 4% fall in import volumes or import penetration for every 10% increase in the relative price of imports.

Table B Estimates of the elasticity of import volumes to relative import prices^{(a)(b)}

Barrell, Choy and Kirby (2006)	-0.2
Wren-Lewis and Driver (1998)	-0.3
Pain <i>et al</i> (OECD) (2005)	-0.3
Barrell, Dury and Pain (NiGEM) (2001)	-0.4
Hooper, Johnson and Marquez (2000)	-0.6
Crane, Crowley and Quayyum (2007)	-0.6
Average	-0.4

(a) These are estimates of the long-run elasticities. The sample periods used vary across studies, but none include the recent depreciation.

(b) The estimated elasticity of import volumes to changes in import demand is, as with exports, generally found to be unitary.

It is important to recognise that — as with exports — different components of imports have developed differently. While goods imports rebounded sharply in the recovery, services imports remain much weaker. Unlike in services exports, financial services account for a relatively small share of services imports (**Chart 9**). Travel services, on the other hand, make up nearly a third of services imports, so they are an important sector to consider. Indeed, travel services account for all of the weakness in services import volumes (**Chart 14**), and therefore likely much of the import *share* too. That indicates that there has been relatively little expenditure switching in other types of imports.

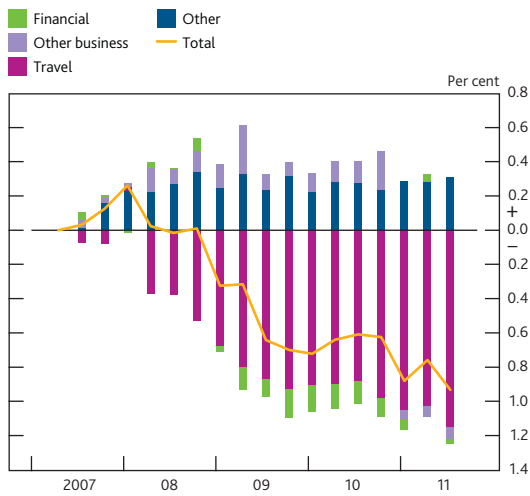
Imports of travel services

Travel imports have fallen significantly: as a share of GDP they have declined by more than 1 percentage point since 2007 Q2 (**Chart 14**). The volume of travel services that are imported represents overseas tourism by UK residents. So the decline reflects less real spending overseas by UK households, in sterling terms.⁽¹⁾ Tourists from the United Kingdom converting sterling into foreign currency experienced a sharp fall in their purchasing power. As a result, they may have chosen to spend more on domestic tourism, or taken fewer holidays overall — the 'staycation' effect.

The speed and extent of switching in travel imports could reflect a number of factors. First, pass-through of the exchange rate is likely to be quick: for the part of travel imports that is made up of actual spending overseas, there is instant and complete pass-through of the depreciation as UK residents experience an immediate fall in the purchasing power of sterling. Second, it may be relatively quick and easy to stop going overseas since they are less likely to be locked into long-term contracts than for other types of imports. And foreign holidays are often considered a luxury, so can be cut

(1) The ONS publishes a split of nominal travel imports into personal and business travel. Personal (household) travel makes up the vast majority of the level of travel imports, and so accounts for most of the fall since 2007.

Chart 14 Cumulative changes in services imports and its components as a share of GDP since 2007 Q2



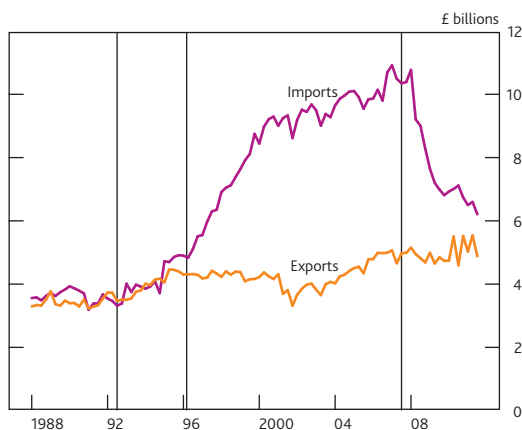
Sources: ONS and Bank calculations.

back if necessary. Finally, domestic alternatives — although they may not be perfect substitutes — do already exist.

Some of the fall in travel imports may of course be explained by the fall in aggregate demand. But the same picture emerges even after controlling for demand (by looking at travel imports as a share of domestic consumption). Unlike aggregate imports, travel imports have not rebounded with demand. And the fact that travel imports also accelerated rapidly after the 1996 appreciation (Chart 15) adds weight to the notion that the large movements in travel imports are driven by expenditure switching.

Travel exports (spending in the United Kingdom by overseas residents), by contrast, appear to have been much less responsive to the sterling depreciation. That may be because weaker demand abroad has offset the boost from expenditure switching.⁽¹⁾

Chart 15 Travel services exports and imports^(a)



Sources: ONS and Bank calculations.

(a) Chained-volume measures (reference year 2008). Prior to 1996 there are no travel services trade data. The series splice on the (very similar) tourist expenditure data from *Consumer Trends*.

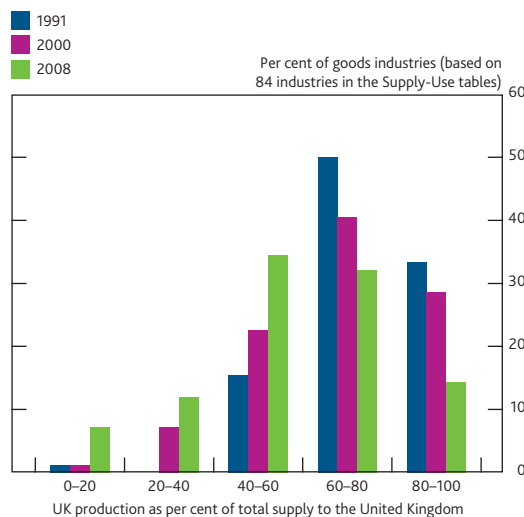
Reasons for the resilience of non-travel imports

Although in aggregate, there has been roughly as much expenditure switching away from imports as might have been expected, it is surprising how little appears to have come from non-travel imports. This section considers two reasons why there may have been a limited response to the depreciation (thus far) from other sectors. First, a long-running structural shift in production away from the United Kingdom; second, the effect of the United Kingdom's absolute price level still being higher than other countries.

As a consequence of trade specialisation (including outsourcing), there may now be fewer domestic alternatives to the goods and services the United Kingdom imports. That would make it harder for UK firms and households to switch their expenditure away from imports as import prices rise.

Chart 16 shows the share of inputs to a given goods industry supplied by UK firms. In 1991, UK producers supplied over 60% of the inputs in over 80% of the industries in the United Kingdom (the two blue bars on the right). Since then, the distribution has shifted to the left: in 2008 UK companies supplied more than 60% of the UK market in under half the United Kingdom's industries (the two green bars on the right). And there are now considerably more industries with very little UK presence.⁽²⁾

Chart 16 UK production as a proportion of total supply to the United Kingdom, by goods industry



Sources: ONS and Bank calculations.

Declining domestic presence in certain industries is a long-run structural trend. It may take time for UK firms to set up production capabilities in areas in which they are currently not

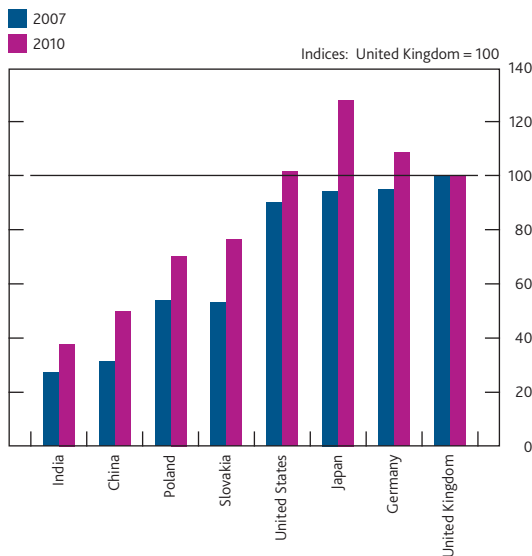
(1) There is little available literature on the price elasticity of travel trade. But Deardorff *et al* (2000) and Hung and Viana's (1995) findings for the United States are broadly consistent with recent UK developments. They show that US travel imports are more responsive to a given change in relative prices than other services imports, and (at least in the short run) than travel exports.
 (2) A lack of domestic alternatives has repeatedly been cited by contacts of the Bank of England's Agents. Nevertheless, overall the Agents have observed an increased pace towards sourcing of UK production, partly due to the depreciation. See Bank of England (2011b).

active, which suggests that expenditure switching may be delayed, if it happens at all. It will be held back by any uncertainty over the exchange rate and by tighter credit conditions. And this process may even boost imports further in the short run if some of the capital goods required to expand production need to be imported.

A second explanation for limited expenditure switching could be that the absolute price level of imported goods and services from countries such as China remains lower. That is, despite the large rise in import prices following sterling's depreciation, there may still be little incentive for households and firms to switch to domestic alternatives.

In 2007, the UK aggregate price level was considerably higher than many of its trading partners, in purchasing power parity (PPP) terms (Chart 17). Ideally, this chart would compare just the price of traded goods and services, but such data are not available. The depreciation will have increased the price level of other countries in sterling terms by around 25% (although it will have also raised the absolute UK price level through higher imported input costs).

Chart 17 Relative GDP deflators^(a)



Sources: Penn World Table and Bank calculations.

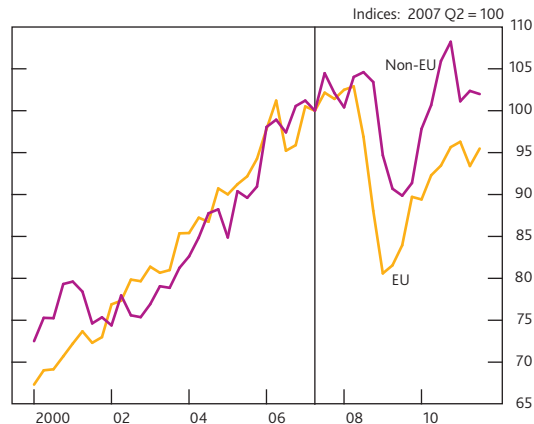
(a) PPP-adjusted price levels.

Chart 17 shows that, even after the depreciation, a large price differential likely remains with some emerging economies such as India and China. But the price differential relative to the United Kingdom's major European trading partners (such as Germany) may have narrowed significantly or been eliminated.

Goods import volumes into the United Kingdom from the EU have been notably weaker than those from the rest of the world since 2008 (Chart 18). That may be tentative evidence that price levels do matter for the degree of expenditure switching. As these low-cost emerging economies are now

more integrated in world markets, that headwind to expenditure switching is more significant than it would have been 20 years ago. That implies that there may be less (rather than slower) expenditure switching than past relationships would suggest.⁽¹⁾

Chart 18 UK goods imports from the EU and non-EU



Sources: ONS and Bank calculations.

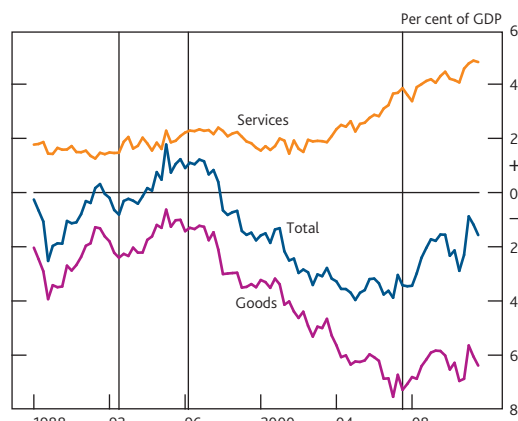
Overall impact on net trade

This article has considered movements in the major components of exports and imports since sterling's 25% depreciation from mid-2007. It has done so in the context of changes in demand and relative prices as well as their prior trends. This section brings together the implications for aggregate net trade, and compares the response to that in previous episodes involving significant movements in sterling.

Recent developments in UK net trade

In the decade to 2007, real net trade declined as a share of GDP (Chart 19), due to developments in the goods balance. That is likely to have reflected two factors: first, the impact of

Chart 19 Net trade: total, goods and services



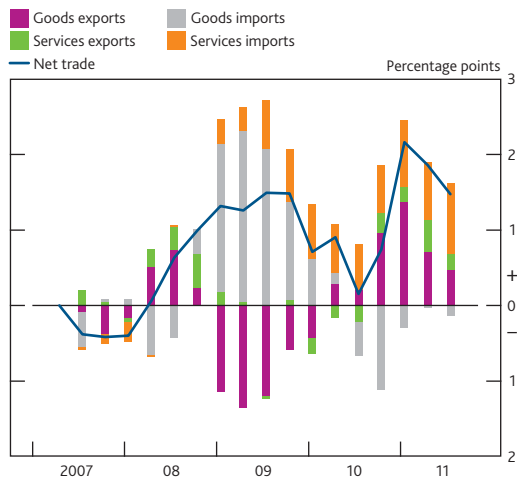
Sources: ONS and Bank calculations.

(1) One caveat is that the non-EU data include some advanced economies, such as the United States and other OECD countries.

globalisation felt by many advanced economies, as low-cost economies increased their share of world trade; and second, a loss of UK competitiveness following sterling's appreciation in 1996.

This article has examined the disaggregated data in order to uncover the stories behind the recent movements in net trade. It has argued that since sterling's depreciation in 2007–09: (i) UK goods exports have boosted net trade (magenta bars in **Chart 20**); (ii) although the fall in goods imports provided a temporary boost during the recession, they have not contributed positively overall (grey bars); (iii) the fall in financial services exports has been a drag on services exports (green bars); and (iv) the reduction in services imports, accounted for by travel, has boosted net trade (orange bars).

Chart 20 Cumulative changes in net trade and its components as a share of GDP since 2007 Q2^(a)



Sources: ONS and Bank calculations.

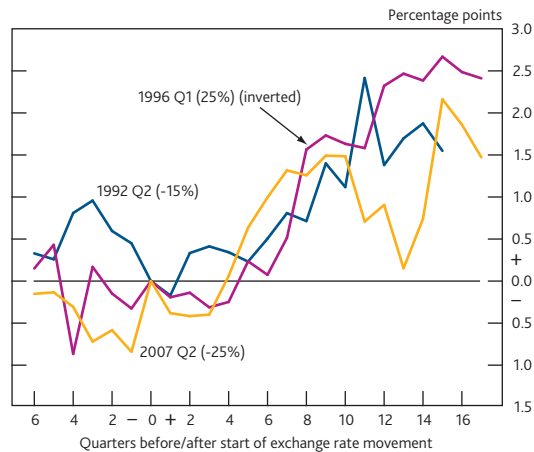
(a) Imports are inverted, since they detract from GDP.

Overall, goods net trade has increased substantially since 2007 Q2, relative to its previous trend (**Chart 19**). Services net trade, meanwhile, has continued to rise in line with its pre-depreciation trend. That reflects the large and broadly offsetting falls in financial services exports and travel services imports. Taking goods and services together, there has been a significant improvement in real net trade.

Comparison with previous exchange rate episodes

Another way of placing the change in net trade in context is by comparing it with previous episodes involving significant movements in sterling. These may indicate the scale of the increase in net trade that might be expected. The improvement of 1.5 percentage points in net trade is broadly consistent with the movements following the (smaller) 1992 depreciation and the (comparable) 1996 appreciation (**Chart 21**).

Chart 21 Cumulative changes in net trade as a share of GDP around previous large sterling moves^(a)



Sources: ONS and Bank calculations.

(a) Labels indicate the quarter before the exchange rate movement began, with the peak-to-trough sterling exchange rate movement in parentheses.

Conclusions

The sterling effective exchange rate depreciated by around 25% between mid-2007 and early 2009. That has contributed to a significant improvement in the UK real trade balance, roughly in line with the movements following previous large movements in sterling. This article has considered developments in the disaggregated data in order to understand that change in net trade.

The share of UK goods exports in world demand has been broadly stable, a marked improvement on its previous trend. The services export market share fell, reflecting the large decrease in financial services exports associated with the financial crisis. And it is consistent with services exports being less sensitive to movements in the exchange rate. Together, these developments mean that the aggregate export share has risen slightly above its pre-depreciation trend.

Since the depreciation, the share of imports in final expenditure has fallen, relative to its previous upward trend. That movement is similar to its past relationship with relative import prices. Within imports, travel services have fallen markedly, while there appears to have been less of a boost so far from weaker sterling to other goods or services imports. That may reflect the fact that the United Kingdom has become more specialised in its production or that a large price-level difference still exists with other emerging economies.

Looking ahead, both the level of sterling and developments in the rest of the world are likely to be crucial to the United Kingdom's trade performance.

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