ECONOMICBULLETIN

A quarterly update from Franklin + Andrews

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Spotlight on the UK's economy and construction industry

Recent economic data has suggested that the UK economy is in good shape with a revised growth of 3.2%, down from the previous estimate of 3.4%, the main downward influence being a slowdown in manufacturing activity. It is predicted that the UK's economy will experience a slow growth of 2.7% in 2005 and 2.6% in 2006. Household consumption is projected to ease from 3.1% in 2004 to 2.3% and 2.4% in 2005 and 2006 respectively due to decline in the housing market.

Consumer Price Index (CPI) inflation, which is the government's target measure of inflation, increased to 1.6% in December 2004, up from 1.5% in November, driven by a combination of furniture, seasonal food and energy costs. As an internationally comparable measure of inflation, the UK's CPI shows that UK inflation has been among the lowest in the EU since 2000. In 2004 the average inflation rate for the Euro area was of 2.1% compared with 1.2% for the UK. It is predicted that the UK's CPI will increase to 1.8% and 2.0% in 2005 and 2006 respectively.

Despite the Bank of England keeping interest rates unchanged at 4.75% for the fifth month in a row, interest rates have risen five times since November 2003 in an effort to control consumer spending.

Statistics for the labour market show a pattern of general labour market stability. It is estimated that the unemployment rate fell slightly to 4.7% in 2004 and employment was estimated to have grown by 0.7% in 2004. A healthy labour market is also strengthening earnings, with average earnings estimated to have increased 4.7% in 2004.

The UK's £81 billion construction industry is in overdrive with a confidence that is close to record levels. Growth in the construction industry reached 3.7% in 2004, a little above that of GDP growth and is predicted to moderate to 2.1% in 2005 dropping to 1.7% in 2006.

Virtually every sub-sector of the industry is performing well. Output of public housing increased at the fastest rate, with an estimated growth of 25% in 2004 and steady increases of 9% and 7% are expected in 2005 and 2006, respectively. Investment in non-housing public building work (including schools and hospitals) is estimated to have increased to 19% in 2004 with predicted growth of 7% and 2% for 2005 and 2006.

The infrastructure sector, however, is not promising, with an estimated 11% decline in output in 2004. Commercial construction output increased during 2004 with an estimated growth of 5%. This is expected to strengthen to 6% in 2005 with a moderate growth of 5% during 2006. In the commercial sector, education and health markets are benefiting from the delivery of government commitments through PFI routes.

Tender price inflation is estimated to have risen on average, by 5.2%, above RPI, in 2004 and is expected to slow to 4.5% towards the end of 2005. Given that the RPI inflation rate would generally remain between 3.0% and 2.5%, construction material prices are expected to increase above this rate by 4.5% and 3.7% in 2004 and 2005 respectively.

Table 1.1 shows the inflation of price and cost indices within the UK construction industry. It can be seen from the table that all measures of construction cost inflation have consistently outstripped the RPI. This has resulted in contractors experiencing price pressures due to increased labour and material costs, which significantly impacted on input costs. Construction materials are estimated to have increased 4.5% during 2004 and this is largely due to the significant increase in prices of steel-based construction items seen last year and whilst there is no sign of a reduction in steel prices, longer-term slowdown in China's economy may ease the inflation profile of steel and other construction commodities.

Table 1.1 Construction cost index (annual % change)

	2002	2003	2004+	2005*
Tender price index	8.2	5.4	5.2	4.5
General building cost index	4.0	5.2	5.7	6.0
Material cost index	2.0	3.3	4.5	3.7
Labour cost index	6.5	7.2	6.0	7.1
Retail Price Index (RPI)	1.6	3.0	3.0	2.5

*+Estimate *Forecast*

Table 1.2 The UK's economic performance (annual % change)

	Real GDP	Inflation (CPI)	Unemployment rate	Growth in employment	Hourly earnings	Construction output	Construction new work
2003	2.2	1.4	5.0	0.9	3.3	5.1	3.7
2004+	3.2	1.2	4.7	0.7	4.7	3.7	7.6
2005*	2.7	1.8	4.6	0.5	5.1	2.1	2.7

*(Source: IMF and CFR) +Estimate *Forecast*

A view from the Managing Director

by Andrew Williams

World economy reaches the summit

Despite some weakness in the second quarter of 2004, the world economy has increasingly demonstrated stable and established characteristics. Real gross domestic product (GDP) is estimated to have increased by 4.8% in 2004, the highest for nearly 30 years. This impressive growth has been largely driven by robust consumer spending in the US and fast-growing investment in China. In addition, recovery in the Euro area has become more established.

It is expected that global growth will cool off but run at a still healthy 4% in 2005. However, there are risks which could undermine the optimism, notably the potential of higher oil prices, a slump in US consumer spending and global house price instability.

The oil market is highly vulnerable to the impact of potential terrorist attacks, surging demand and a low level of spare capacity remaining for the rest of the decade. Oil prices in December 2004 stood at US$42.95 a barrel, up more than $10 on the year, but around $13 below the all time high of $55.67 a barrel in October. If oil prices in 2005 climb or continue at 2004 level, corporate profits and household real incomes will be squeezed, and the world economy as a whole will certainly be at risk.

Fiscal policy in the US is likely to be more restrictive over the next year or two, forcing currently over-indebted consumers to tighten their belts and increase levels of saving. More saving, at whatever rate, is likely to dampen economic growth.

Real house prices have never risen as fast in so many countries and the world may face a first-ever global house price bubble. If the bubble bursts it will hurt the world economy much more than the collapse in share prices did at the beginning of this decade.

The pace of growth has already slowed from the second quarter last year in the US, Japan and China. The US economy, still the principal force in the world economy, increased to 4.4% in 2004. This is expected to cool off to 3.2% in 2005, taking into account its weaker private consumption and slowed employment growth.

The negative impact of Japan’s deflation and financial and corporate sector weakness has eased. GDP growth is estimated to have reached 2.9% in 2004 and forecast to reduce to 1.6% in 2005.

China’s contribution to global and particularly Asian growth in recent years has been increasingly significant with a growth of 9% in 2004, but this is predicted to slow down to 7.6% in 2005 provided that its ‘soft-landing’ approach is achievable.

The devastation in southern Asian areas hit by tsunami waves at the end of 2004 will have less of an economic impact than it might have, given the extreme poverty of many of the regions. One of the biggest immediate concerns is the potential impact on tourism, an important source of foreign exchange earnings, in the countries hardest hit by the giant waves. Overall, the tsunami will have limited impact on the GDP of the Asian countries.

The Euro zone recovery has been relatively weak, due to its heavy dependence on external demand rather than domestic consumption. Its pace of growth increased to 1.8% in 2004 and this is expected to slow to 1.7% in 2005. However, the introduction of the new member states into the European Community will change the employment and trading dynamics both within Europe and with its trading partners. The real impact of this is likely to be felt beyond 2005.

Latin America is enjoying an increasingly well-established recovery, while in the Middle East growth forecasts have been revised upwards in response to higher oil prices and production. In sub-Saharan Africa GDP growth is estimated to have moved upwards to 4.6% in 2004, but the IMF has indicated that Africa would still fall short of the Millennium Development Target of halving the proportion of people living in poverty by 2015.

Overall, while the health of the world economy is essentially sound and would likely be sustainable over next year, it is not robust enough to withstand the occurrence of a number of ‘uncertainties’ as noted above without some negative impact.

The global construction industry is in line with the overall economy with growth in construction investment, in the longer term, forecast at 5% per annum through to 2012, with India and China growing at considerably higher rates.

The growth in the European construction market gained momentum in 2004 according to Euro Construct. The largest segment of the industry was residential construction, with a 47% share and non-residential construction and civil engineering accounting for 31% and 22% respectively. The annual growth is expected to be between 1% and 2% up to 2006. The civil engineering sector is anticipated to grow by 9% between 2003 and 2006, the only single sector growth forecast to be greater than its GDP growth. This reflects the immediate requirements of new EU member states.

In the US, during November 2004, construction spending was estimated at a seasonally adjusted annual rate of US$1,013 billion, an increase of 6.9% from November 2003 according to the Census Bureau. During the first eight months of 2004, construction spending amounted to US$646.8 billion, 9.4% above the US$591.2 billion for the same period in 2003. The US market is expected to grow close to the global average of 4.8% in the longer term, with Western Europe lagging slightly behind.

A detailed analysis of the UK construction sector and the economy in African countries is included in this edition. An oil and gas sector analysis and an inflation study on education facilities have also been included to present specific aspects of construction economics. I trust you will find them thought provoking.

Spotlight on Oil

Highlight on the oil market

Over the past year the global economy has become increasingly well established with global GDP growth close to 5% in 2004. The strength of the expansion in economic activity has led to sharp increases in oil and commodity prices.

The world economy has looked on anxiously during the last 12 months as global oil prices have continually increased, breaking through record levels along the way. Few would have believed, at the start of 2004, that oil prices would reach the $50/barrel mark let alone burst through the threshold and continue rising. In October 2004 oil prices reached an all time high of US$55.67/barrel but fell to US$42.95/barrel at the end of December. The major contributors to rising oil prices have been a global recovery in oil demand since the post-September 11 economic downturn along, with exceptional demand increases in China.

This increased demand has squeezed production capacity and comes at a time when turmoil caused by the US-led invasion of Iraq, unrest in Nigeria, worries over Venezuela's leadership, and anxiety over Yukos, the Russian oil company which now faces bankruptcy, all impacted on the supply side. The supply-demand fundamentals alone will justify strong oil prices until new production capacity comes onstream in the Middle East, West Africa and Central Asia, or demand begins to falter.

Most economists around the world have voiced concerns over inflated oil prices and have echoed industry calls for increases in oil production or cuts in energy use in order to curtail a possible global economic slowdown. Chart 1 below plots the world oil prices between the periods 1997 to 2005.

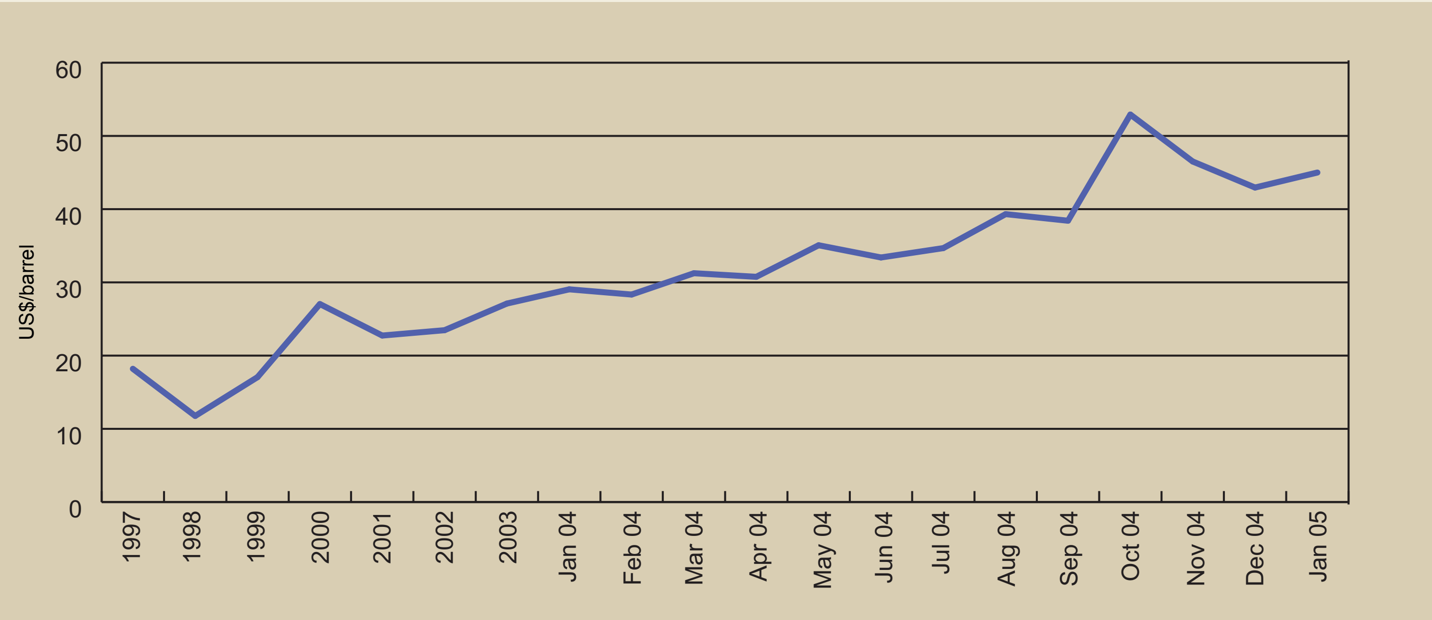
The latest data indicates that total world oil demand in 2004 was around 82m barrels per day (mb/d) which represents a growth of 3.17%, a year-on-year gain of 2.51 mb/d – a level of demand not seen since 1977. Average world oil demand in 2005 is projected at 83.3 mb/d, indicating a gain of 1.51 mb/d or an increase of 1.85% over total 2004 demand.

Looking at supply, non-OPEC oil supply is expected to reach 50.98 mb/d in 2005, an increase of 1.22 mb/d over 2004 supply. OPEC crude oil production in November 2004, based on secondary sources, was 29.76 mb/d, 0.42 mb/d below the October figure.

The projected average crude oil price for the first quarter of 2005 is about $43 per barrel, approximately $8 per barrel higher than in the first quarter of 2004. The tsunami, which struck South Asia in December 2004, appears to have had minimal impact on oil markets at this point in time and it is predicted that oil prices are likely to remain, on average, in the $42-$50 per barrel range through out 2005-2006.

The world is still rich with oil reserves and increased demand combined with high prices should act as a catalyst for companies and governments to increase their investment in oil production. Higher conventional fuel prices will encourage development of solar, wind and wave power projects but their contribution is still relatively marginal. Inflated oil prices will also provide new strength to the debate over nuclear power.

Chart 1 World oil prices 1997 to 2005



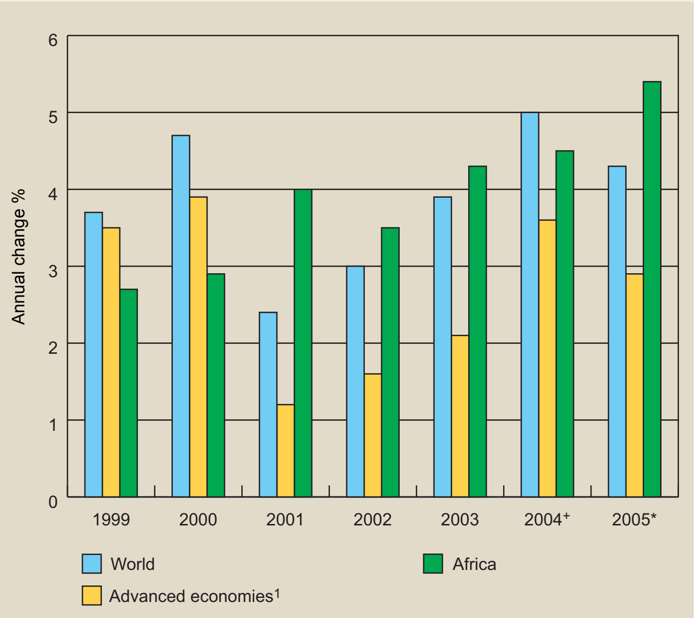
Spotlight on African countries

Country profile
Africa is the world's second largest continent after Asia, with a total surface area, of 30.31 million square kilometres. Made up of 53 independent countries with an estimated population of 805 million people, Africa accounts for almost one tenth of the world's population with many different languages and cultures.

Economic growth
Africa's economy has shown encouraging performance during the last seven years, and is estimated to have picked up strong growth of 4.5% in 2004 and predicted to increase to 5.4% in 2005. The growth in 2004 has been boosted by a variety of country specific developments, including large increases in oil production in Angola, Chad and Equatorial Guinea and the recoveries of agricultural output from the drought-affected depressed levels of 2003 in Ethiopia, Malawi and Rwanda. The improved security situations in Burundi and Central Africa Republic also contribute to the growth in GDP. The chart below shows the growth of GDP in Africa compared to the growth in the world economy and advanced economies.

Growth in South Africa is estimated to have risen to 2.6% in 2004 and forecast to increase to 3.3% in 2005, underpinned by low interest rates and a confident fiscal stance. In Nigeria, real GDP growth is projected to slow from 10.7% in 2003 to 4% in 2004 and 5.9% in 2005 because of the slowdown in oil production. Elsewhere in Africa, the rebound in economic activity in Ethiopia is largely due to the return of normal weather conditions, while in Sudan oil production is rising. Real GDP growth in Angola is estimated to have accelerated to 11.2% in 2004 and predicted to increase to 15.5% in 2005 mainly because of increasing oil output. And in Algeria real GDP growth is predicted to remain relatively strong for the next two years. Similarly, elsewhere in Africa, the outlook

Chart 2 Real GDP Growth



(Source: IMF world economic outlook 2004) +Estimate *Forecast

[1] Advanced economies include United States, Euro area countries, UK, Japan and other advanced economies countries

in Morocco, Tunisia, Sudan and Uganda is relatively favourable. Table 1.3 highlights the real GDP growth in selected African countries against consumer prices and population.

Exchange rates and inflation values
African currencies (excluding the Zimbabwe dollar) have remained firm during the past two years helped by higher commodity prices, especially for precious metal and crude oil. The World Trade Organisation (2004) report shows that African exports in 2003 surged 22% in value to $173billion, exceeding a global growth rate of 16%. Table 1.4 gives the official rates of African currencies against the Pound Sterling, US dollar and Euro for selected African countries.

Inflation rates have declined to single digit values in most African countries although there has been marked variation across the region. Africa's average regional inflation, as measured by the Consumer Price Index, is estimated to have slowed to 8.4% in 2004, the lowest level since 1970s and is projected to rise to 8.1% in 2005.

Construction industry prospects
Africa is potentially a vast construction market but it is not the same scenario for all countries. With the growing African economies and reduced inflation rate, this should signal a period of growth for the construction industry. Furthermore, Chad (+30.8% GDP growth) and Equatorial Guinea (+13.6% GDP growth) appeared to be the world's fastest growing economies in 2004, which should see a significant increase in construction spend.

A close look at one or two countries illustrates the diversity of African countries. The construction industry of South Africa is a well-organised industry. Known as the economic power house on the African continent, South Africa takes the lead in industrial output (40% of Africa's total output) and mineral production (45% of total mineral production) and generates most of Africa's electricity (over 50%). Its major strength includes its physical and economic infrastructures, natural mineral and metal resources and it also has a growing manufacturing sector and the potential to develop a strong tourism industry. South Africa's construction industry, comprising building and civil engineering sectors, play a vital role in the economy with a total constructions spend in 2002 exceeding R57.5 billion (US$9.35 billion), which amounted to 5.1% of GDP. Current activity in the building industry amounts to some R24.9 billion (US$4.05 billion) per annum, and is expected to grow to between R32 billion (US$5.21 billion) and R35 billion (US$5.69 billion) by 2010. Similarly, current activity in civil engineering works is some R20.5 billion (US$3.34 billion) and is expected to grow to about R30 billion (US$4.88 billion) by 2010.

Increases in construction material costs are a cause of concern within the construction industry and in 2003 exceeded that of inflation, with some material price increases reaching up to 20%. In South Africa, building costs are estimated to have increased around 8% in 2004, well above the rate of inflation.

Table 1.3 Selected African Countries: Real GDP, consumer prices, and population
(Annual percent change)

	Real GDP				Consumer prices				Population (million)
	2002	2003	2004+	2005*	2002	2003	2004+	2005*	2004+
Africa	**3.5**	**4.3**	**4.5**	**5.4**	**9.7**	**10.3**	**8.4**	**8.1**	**805.00**
Algeria	4.0	6.8	4.5	4.4	1.4	2.6	5.4	4.5	32.13
Angola	14.4	3.4	11.2	15.5	108.9	98.3	56.1	16.5	10.98
Burundi	4.5	-0.5	5.4	5.7	-1.3	10.7	9.1	7.6	6.23
Cameroon	6.5	4.5	4.8	5.1	6.3	0.6	0.8	1.9	16.06
Central Africa Republic	-0.6	-7.5	2.3	4.4	2.3	4.2	0.8	2.5	3.74
Chad	10.5	9.7	30.8	12.0	5.2	-1.8	-5.0	3.0	9.54
Cote d'Ivoire	-1.6	-2.8	1.7	4.3	3.1	3.3	1.5	2.0	16.94
Equatorial Guinea	18.0	14.7	13.6	48.1	8.8	7.6	8.0	6.0	0.52
Ethiopia	1.6	-3.9	11.6	5.7	-7.2	15.1	9.6	5.4	71.34
Ghana	4.5	5.2	5.2	5.0	14.8	26.7	10.8	6.0	20.76
Kenya	1.0	1.6	2.3	3.6	2.0	9.8	8.1	4.0	32.98
Malawi	1.0	4.4	3.6	4.0	14.9	9.6	19.9	20.0	11.91
Morocco	3.2	5.5	3.0	4.0	2.8	1.2	2.0	2.0	32.21
Nigeria	1.5	10.7	4.0	5.9	13.7	14.4	15.8	11.4	125.75
Rwanda	9.4	0.9	6.0	6.0	2.0	7.4	6.9	4.0	8.24
South Africa	3.6	1.9	2.6	3.3	9.2	5.8	2.6	5.7	44.45
Sudan	6.0	6.0	6.6	7.6	8.3	7.7	6.5	6.0	39.15
Tunisia	1.7	5.6	5.6	5.0	2.8	2.8	3.4	2.7	9.97
Uganda	6.8	4.7	5.7	6.0	5.7	5.1	3.5	3.5	26.39
Zambia	3.3	5.1	3.5	4.5	22.2	21.5	18.5	17.4	**11.03**

(Source: IMF and US Bureau of the Census, International database) +Estimate *Forecast

Zambia has a growth potential across several sectors, most significantly the launch of a 10-year US$1.6 billion road programme by the government of Zambia to build and repair 40,000 km of key roads through a combination of funding agencies. The construction industry provided 6.5% of the country's GDP in 2003 and the mining sector's recent strong contribution to growth should continue over the medium term. Two new mines, in Kansanshi and Lumwana, are expected to start operating in the next three years and increased output and investment in these mines should have some positive effects on the construction industry.

In North Africa, Egypt has embarked on a huge infrastructure project (Toshka Project, estimated cost of US$88.5 billion) intended to create a new river delta parallel to the Nile Valley over the next 20 years to open up tracks of land for agriculture, industry and settlement. It is expected that Egypt will continue to provide a relatively stable level of work in the transportation sectors.

Table 1.4 African currencies

Country	Local Unit	Value of Sterling	Value of US Dollar	Value of Euro
Algeria	Dinar	134.60	72.80	93.20
Cameroon	CFA Franc	947.00	512.50	656.00
Chad	CFA Franc	947.00	512.50	656.00
Ghana	Cedi	17390.10	9020.00	12001.60
Guinea	Guinean Franc	5288.40	2743.00	3649.70
Kenya	Shilling	156.60	81.20	108.10
Nigeria	Naira	256.00	132.80	176.70
Senegal	CFA Franc	947.00	512.50	656.00
South Africa	Rand	11.14	5.78	7.69
Tanzania	Tanzania Shilling	2040.70	1058.50	1408.40
The Gambia	Dalasi	56.80	29.50	39.20
Zambia	Kwacha	9071.00	4750.00	6260.20

Source: Spon's Africa Construction Costs handbook, 2nd edition update

Table 1.5 Zambia: Sectoral growth, 1991-2009
(Contributions to real GDP growth, in percentage points)

	1991-94	1995-2000	2001-03	2004-09
Real GDP growth (percent)	-3.0	1.8	4.0	4.6
Agriculture	-0.1	0.9	0.0	0.6
Mining	-1.0	-1.5	0.8	0.7
Manufacturing	-0.1	0.3	0.5	0.6
Construction	-0.7	0.1	0.8	0.8
Trade	-0.5	0.9	0.9	0.9
Others	-0.6	1.1	1.0	1.0

Source: Zambian authorities (cited from IMF country report July 2004)

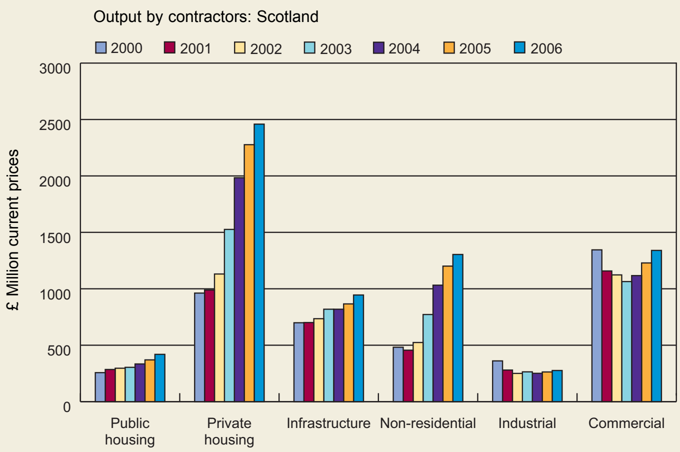
Spotlight on UK construction sector

UK regional analysis

Franklin + Andrews' annual regional output analysis explores what is on the horizon for the UK Construction Industry.

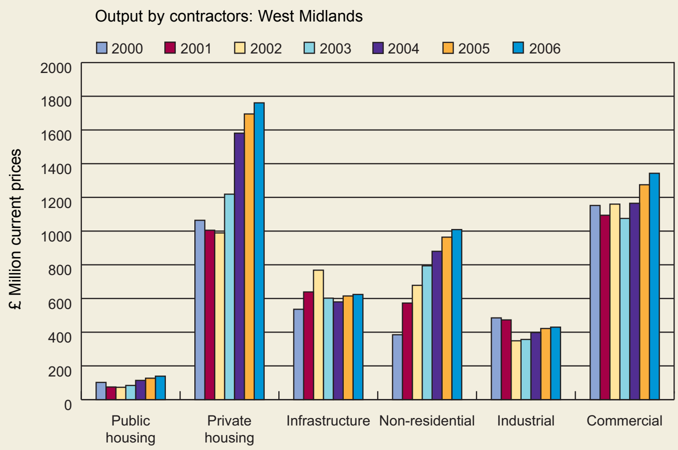
Scotland
The Scottish construction industry performance increased by an impressive growth 14.7% in 2004 driven by the activities in private housing, public non-housing and commercial sectors. Outlook for new construction output in Scotland over the next two years is very promising with a forecast growth of 10.4% in 2005 and 8.8% in 2006.

Public non-residential housing will continue to benefit from the government's commitments to health and education facilities and growth in 2005 is expected to be at around 16.4%.



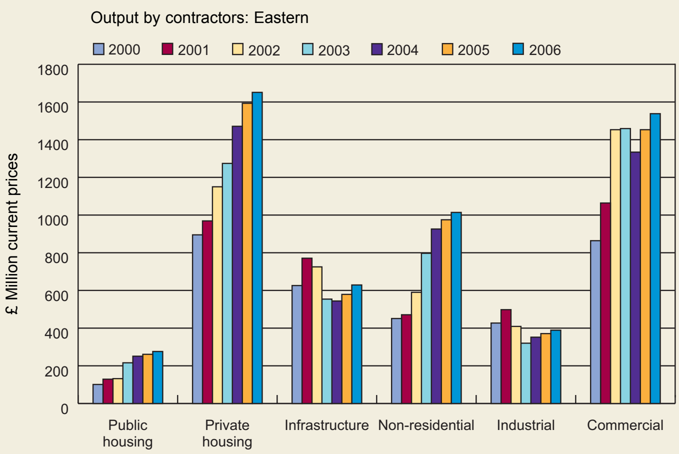
West Midlands
Construction output in West Midlands grew strongly in 2004 with double-digit growth of 15.3%, much higher than that achieved in previous year. Output in the region is forecast to show a steady growth in the next two years. A projected growth is set at 8.4% in 2005 and 4.5% in 2006 due to higher levels of housing.

Public housing will show a strong growth of 12.1% in 2005, while private housing will rise to 7.2%. Commercial output will also increase each year over the period to 2006 with forecast growth of 9.4% in 2005 and 5.4% in 2006.



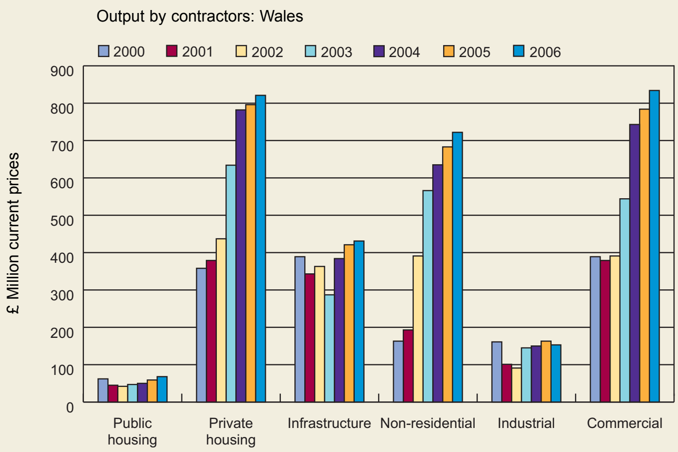
Eastern
Construction output in the Eastern region including East Anglia and Beds, Essex and Herts showed a slower rate of growth last year. It is predicted that this low rate of growth will continue into the next two years with forecast growth of 6.4% in 2005 and 5.5% in 2006 respectively.

The approval of 478,000 new homes in the corridor between Stansted (Essex) and Peterborough (Cambridgeshire) over the next 17 years is the main driver in the overall growth predictions and will result in increased output in both private and public housing.



Wales
Construction output rose strongly in 2004 by 19.6%, driven by private housing, infrastructure and commercial sectors. However, the growth is expected to moderate to 8.4% in 2005 and 4.7% in 2006.

Private housing grew strongly in 2004 but further growth will be minimal. A projected growth for this sector is 1.7% in 2005 and 3.2% in 2006. The strength of this market will depend on whether the Bank of England is correct in expecting that house price inflation will have a soft landing.



South East

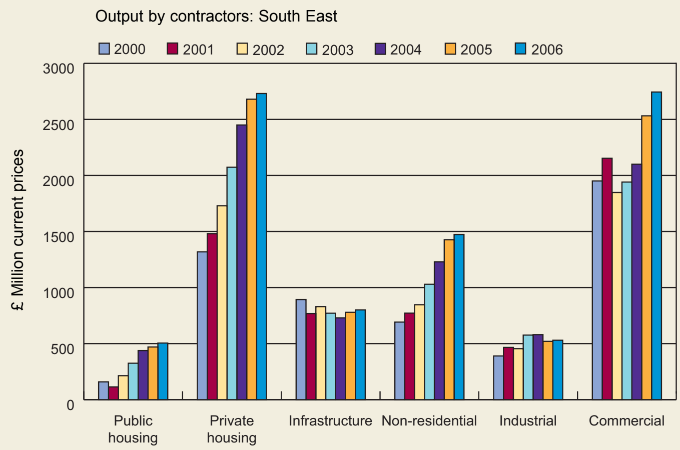
New construction output in the region grew by 12.7% last year with all sectors, except infrastructure, contributing to the growth.

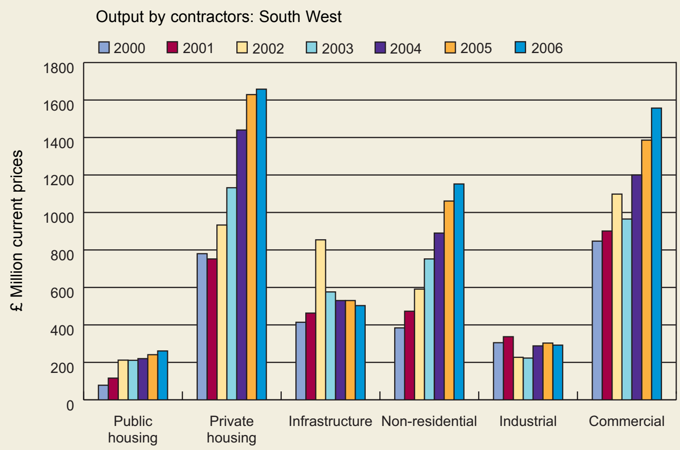
With the anticipated decline in the industrial sector, it is forecast that construction output will fall slightly to 8.3% in 2005. A more moderate growth of 4.3% is forecast for 2006 with all sectors showing some growth.

South West

The strength of new orders in the first half of 2004 suggested a robust outturn for the 2004 as a whole and the region recorded a very strong growth of 15.9% in 2004.

A number of big projects in the region including a £315 million school deal in Devon and a £170 million retail scheme in Plymouth should boost construction output for next two years and is forecast to rise by 10.4% in 2005 and by 3.7% in 2006.





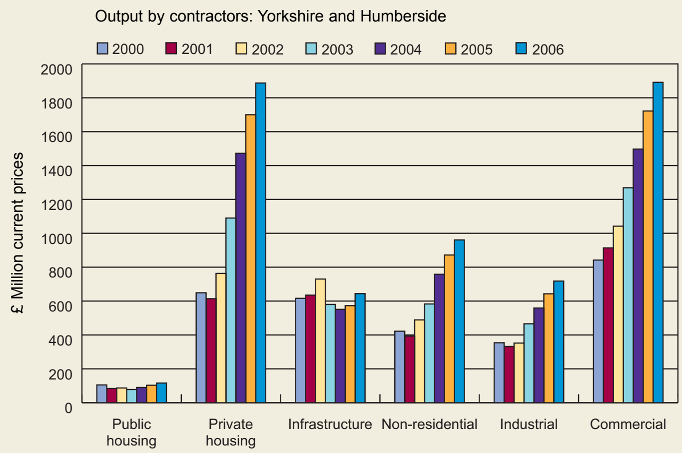
Yorkshire and Humberside

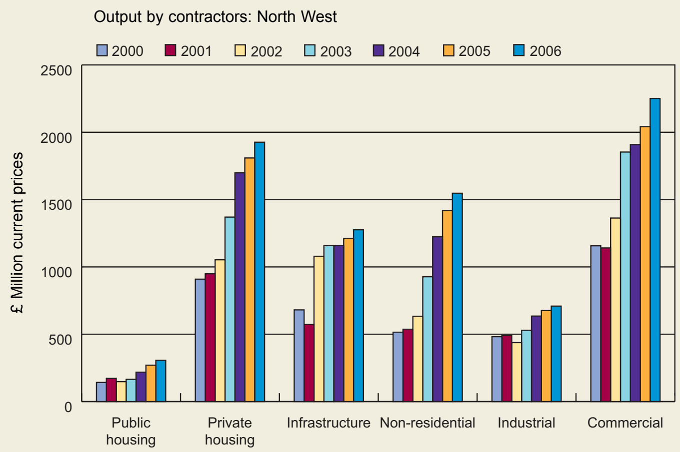
2004 was an excellent year for the region with construction output growth close to 19%. This is predicted to remain strong with a forecast growth of 13.2% in 2005 and 11.3% in 2006, driven mainly by growth in private housing, public non-housing and commercial sectors.

North West

Almost all sectors in the North West region saw significant growth during 2004 with public housing and public non-housing almost doubling its output from the previous year.

Outlook for construction activity in the North West region remains positive and is forecast to rise by 10.7% in 2005 and 8.3% in 2006 driven mainly by public housing and public non-housing sectors. However, private housing in this region is expected to moderate strongly over the next two years as the housing market cools.





Inflation analysis

Inflation cost driver analysis

Updating the cost of projects to reflect current day prices frequently assumes that inflation affects all projects equally and that drivers of construction projects are the same. This leads in almost all cases to the use of one index to update projects that are, in fact, subject to very different inflation drivers.

To highlight this point Franklin + Andrews has conducted a number of project specific inflation studies of different building facility types. This particular report updates an earlier study looking at inflation drivers of educational facilities.

The original study examined the input cost inflation of building material components, labour and plant experienced by contractors from January 2000 to 2002.

The updated study reviews the input cost inflation from December 2002 to December 2004. The results have been summarised into elements to allow ease of comparison.

A major factor to hit the cost of UK construction during 2004 was the increase in steel and other metal prices, including copper, as a result of increased demand from a booming worldwide construction economy, most notably China. From analysis of the facilities contained within this study, elements that contain steel components (whether in the reinforcement or the frame itself) were subject to the largest inflationary increases over the period. For example, all of the facilities contained some steel reinforcement within the substructure element which resulted in cost increases between 13-21%. However, the main increase was witnessed by those facilities constructed of steel. For example the sports halls' frame cost has inflated by nearly 50%, which, in monetary terms, equates to an increase of just under £60 per square metre of gross floor area over the period.

The results of our study indicate that different levels and choices of specification experience different levels of inflation. This is illustrated through the disposal installations element which saw the university library, incorporating mainly uPVC pipework, witness an increase of 10.7% whereas the nursery school opting mainly for aluminium pipes only experienced an increase of 3.2% over the period. By transforming those increases into monetary terms, the cost per pupil went up £13.30 and £1.83 respectively.

The study has identified that all facilities have increased by more than 10%, with an average facility increase of around 14% for the inflationary study period. This equates to a cost increase of £778.81 per pupil for the university library, and a £111.50 per m2 gross floor area increase for the technology block.

In conclusion, the average cost inflation, using a generic building cost index, for the same period indicates an inflation adjustment of 12%, whereas our study clearly indicates a fluctuation in the inflation figure dependant upon specification and weighting of design layout.

Tabel 1.6 input cost increases from December 2002 to December 2004

	University library		Secondary school teaching block		Nursery school		Technology block		Sports hall	
	Cost/pupil	%	Cost/pupil	%	Cost/pupil	%	Cost/m2 GFA	%	Cost/m2 GFA	%
Substructure	82.61	13.2%	59.35	12.7%	225.70	21.2%	12.23	16.5%	10.59	17.5%
Frame	11.30	9.2%	65.28	48.1%	–	–	40.69	36.9%	56.61	49.4%
Upper floors	36.44	7.6%	12.82	10.4%	–	–	4.28	15.0%	1.81	12.1%
Roof	101.96	12.6%	31.08	8.7%	256.18	25.5%	3.32	8.2%	4.12	4.7%
Stairs	31.54	17.5%	2.59	6.6%	–	–	0.91	5.7%	0.24	12.6%
External walls	43.96	9.7%	39.76	11.1%	28.60	10.6%	3.55	6.4%	6.07	9.6%
Windows and external doors	50.51	6.6%	56.80	23.8%	29.23	4.9%	4.90	7.5%	20.62	23.8%
Internal walls	41.58	10.7%	19.00	10.8%	30.46	9.2%	2.25	9.1%	3.64	13.3%
Internal doors	12.75	6.1%	14.23	6.2%	11.89	5.3%	1.58	6.0%	6.78	23.8%
Wall finishes	19.54	11.2%	14.23	11.7%	11.54	12.2%	2.20	13.4%	3.14	12.9%
Floor finishes	35.68	10.6%	44.12	12.4%	7.96	9.2%	6.14	11.3%	8.14	12.8%
Ceiling finishes	11.79	13.0%	15.67	13.3%	10.48	13.3%	2.38	13.2%	0.48	13.5%
Fixtures and fittings	60.57	11.9%	27.95	12.1%	7.18	10.6%	2.70	11.9%	2.94	6.1%
Sanitary fittings	5.01	4.7%	1.08	2.3%	4.05	3.5%	0.07	5.4%	–	–
Disposal installations	13.30	10.7%	2.31	3.6%	1.83	3.2%	0.54	5.3%	–	–
Water installations	7.33	6.9%	5.63	4.5%	16.66	8.4%	0.71	3.6%	–	–
Space heating and air treatment	58.49	9.3%	36.68	9.3%	17.39	9.3%	5.91	9.3%	–	–
Electrical installation	104.51	12.0%	52.54	11.9%	58.08	11.9%	8.33	12.0%	–	–
Lift installations	8.55	9.1%	4.37	8.3%	–	–	2.46	9.1%	–	–
Protective installations	3.19	12.1%	3.16	12.1%	–	–	0.70	12.4%	–	–
Communications/special installations	38.21	11.9%	16.15	12.0%	16.93	12.2%	5.67	12.0%	–	–
Facility increase	**778.81**	**10.5%**	**525.01**	**11.7%**	**734.15**	**13.2%**	**111.50**	**12.5%**	**128.18**	**20.1%**

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