

FEATURE

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Overview of UK National Accounts and Balance of Payments: Blue Book and Pink Book 2008

SUMMARY

The Quarterly National Accounts and Balance of Payments estimates published on 30 September 2008 are consistent with the annual *Blue Book* and *Pink Book*. The data sets reflect the introduction of a new method for measuring financial intermediation, incorporation of annual benchmark survey data and supply-use balancing of 2004 to 2006, and latest quarterly and monthly data for more recent periods. This article was published to coincide with both sets of estimates.

Key points to note as they affect gross domestic product (GDP) are:

- GDP growth in the second quarter of 2008 was zero, unchanged from the previous estimate. Growth in the year to the second quarter is revised up marginally to 1.5 per cent
- the effect of the improved method of measuring financial intermediation is to increase the level of GDP in current prices in all years from 1961, by around 1.5 per cent on average, and by £27 billion in 2007 (1.9 per cent of GDP)
- the effect of supply-use balancing and benchmarking is to reduce the level of current price GDP between 2004 and 2007, partially offsetting the upward effect from financial intermediation
- the aggregate impact of these changes on 2007 is an upward revision of £19.5 billion (1.4 per cent of GDP)
- in real terms, the financial intermediation change generally leads to small upward revisions, with the impact most pronounced in the late 1990s, with GDP growth revised up 0.2 per cent in 1997, 0.3 per cent in 1998 and 0.4 per cent in 1999
- in more recent years, the main effect has come from supply-use balancing: real growth is revised down by 0.5 percentage points in 2004 and 0.1 percentage points in 2006 and 2007; growth is slightly higher in 2005, by 0.3 percentage points
- these changes largely reflect revisions to current price estimates: revisions to deflators are very small. On latest figures, the GDP deflator increased by

2.8 per cent in the year to the second quarter of 2008

For the sector and financial accounts:

- the saving ratio has been revised down to 5.1 per cent from 5.6 per cent in 2005, to 4.2 per cent from 4.8 per cent in 2006 and to 2.5 per cent from 3.1 per cent in 2007
- real household personal disposable income has been revised to 2.8 per cent from 2.9 per cent in 2005, to 1.5 per cent from 0.9 per cent in 2006 and to 0.1 per cent from 1.8 per cent in 2007
- net lending for private non-financial corporations has been revised up to £23.2 billion from £9.3 billion in 2006 and to £20.6 billion from zero in 2007

For the Balance of Payments:

- the current account deficit has been revised to £45.0 billion from £50.7 billion in 2006 and to £52.6 billion from £59.7 billion in 2007

Table 1 summarises all the changes to key National Accounts and Balance of Payments aggregates.

The annual *Blue Book*: background and modernisation

The *Blue Book* and *Pink Book* are the familiar names for the publications containing the Office for National Statistics (ONS) annual assessments of the UK National Accounts and Balance of Payments. The data sets underpinning these publications tend to be released a little

Table 1
Key National Accounts and Balance of Payments aggregates

Level of current price GDP								£ billion
	2000	2001	2002	2003	2004	2005	2006	2007
Previous	958.9	1,003.3	1,055.8	1,118.2	1,184.3	1,234.0	1,303.9	1,381.6
Current	976.5	1,021.8	1,075.6	1,139.7	1,200.6	1,252.5	1,321.9	1,401.0
Revision	17.6	18.5	19.8	21.5	16.3	18.5	17.9	19.5
of which: FISIM	17.6	18.5	19.8	21.5	22.2	22.5	24.3	27.0

Annual growth of GDP in volume terms								Percentages
	2000	2001	2002	2003	2004	2005	2006	2007
Previous	3.8	2.4	2.1	2.8	3.3	1.8	2.9	3.1
Current	3.9	2.5	2.1	2.8	2.8	2.1	2.8	3.0
Revision	0.1	0.1	0.0	0.0	-0.5	0.3	-0.1	-0.1

Quarterly growth of GDP in volume terms								Percentages
	2006Q3	2006Q4	2007Q1	2007Q2	2007Q3	2007Q4	2008Q1	2008Q2
Previous	0.7	0.9	0.8	0.9	0.6	0.6	0.3	0.0
Current	0.5	0.9	0.9	0.8	0.8	0.5	0.3	0.0
Revision	-0.2	0.0	0.1	-0.1	0.2	-0.1	0.0	0.0

Household saving ratio								Percentages
	2000	2001	2002	2003	2004	2005	2006	2007
Previous	5.1	6.4	5.0	4.9	3.7	5.6	4.8	3.1
Current	4.7	6.0	4.8	5.1	4.0	5.1	4.2	2.5
Revision	-0.4	-0.4	-0.2	0.2	0.3	-0.5	-0.6	-0.6

Annual growth of real household personal disposable income								Percentages
	2000	2001	2002	2003	2004	2005	2006	2007
Previous	4.5	4.3	1.7	2.4	1.7	2.9	0.9	1.8
Current	4.2	4.4	2.0	3.0	0.8	2.8	1.5	0.1
Revision	-0.3	0.1	0.3	0.6	-0.9	-0.1	0.6	-1.7

Net borrowing of private non-financial corporations								£ billion
	2000	2001	2002	2003	2004	2005	2006	2007
Previous	-8.5	-10.3	7.6	19.0	26.2	20.5	9.3	0.3
Current	-7.9	-8.6	8.5	18.6	27.2	21.8	23.2	20.6
Revision	0.6	1.7	0.9	-0.4	1.0	1.3	13.9	20.3

Balance of Payments current balance								£ billion
	2000	2001	2002	2003	2004	2005	2006	2007
Previous	-24.8	-21.9	-16.5	-14.9	-19.3	-31.0	-50.7	-59.7
Current	-25.8	-21.1	-18.7	-18.3	-25.2	-32.7	-45.0	-52.6
Revision	-1.0	0.8	-2.2	-3.4	-5.9	-1.7	5.7	7.1

ahead of the publications themselves, as part of the routine quarterly and monthly schedule. This article was published to coincide with the publication of the Quarterly National Accounts and Balance of Payments on 30 September 2008. The expanded *Blue Book* (BB) and *Pink Book* (PB) will be published in electronic form on 24 October and in paper form on 21 November.

The data set published on 30 September is based on current price supply and use balances for the years 2004 to 2006 and, as set out in Humphries (2008), constitutes the first phase of the modernisation of the National Accounts. The input data for these balances have been derived using new methodologies and new systems and

the supply and use balancing process has also been derived on new systems. Benchmark sources, in particular the Annual Business Inquiry (ABI) and HM Revenue & Customs (HMRC) data, have been incorporated through this framework, which ensures the coherence of the three measures of GDP in aggregate and at detailed industry and product level. This is explained in more detail in the section 'The *Blue Book 2008* balance: supply and use methodology'.

The other major improvement introduced in *Blue Book 2008* (BB08) is the introduction of the new treatment of financial intermediation services indirectly measured (FISIM), which is explained in the section of that name. It leads to revisions to GDP in all years back to 1961.

The *Blue Book 2008* balance: supply and use methodology

National Accounts represent a framework for the coherent description of the economy. They do this through a number of dimensions, such as industries, products and sectors. This framework is populated using a multitude of data sources each with its own definitions and quality. However, the National Accounts need to have consistent definitions both within any accounting period and over time.

Achieving consistency at the level of the main economic aggregates is brought about through supply and use tables. These provide a framework with clear accounting relationships. When populated with the raw source data, these accounting relationships are not met. The process of confronting the data in the framework of the supply and use table to make these accounting relations hold true is known as balancing. The framework also permits the incorporation of annual benchmark data sources, in particular the ABI and HMRC data on company and household incomes.

GDP can be compiled using three approaches: the expenditure approach, the production approach and the income approach. Ideally, each approach makes use of data independent of the others and results in three separate measures of GDP. In theory, these three measures of GDP should be the same, but data collection methods, their concepts and quality mean this is not the case. The supply and use framework alongside the process of balancing provides the means by which the three independent measures are reconciled. Balancing involves judgement, in particular about the weight given to individual sources.

Supply and use tables are matrices with an industry and product dimension, describing the domestic production process and the transactions in products of the national economy in great detail. A simplified presentation of the supply and use table framework is set out in **Box 1**.

The UK has compiled annual supply and use tables in current prices for many years, although these were temporarily suspended in 2007 to release resources to create headroom for modernising the National Accounts. Current price annual supply and use tables have been reintroduced this year and used to balance the years 2004 to 2006. Previously, 2004 was provisionally balanced in *Blue Book 2006*, but it is the first balance for 2005 and 2006.

The supply and use tables produced this year will be published on 24 October and

Box 1

Supply and use table framework

Supply	
Industry	Product
Product breakdown	Imports
	T&T margins
	Taxes on products
	Subsidies on products
	Total supply
Total output	

Use	
Industry	Product
Product breakdown	HH
	NPISH
	GG
	GFCF
	Inventories
	Valuables
	Exports
	Total use
Total intermediate consumption	
Compensation of employees	
Gross operating surplus	
Taxes on production	
Subsidies on production	
GVA	
Output	

From this framework, two types of accounting relationships hold:

- by industry: output by industry = input by industry. This can be expanded to output = intermediate consumption + value added
- by product: total supply by product = total use by product, which can be expanded to output + imports = intermediate consumption + exports + final consumption expenditure + gross capital formation

These two identities, by industry and product, are those used in balancing to confront the basic data and improve the consistency and completeness of the estimates. There were 123 industries and products identified, the same as in the 2006 and earlier *Blue Books*. It is planned to expand the number of industries and products in the future. For this year's *Blue Book*, a more decentralised approach to balancing has been used. The sources of data used to populate the supply and use framework have not changed significantly, although the computing systems

used to marshal together the data and represent the supply and use framework are new. These new systems are an output from the ONS programme for the modernisation of its statistical systems and processes. The process of balancing was, however, somewhat different from what was done in the past. Balancing no longer relies on a separate team allocated specifically to balancing the supply and use tables. Those involved in balancing are the compilers of the basic data that form the input to the process, which helps deliver more informed judgements. These individuals bring with them an understanding of the data that is being used to populate the supply and use framework. If the supply and use framework is considered as a column (industry) and row (product) matrix, the confrontation of the data can be viewed as a process of separate column, row and column confrontations of the data. Further details on the new methods for compilation and balancing will be presented in a technical article scheduled for release alongside the publication of the new supply and use tables on 24 October.

will appear little different from those of the past, in terms of level of detail and coverage. The fundamental difference is the process and IT systems used to balance the supply and use tables. What is being released this year provides the foundation for further improvements to come. A detailed description of the methods used will be released alongside the tables themselves on 24 October.

Financial intermediation services indirectly measured

The *Blue Book* is also the point at which major methodological changes are incorporated into the National Accounts. This year, the most significant change is the revised method for the allocation of FISIM.

The conceptual reasons for, and impact of, this change are discussed in detail below. Overall, the change has three main strands:

- first, GDP is increased, reflecting the inclusion of final demand for FISIM, mainly on the part of households (with the same impact on all three measures)
- second, a modest revision to the aggregate estimate of FISIM output itself, reflecting improved data sources from the Bank of England, and
- third, changes to the volume indicator, including the removal of the financial services adjustment, changes to industry weights and a change to the output indicator for financial intermediation

In the National Accounts, banking services are subdivided into those that can be measured directly and those that can only be measured indirectly. The former include those services for which explicit charges are made, such as commission on foreign

exchange, account charges and flat-rate fees for overdrafts. However, many services provided by banks are not explicitly charged for, such as:

- taking, managing and transferring deposits
- providing flexible payment mechanisms such as debit cards
- making loans or other investments
- offering financial advice or other business services

Instead, banks recoup the costs of providing these services through the difference between interest receipts and interest payments. Under international rules, the output of these financial intermediation services is based on interest differentials between lending and deposits. Normally, under standard national accounting rules, earnings from interest are a transfer

payment and not part of a corporation's output, value added or gross operating surplus (GOS) and therefore do not contribute to GDP or economic growth. The concept of FISIM was developed as part of the update of the System of National Accounts (SNA93) and the European System of National and Regional Accounts (ESA95) to provide a standard approach for measuring both the supply and use of FISIM services, although the notion of allocating banking costs had been originally introduced in SNA68.

The supply of FISIM, in current prices, is based on total interest receipts and payments. Interest flows are estimated from detailed data on stocks of loans and deposits and associated interest rates, provided by the Bank of England. The calculation also adjusts for a so-called reference rate of interest, which represents 'the pure cost of borrowing funds – that is, a rate from which the risk premium has been eliminated to the greatest extent possible, and that does not include any intermediation services' (*System of National Accounts*, 1993, SNA93, paragraph 6.128). The calculation also includes estimates for other financial intermediaries' production of FISIM, which have become increasingly important over recent years as banks have securitised loans. Akritidis (2007) includes a more detailed discussion of these calculations.

In SNA93, countries were given two options for allocating the use of FISIM, essentially a provisional and a full treatment, which reflected recognition that the full treatment would be difficult to implement in practice. The BB08 changes arise from the UK moving to the full treatment so that FISIM is allocated to final as well as intermediate use, explained in **Box 2**. The effect is to increase GDP. These changes have been discussed in two previous articles by Jenkinson and Tily (2006) and Akritidis (2007) and, since March 2007, ONS has published experimental estimates of FISIM and its impact on current price GDP. Most other EU countries have for some time used the full treatment.

The change in treatment leads to an increase in the level of GDP, reflecting the allocation of FISIM to final demand categories, as well as changes to detailed components of the three measures of GDP (this allocation is discussed in a later section).

FISIM remains work in progress. There are a number of concerns that are the subject of international discussion, especially:

- the non-coverage of central bank lending and deposits as part of the calculation of FISIM output

- complexities in deriving 'reference rates' across loans and deposits of different maturity (for the UK these are based on official discount rates for sterling, the euro and the yen)

Plainly, the impact of both of these factors might be accentuated in the present financial environment. There has been greatly increased central bank intervention in financial markets, and a key feature of the crisis is the increased divergence between market and official rates. The latter suggests that basing reference rates on official rates, as is done in the UK, may be inappropriate (any associated increased risk premium is presently treated as an increase in FISIM output).

The Blue Book 2008 balance: results

The combined effect of supply and use balancing, the take-on of annual survey results and the allocation of FISIM have led to changes to the headline level and growth of GDP from 1961, as well as changes to components of income and expenditure.

Figure 1 and **Figure 2** show changes to the current price level of GDP, from 1961 to 2007. Up to 2003, the increase in the level of GDP is entirely due to the allocation of FISIM to final expenditure categories, and amounts to roughly 1.5 per cent of GDP

Box 2

The allocation of the use of FISIM

FISIM output generated by financial intermediaries (FIs) should be allocated between the users of the services for which no explicit charges are made. SNA93 acknowledged the practical difficulty of developing a method of allocating FISIM between different users in a way that is conceptually satisfactory from an economic viewpoint and for which the required data are available. Hence, SNA permitted one or other of two different approaches.

Approach 1: Allocation of FISIM into a 'nominal' sector

SNA93 permits a simplified approach, where (by convention) FISIM output is not allocated between users but is treated as absorbed by the intermediate consumption of a 'nominal sector'. In consequence, the estimate of FISIM is not allocated into user sectors or industries. In this approach, GDP is not affected by the size of the FISIM output (SNA93, paragraph 6.126). ESA95, as originally published, did not require introducing FISIM allocation in National Accounts, because EU countries had concerns about the availability of source data and the reliability of the methodology. Prior to BB08, this was the approach adopted in the UK.

Approach 2: Allocation of FISIM into user sectors

The recommended approach involves a full allocation of the use of FISIM across relevant sectors and industries.

The purpose of allocation of FISIM by sectors and industries is to identify the purchase of these services explicitly and to classify them as intermediate consumption, final consumption expenditure or exports according to which sector incurs the expenditure. (SNA93, Annex III, paragraph 5)

According to the European Council Regulation, which amended the ESA 1995, the FISIM estimate is allocated into sectors in the National Accounts as follows:

- intermediate consumption for the services attributed to non-financial corporations, other financial corporations, households as owners of dwellings, households as owners of unincorporated enterprises and non-profit institutions serving households (NPISH)
- final consumption expenditure for the services attributed to households for individual consumption and general government
- exports for the services attributed to non-residents

There is also an estimate for imports of FISIM, which is part of the supply of FISIM. In addition, there are technicalities concerning FISIM allocation in National Accounts, for example, treatment of non-market units and producers of housing services (see Akritidis 2007).

Figure 1
Current price GDP

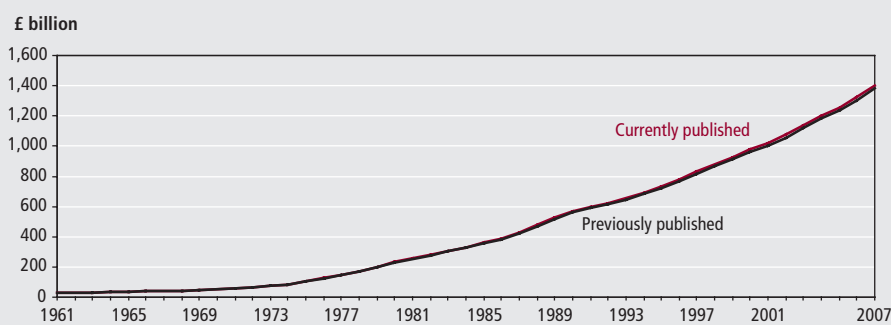
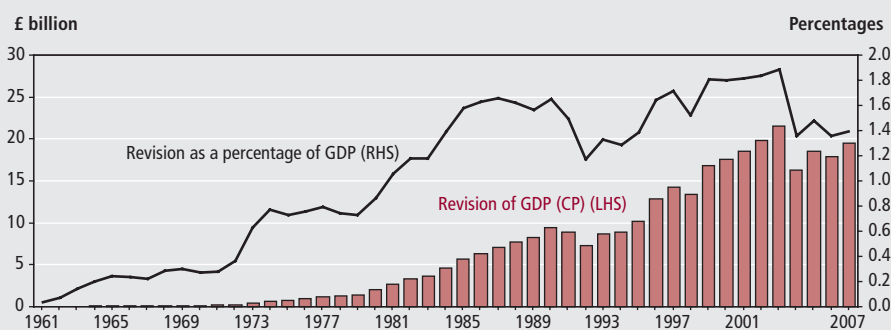


Figure 2
Changes to current price GDP at Blue Book 2008



(taking an average across the whole period). In 2003, the level of GDP was revised up by £21.5 billion, which is equivalent to 1.9 per cent of GDP. As will be discussed later, some periods saw particularly fast FISIM growth and therefore impact on GDP growth in both current prices and volume terms.

From 2004 to 2006, upward revisions to GDP as a result of the FISIM allocation is partly offset by downward revisions to the level of GDP arising from the supply and use balancing process, decomposed in **Table 2**.

Table 2 shows that, for all newly balanced years, the upward revision due to FISIM offsets downward revisions from the new supply and use balance. These changes are discussed in more detail below. The overall effect in 2006 is an upward revision of £17.9 billion to the level of current price GDP, equivalent to 1.4 per cent of GDP.

The year 2007 has not been balanced through the supply use process, and the above change reflects only carrying forward the new annual benchmark totals, so that growths are not distorted.

Many commentators and analysts are, however, more interested in changes to growth measured in volume terms, which are shown in **Figure 3**. For data prior to 2004, the FISIM allocation means that the revisions are upward but of relatively modest size, generally between zero and 0.2 percentage points, though occasionally

negative, and one high outcome of 0.4 percentage points in 1999. The most sustained divergences and hence periods of the strongest growth in the final demand for FISIM are in 1973 to 1974, the 1980s and then the late 1990s. The high FISIM growth in 1999 was bolstered by very strong export growth (net lending by UK

banks to non-residents, which feeds into exports of services).

The changes in growth have generally been upward because the norm has been for the level of household loans and deposits to grow in real terms. The most sustained divergences are when the volume of lending to consumers – and hence stocks of debt as well as deposits – were growing particularly strongly. They coincide with periods of strong expansion to the economy as a whole; equally, differences are smaller when economic growth is smaller.

For the years 2004 to 2006, however, the growth revisions are dominated by the effects of supply-use balancing. **Table 3** shows the precise impacts. The reasons for these changes are discussed in more detail below.

Some users are also interested in the new level of GDP in volume terms and therefore the cumulative effect, and tend to examine matters from the last trend point. The assessment of trend growth and the size of the output gap is not a matter for ONS. But as an illustration of the overall impact, growth between 1997, when HM Treasury assessed the economy to have been on trend, and 2006 has only changed marginally: previously it was 28.5 per cent, now it is 29.2 per cent (or a revised annualised growth of 2.9 per cent per year compared with the previous estimate of 2.8 per cent). The uneven profile of revisions therefore averages out at only a small upward change to the overall level of GDP and GDP growth.

Table 2
Breakdown of revisions to current price GDP for recent years

Year	Previously published	Currently published	Revision due to FISIM	Revision due to supply and use balancing	Total
2004	1,184.3	1,200.6	22.2	-5.9	16.3
2005	1,234.0	1,252.5	22.5	-4.0	18.5
2006	1,303.9	1,321.9	24.3	-6.3	17.9
2007	1,381.6	1,401.0	27.0	-7.5 ¹	19.5

Note:

1 2007 has not yet been balanced using supply and use.

Figure 3
Changes to GDP growth in volume terms at Blue Book 2008

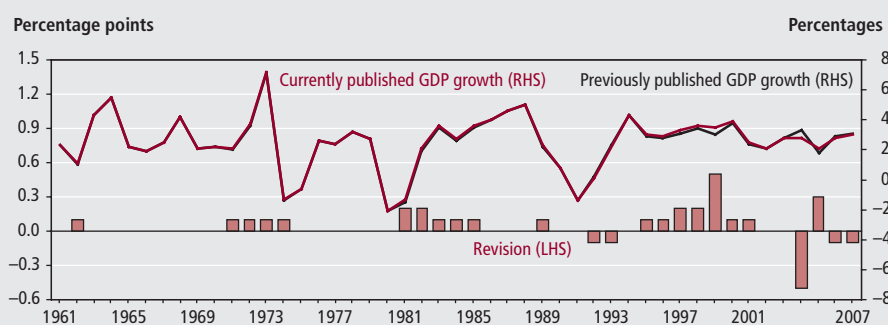


Table 3
Breakdown of revisions to GDP growth in volume terms for recent years

Year	£ billion				
	Previously published	Currently published	Revision due to FISIM	Revision due to supply and use balancing	Total
2004	3.3	2.8	0.0	-0.5	-0.5
2005	1.8	2.1	0.1	0.2	0.3
2006	2.9	2.8	0.0	-0.1	-0.1
2007	3.1	3.0	0.0	-0.1 ¹	-0.1

Note:

1 2007 has not yet been balanced using supply and use.

Impact of FISIM on GDP and its components

FISIM impacts on most components of the production, expenditure and income measures of GDP. From a supply and use perspective, the financial sector produces, or supplies, FISIM. This is allocated between intermediate uses by other industries (and also by households, for example, for the production of housing services) and final consumption of households, government and overseas; imports of FISIM are also incorporated. As noted above, at the same time, the estimate of FISIM output has been revised down.

In the *Blue Book* publication, there will be a new table that shows the level of FISIM output and allocation to consuming sectors. This section characterises the allocation of FISIM by component of GDP.

Current prices

The production measure is determined as the difference between output and intermediate consumption. The increase follows from the allocation of part of FISIM output to final consumption and exports reducing intermediate consumption. This is partly offset by the reassessment and reduction in the level of FISIM output, following an improved methodology based on more relevant figures for the stocks of loans and deposits.

The changes are illustrated in **Figure 4**. The allocation of intermediate consumption increases most industries' intermediate consumption, and reduces their value added. These changes can only be seen in detailed *Blue Book* tables (for example Table 2.2) and the supply-use tables (to be published on 24 October), but also feed through to the industry weights of the volume measure of GDP(O) – see below.

The expenditure measure shows how the final consumption of FISIM is allocated (**Figure 5**). The majority is allocated to household consumption, reflecting their borrowing and deposits; a small amount is allocated to government, and trade in service flows reflect imports and exports of FISIM (that is, deposits and lending from and to non-residents).

The income measure largely comprises GOS and compensation of employees. Previously, the GOS of financial corporations included FISIM, which was then subtracted from the income total as part of 'other income'. Under the new treatment of FISIM, the allocation of GOS to the sectors of the economy is changed (**Figure 6**) with the following effects:

- financial corporations' GOS is reduced to the extent that the current estimate

of FISIM output differs from the previous one

- private non-financial corporations' GOS is reduced to the extent of their allocated intermediate consumption of FISIM
- households' GOS is reduced likewise (this follows from their treatment as producers of owner-occupier housing services)
- other income is increased following the removal of the adjustment for FISIM

Volume changes

The volume estimate of FISIM has changed following a number of methodological improvements that go beyond those for the current price measure. These include:

- the use of more relevant loan and deposit stock data from the Bank of England
- chain-linking at a greater level of detail

Figure 4
Impact of FISIM changes on the production measure of GDP, current prices

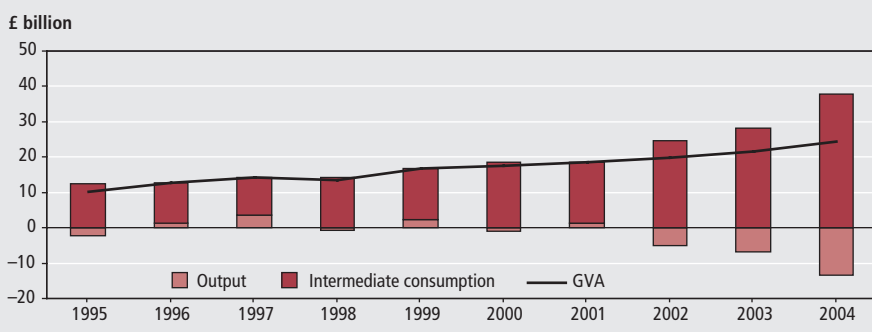


Figure 5
FISIM changes to the expenditure measure of GDP

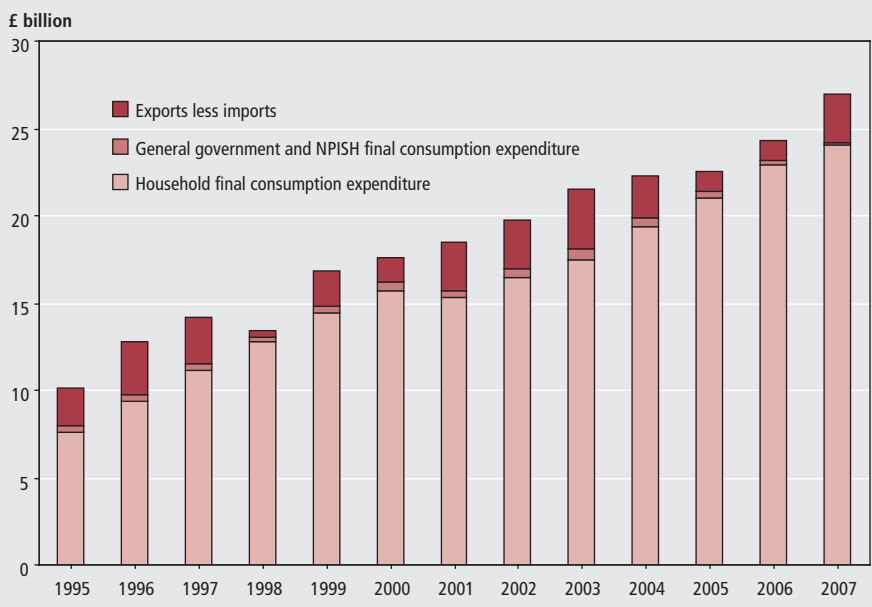


Figure 6
FISIM changes to the income measure of GDP

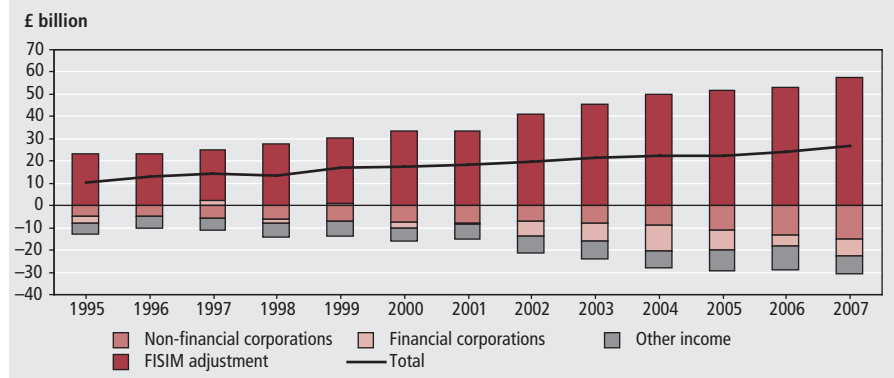
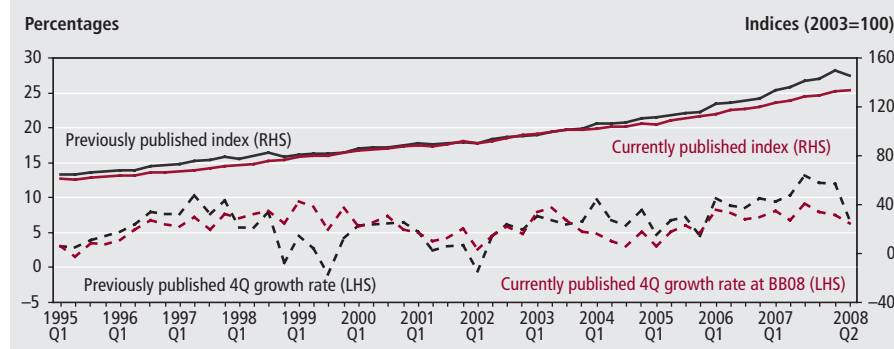


Figure 7
Financial intermediation



- a change in the deflator to the GDP(E) implied deflator
- removal of an indicator for the output of National Savings and Investments

The change in deflator follows EU recommendation. FISIM is deflated to reflect changing margins and to adjust for the changing purchasing power of loans and deposits over time. The revised deflator is appropriate to the final consumption of FISIM and hence expenditure measure of GDP. In the previous deflator, a large estimate was made for currency impacts on foreign lending and deposits, which have a far smaller impact in the new measure.

Overall, these changes have led to substantial changes in the overall output index for financial intermediation, and associated estimates of growth (Figure 7).

The impact on GDP of these changes is not straightforward. The previous treatment ensured that financial intermediation made little impact on the aggregate volume measure of GDP(O), through the financial services adjustment. With the introduction of the new treatment for FISIM, the above revised series has been added to the output measure of GDP. But the actual impact on the calculation of GDP differs as follows:

- for years up to and including 2006, the level of GDP is driven by the supply-use balance and, for these years, the inclusion of the revised profile for financial intermediation and the removal of the financial services adjustment affects only the profile of quarterly growth within years
- for 2007 and 2008, GDP is determined by the output measure. In these years, the GDP profile is altered according to the revised profile for financial intermediation

The allocation of intermediate consumption to industry also leads to revised gross value added weights as well as the removal of the financial services adjustment (which

previously had a negative weight of 46 parts per thousand and was included as part of the 'Business services and finance' industry). The impact these changes have had on the industry weights is shown in Table 4.

Table 5 shows the evolution of industry weights (in parts per thousand) over time. The share of 'Business services and finance' is increased by 2.2 percentage points. The counterpart reduction is spread across other sectors, with the largest increase in 'Government and other services' of 0.5 percentage points. The figures shown for 2000 to 2003 have been updated for *Blue Book 2008*. The biggest changes in recent years have been the growth in 'Business services and finance' at the expense of the manufacturing industry.

The supply-use balance: benchmarking and impact on detailed components

Apart from FISIM, the revisions to the aggregate GDP levels and growth from 2004 to 2006 follow the reintroduction of the supply-use process and the incorporation of annual benchmark survey estimates, especially the ABI. In BB06, 2003 and 2004 were balanced. In BB08, 2004 has been rebalanced and 2005 and 2006 balanced for the first time.

The main change is the reduction in the level of GDP in 2004, though this carries through to all subsequent years. This follows in part from the replacement of the provisional ABI data for 2004 with final estimates. But changes are also driven by the revised assessment of the supply-use balance discussed above. In effect, different weights have been allocated to the three measures of GDP than previously, with income and expenditure sources given a degree more emphasis and less to the production measure. This follows from the detailed balancing at product level, bringing on board more specific commodity expertise.

The figures for 2005 and 2006 reflect the first implementation of balancing and

Table 4
Changes in the weights at *Blue Book 2008*

Industry	Total change in weight	Parts per thousand of which: FISIM
Agriculture, forestry and fishing	-0.52	-0.45
Mining and quarrying	-0.72	-0.57
Manufacturing	-4.25	-4.43
Electricity, gas and water supply	-0.56	-0.57
Construction	-2.09	-1.81
Distribution, hotels and catering	-4.92	-4.81
Transport storage and communication	-2.15	-2.52
Business services and finance	21.99	20.55
Government and other services	-6.78	-5.40

Table 5
Evolution of weights

	Parts per thousand								
	1948	1958	1970	1980	1990	2000	2001	2002	2003
Agriculture, forestry and fishing	61.4	44.4	29.8	22.1	18.6	9.9	9.2	9.4	9.7
Mining and quarrying	36.7	35.0	16.2	63.9	23.6	28.4	25.5	22.9	21.1
Manufacturing	355.7	365.9	326.7	265.3	232.4	173.6	164.4	152.9	142.7
Electricity, gas and water supply	20.3	26.5	31.5	31.3	22.1	18.3	17.3	16.8	16.2
Construction	62.5	61.6	64.1	63.3	72.2	52.8	55.7	57.1	58.6
Distribution, hotels and catering	151.6	144.9	139.4	128.2	142.6	149.3	151.1	148.8	148.4
Transport storage and communication	95.7	88.4	84.6	71.6	83.9	80.1	77.7	76.3	75.5
Business services and finance	53.2	81.5	133.8	143.3	192.8	270.0	277.9	290.7	299.2
Financial intermediation	25.3	39.0	53.0	60.6	71.5	52.1	53.0	66.2	70.4
Real estate, renting and business activities	37.9	73.5	111.3	123.4	172.6	218.0	224.9	224.5	228.7
Government and other services	163.0	151.8	173.9	211.0	211.5	217.7	221.3	225.1	228.6

take-on of annual benchmark sources, and changes are more modest. As shown in Table 2, there is an upward revision to growth in volume terms in 2005 of 0.3 per cent, and downward revision to growth in 2006 of 0.1 per cent.

For all years, from the expenditure perspective, the downward revisions have been driven by downward revisions to household final consumption expenditure and NPISH and gross fixed capital formation (GFCF), offset partly by upward revisions to changes in inventories. On income, downward revisions to the compensation of employees, following incorporation of benchmark data and rebalancing, have been offset by upward revisions to the gross trading profits of corporations. The detailed changes, excluding FISIM, are shown in **Table 6**.

The BB08 balance is not typical in that, on average, growth has tended to be revised upward following the annual benchmarking exercise. However, in the past, there have been occasional years when revisions are downward.

Various benchmark sources have been incorporated for components of the expenditure measure:

- on household final consumption expenditure, ABI data have been used to benchmark components previously based on the Retail Sales Inquiry, and revised Expenditure and Food Survey data have been used
- GFCF data are revised down in 2004, also following fuller incorporation of ABI data
- revisions to 2007 also reflect the take-on of the provisional data from the annual International Trade in Services survey and Chamber of Shipping and Civil Aviation Authority (CAA) surveys
- within trade in goods, oil imports were revised down by around £700 million

in 2006, to reflect later information on goods procured in ports

On the income measure, HMRC benchmark sources for compensation of employees and GOS were used for the confrontation with production sources, though changes from benchmarking have been partly offset by balancing adjustments. These have led in particular to downward revisions from 2005 onwards.

Quality

The implementation of an improved method for measuring financial intermediation, together with the reintroduction of annual supply-use table balancing and incorporation of annual benchmarks, have improved the quality of the National Accounts compared with previous estimates. But production of the *Blue Book* data set is a complex task. At present, the same level of detail is not available from supply-use balances as under the previous system, so some component detail (for example, the sector disaggregation of GOS or the asset breakdown of GFCF) is less well founded than usual. Some caution should therefore be taken with the interpretation of detailed figures and movements, and associated implications for the sector accounts. The expectation is

that the accounts will continue to evolve as ONS develops the approach and methods to compile and balance the accounts, as outlined in Humphries (2008).

Quarterly data

The implementation of annual benchmark sources and other methodological changes has led to changes to quarterly profiles. Annual balancing also requires a reassessment of quarterly profiles so that they are constrained to annual totals from supply-use balancing. The quarterly path within a year remains determined by the production measure of GDP. For *Blue Book 2008*, a number of changes have been made that impact on quarterly paths. The overall effect is shown in **Figure 8**.

Between the first quarter of 1995 and the second quarter of 2008, the quarterly path has been revised. Although the revisions are as much as 0.4 percentage points in some quarters, this is to be expected when introducing major methodological changes. Revised annual totals are implemented in a top-down manner, and it has been long understood that algorithms used to bring quarterly figures into line can cause relatively large revisions. That said, on average, these revisions are smaller than

Table 6
Revisions to expenditure and income components excluding FISIM

	£ billion		
	2004	2005	2006
Household final consumption expenditure and NPISH	-5.0	-3.1	-3.9
Government final consumption expenditure	0.9	-0.3	-0.7
Gross capital formation	-1.7	0.4	-2.0
Exports of goods and services	-0.2	-0.7	0.1
Imports of goods and services	-0.1	-1.0	-2.1
Total expenditure	-5.9	-2.7	-4.4
Compensation of employees	-0.6	-4.6	-7.8
Gross operating surplus of non-financial corporations	-2.1	-0.5	3.7
Gross operating surplus of financial corporations	-3.2	1.3	-3.4
Other	0.0	-0.2	1.2
Total income	-5.9	-4.0	-6.3

Note:

1 Totals differ for 2005 and 2006 because income and expenditure were not previously balanced.

Figure 8
Revisions to quarterly GDP growth at Blue Book 2008

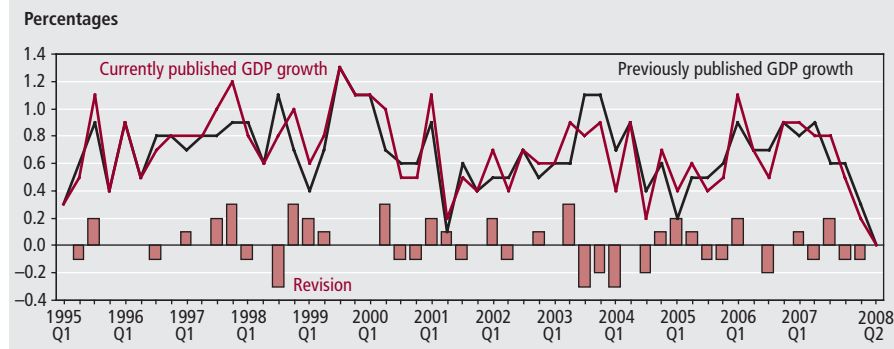
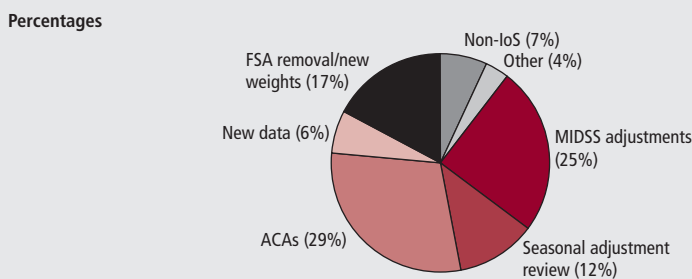


Figure 9
Breakdown of revisions to the quarterly growth of the production measure at Blue Book 2008



those made at *Blue Book 2003*, when annual chain-linking was introduced and *Blue Book 1998*, when new international guidelines (ESA95) were taken on.

Revisions to quarterly data went beyond alignment with annual totals. **Figure 9** shows a breakdown of the various reasons for revision and the relative impact over the period 1995 to 2008 as a whole.

Revisions to GDP(O) were made up of the following:

- as noted, revised annual coherence adjustments for bringing annual totals on the output measure into equality with the expenditure measure (ACAs)
- taking on new data for certain industries, including rebased producer price indices (new data)
- the removal of the financial services adjustment and implementation of the new measure of financial intermediation, as well as the introduction of new weights, as discussed above
- implementing revised seasonal factors following the annual review
- removal of the majority of the adjustments made to data based on the monthly inquiry into the distribution and service sectors (MIDSS adjustments)
- revisions to agriculture and fishing, the Index of Production and construction sources (non-Index of Services).

- small changes made to the system such as correction of errors or small changes to individual deflators (other)

Income and capital account changes

ONS publishes a full set of sector and financial accounts each quarter. The data published on 30 September are consistent with that to be published in BB08. Current price changes to GDP components feed through to the income and capital accounts. In addition, there have been a number of changes to the inter-sectoral transfers on which the rest of the accounts are based.

In the years where only the revised FISIM treatment has been implemented, revisions to the main net lending/borrowing balancing item are relatively small. The exception is the financial corporations

sector, where net lending is lower following the reduction in the estimate of FISIM output, and hence financial corporations' GOS. For other sectors, the allocation of FISIM has merely reallocated revenue and expenditure flows from the income and capital account to the production account, with in theory (though not exactly in practice) no impact in aggregate.

In years beyond 2003, following supply-use balancing as well as other data changes to 2007, there are a number of revisions to main aggregates. In particular, Rest of World and private non-financial corporation net lending have been revised down over 2007 and 2008, as a result of a reassessment of UK borrowing from overseas (see **Box 3**). For example, in 2007, private non-financial corporations' (PNFC) net lending has been revised up, by £17.8 billion, and Rest of World net lending has also been revised down, by £7.0 billion. Time series for these aggregates are shown in **Figure 10** and **Figure 11**.

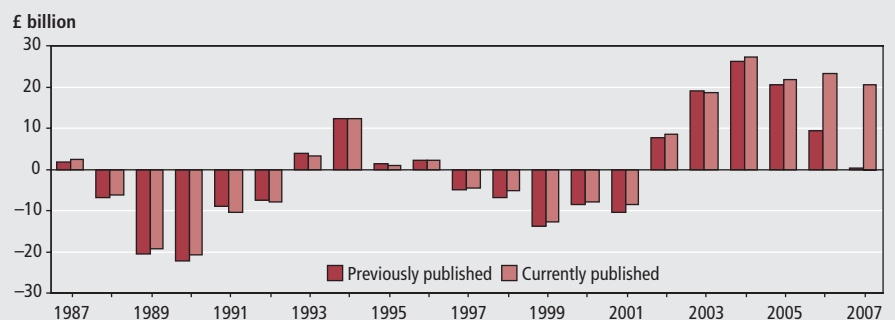
The income and capital account for the household sector has been affected by the downward revision to compensation of employees. There has been an upward revision to the saving ratio of 0.1 in 2006 and a downward revision of 0.6 in 2007 (**Figure 12**). This change, as well as reductions to the estimate of interest receipts, and changes to miscellaneous current transfers, have meant that, in the first quarter of 2008, the ratio was negative, the first time in 50 years. The ratio recovered to 0.4 per cent in the second quarter, as consumers' expenditure slowed and taxes paid on income declined.

It should be noted that the saving ratio is derived as the difference between two very large numbers that can be subject to some revision, and can therefore itself be subject to a good deal of revision.

Pink Book 2008

The *UK Balance of Payments* was also published on 30 September 2008, consistent with this year's *Pink Book*, to be published later. The *Pink Book* has been published

Figure 10
Private non-financial corporations' net lending/borrowing



Box 3

BIS data

Estimates for UK non-bank deposits with and loans from banks abroad are based on information supplied by the Bank for International Settlements (BIS). It has long been recognised that these data include information for securities dealers that is separately collected under the securities dealers' inquiry. BB08/PB08 has provided the opportunity to remove this double counting from the BIS data. The BIS predominantly counterparts to PNFCs (80 per cent), so that the reduction to the BIS deposits and loans has the greatest impact on PNFCs. As loan liabilities exceed deposits, the biggest impact is on the PNFC liability side. These changes to the balance sheet then feed through to the income and capital account as large changes to interest receipts and payments.

Revised information from the securities dealers' inquiry

Throughout 2007, the sector and financial accounts were particularly unbalanced between Rest of World (RoW), PNFCs and financial corporations (FCs) and sizeable coherence adjustments were introduced to help balance the accounts.

It was thought that the RoW sector was missing assets, and adjustments were made to deposits and loans data that increased FC and PNFC liabilities. However, new information from the securities dealers' inquiry shows that securities dealers have far fewer assets held abroad that was originally thought. So, rather than having too few assets, the RoW sector had too many liabilities. As a result of the new securities dealers information, the adjustments to the BIS data were removed, reducing PNFC loan liabilities and therefore their interest payments.

The combined effect is to reduce PNFC liabilities and their associated interest payments to RoW.

The aggregate impact of these changes should be viewed with some caution. The measurement of corporate borrowing from the RoW is a very difficult estimate, and it is also possible that the complex development of financial markets over the last decade have meant certain sources of borrowing are not covered by official surveys.

Figure 11
Rest of World net lending/borrowing

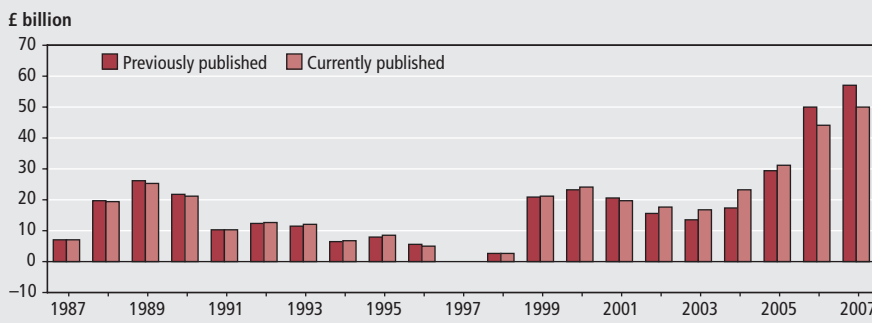
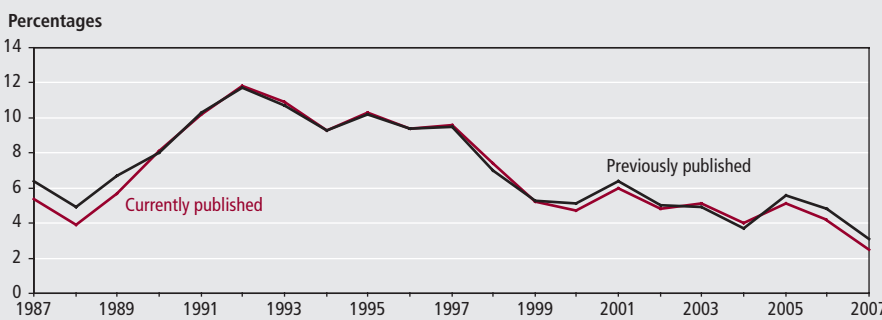


Figure 12
Household saving ratio



- improvements to the estimation of UK non-bank loans and deposits with banks abroad to prevent the possible double-counting of securities dealers' loans and deposits (as in Box 3)
- new information from the Bank of England for banks' income payments associated with repurchase agreements and stock-lending activity
- improved estimates for non-resident holdings of UK equity securities from the incorporation of information on securities held with UK custodians
- new information from the ONS securities dealers' inquiry on their holdings of non-resident issued equity and long-term debt securities
- estimates for trade in goods affected by VAT Missing Trader Intra-Community fraud were influenced by the new supply-use balancing process, and
- trade in services estimates for 2007 were revised to take in the initial results of the annual International Trade in Services inquiry and the final results of the annual Chamber of Shipping and CAA surveys

The overall impact of these revisions on the current account deficit is illustrated in **Figure 13**. In 2007, the deficit has been revised to £53 billion from the previous estimate of £60 billion. More detail on these changes is available in the 'UK Balance of Payments': First Release, and *Pink Book*.

The implications for the latest quarterly figures

As is well known, latest figures show a degree of slowdown in the economy, with growth in the latest quarter falling to zero

annually since 1946 and contains detailed information of the UK's current, capital and financial accounts and the UK's international investment position (the UK's balance sheets). The *Pink Book* also contains a detailed geographical breakdown of the UK's current account and international investment position.

This year's *Pink Book* will include revisions to the UK's current account balance back to 1989. The services and income components of the current

account are revised back to 1971 to incorporate FISIM payments and receipts between the UK and the RoW, but with no net effect on the UK's current account balance. There have been equal and offsetting revisions between trade in services, which now includes FISIM, and investment income, which now excludes FISIM. Other revisions are caused by a combination of new information and methodological improvements; these include:

Figure 13
UK current account balance

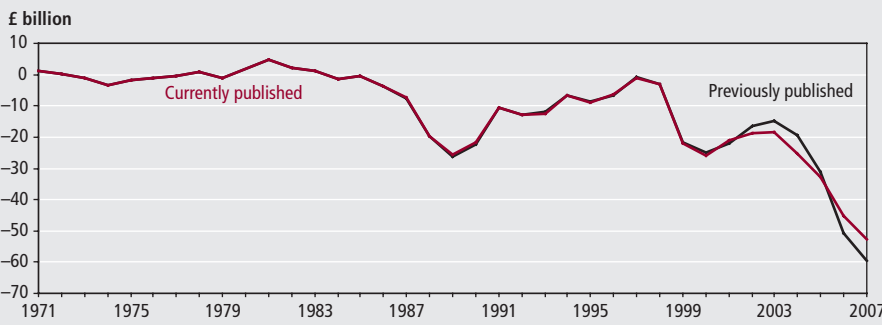


Figure 14
Quarterly and four-quarterly GDP growth rates

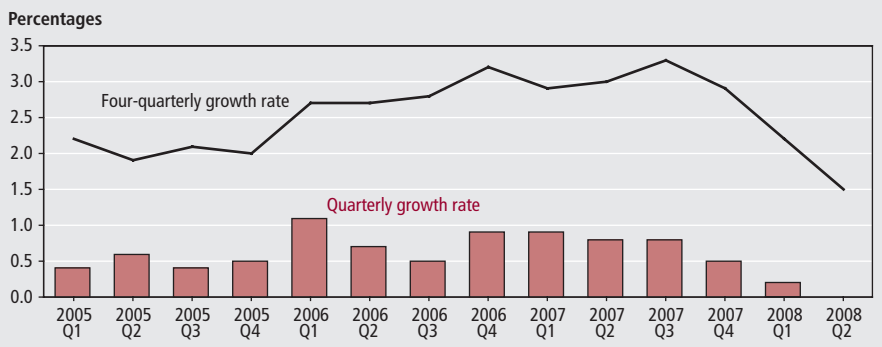


Figure 15
Contributions to four-quarterly growth rates in gross value added

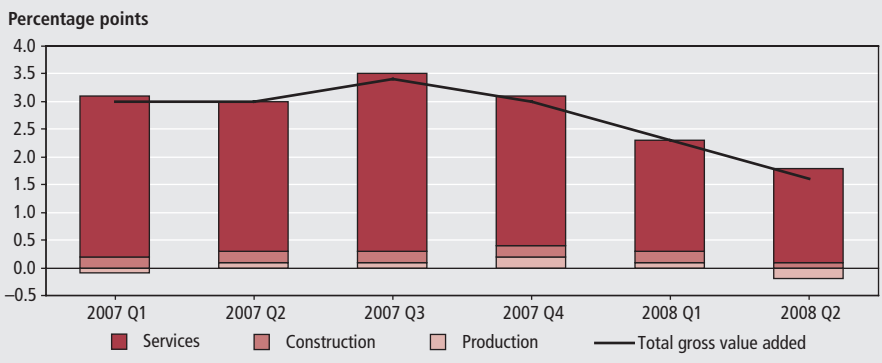
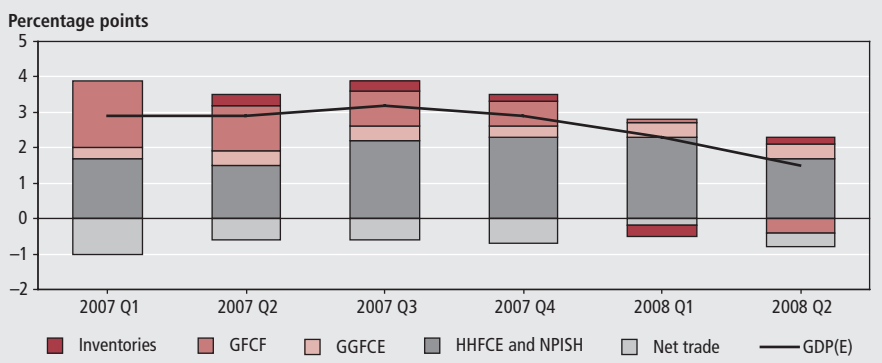


Figure 16
Contributions to four-quarterly growth rates in the expenditure measure of GDP



from 0.3 per cent in the previous quarter. The figure published with the *Blue Book* data set is unrevised from the previous data set.

These figures continue showing a slowdown that has been underway since the final quarter of 2007 (**Figure 14**). Comparing four-quarter growth rates, GDP slowed from 3.3 per cent in the third quarter of 2007 to 1.5 per cent in the latest quarter. **Figure 15** shows how the various main industrial sectors have contributed to this decline.

From a demand perspective, the main source of the slowdown is GFCF, where there are now declines in both business investment and investment in dwellings; household final consumption expenditure has slowed but, on the four-quarter measure, continues to grow at 2.2 per cent (**Figure 16**).

Finally, from the income perspective, weaker GDP is reflected in both weaker compensation of employees and GOS growth.

The *Blue Book* revisions have not had a great deal of impact in the latest quarter, apart from the impact of FISIM. Financial intermediation now contributes to GDP, but growth in the latest quarter was zero. The intermediation figure has been revised from the previous estimate, following the introduction of the new methodology which has resulted in a reduced impact of overseas lending and deposits.

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