

LIVERPOOL INVESTMENT LETTER

December 2017



Cardiff Business School

Ysgol Busnes Caerdydd

Julian Hodge Institute of Applied Macroeconomics

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LIVERPOOL RESEARCH GROUP IN MACROECONOMICS

LIVERPOOL RESEARCH GROUP IN MACROECONOMICS

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The Julian Hodge Institute was launched in autumn 1999 in a new collaboration between the Cardiff Business School of Cardiff University and Hodge. The aim of the Institute is to carry out research into the behaviour of the UK economy, and to study in particular its relationship with the other economies of Europe. The research has been particularly germane in recent years and has proved to be of significant social and political relevance as Europe has navigated the difficulties of the global financial crash, the Eurozone crisis and most recently the UK referendum on EU membership. The Liverpool Investment Letter is written by Patrick Minford, with the assistance of other members of the Group; in particular the emerging markets section is written by Anupam Rastogi, and the focus on Japan is written by Francesco Perugini. The Investment Letter is published monthly.

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THE BUDGET AND THE OFFICE OF BUDGETARY RESPONSIBILITY

In this Budget the OBR dramatically lowered its forecast for GDP growth and said it was due to a new assessment it had made on productivity growth prospects. In so doing it moved from its intended status as an independent ‘watchdog’ providing uncontroversial forecasts of the public finances, and into the spotlight as the purveyor of a forecast widely regarded as biased downwards in a serious way for a serious period, the next five years; so scuppering the well-meaning hopes of Philip Hammond to provide an upbeat Budget. It has told all and sundry that this was forced on it by the behaviour of productivity growth underperformance.

There are three questions to be asked about this.

- 1) On the question of the OBR forecast: Is the poor OBR forecast really due to poor productivity? The OBR model of the economy published online is, as the document says (OBR, 2013) based on the Treasury Model of 1970 vintage, plainly brought up to date through re-estimation of the equations on fresh data, from time to time.

This model has backward-looking expectations and includes only a small effect on wage inflation of output being higher than trend (i.e. productivity-related output). Otherwise productivity works through unit labour costs on inflation.

So how exactly does this lower productivity growth work through the model? Does it drive inflation to unsustainable levels so forcing the government to restrain demand? As inflation in the OBR forecast is round about the inflation target and interest rates rise little, it does not seem as if this drop in productivity growth is actually affecting the forecast!

Is it perhaps instead simply the OBR view that demand growth will be slowed by a Brexit effect on exports, consumption and investment, as well as by government responding with slow spending growth?

In our attempt to answer this question we must have legitimate doubts about whether ‘lower productivity growth’ actually forced down the OBR forecast of GDP growth. The OBR’s macroeconomic model, on which it says it bases its forecast, barely mentions productivity. Yes, there are unit costs where it enters to help determine prices and there is an assumed ‘trend output’ where it presumably enters indirectly into the judgement about what this should be. But there is a weak connection between trend output and the economy in their model because there is a particularly weak relation between ‘excess demand’ (the ‘output gap’ difference between actual output and trend output) and inflation. This relation only operates via wages inflation. It is weak anyway and at the present time is of course hardly operating and so may well have been overridden by the OBR forecasters; this also means that unit labour costs have been weak in

Table 1: Summary of Forecast

	2016	2017	2018	2019	2020	2021	2022
GDP Growth ¹	1.8	2.2	2.0	1.9	1.9	2.2	2.3
Inflation CPI	1.1	2.6	2.5	2.1	2.0	2.1	2.8
Wage Growth	2.4	2.0	2.3	1.8	1.8	2.6	3.6
Unemployment (Mill.) ²	0.8	0.8	0.8	0.7	0.7	0.6	0.5
Exchange Rate ³	80.6	74.9	75.0	74.5	73.1	72.4	71.7
3 Month Interest Rate	0.5	0.4	0.6	1.2	2.4	3.1	3.1
5 Year Interest Rate	0.7	1.1	1.4	2.5	3.5	2.9	2.6
Current Balance (£bn)	-87.4	-65.6	-54.3	-49.4	-39.0	-26.4	-15.4
PSBR (£bn)	45.1	40.1	33.4	24.2	6.6	-6.6	-10.8

¹Expenditure estimate at factor cost

²U.K. Wholly unemployed excluding school leavers (new basis)

³Sterling effective exchange rate, Bank of England Index (2005 = 100)

contributing to inflation. So trend output and productivity seem to have had no effect on inflation which is the only way they have an effect in the OBR model.

So how does the OBR model determine output? From demand! In fact this model dates back to 1970 and is an ‘Old Keynesian’ model. Some may be familiar with the Item Club forecasts which use a variant of this model. The Keynesian set-up is popular with forecasters because they can build up their view of the demand side of the economy — consumption and investment spending, exports, and government spending and then add them up to get output growth. Supply is determined by demand. Forget expectations of inflation or the exchange rate. All such things are determined implicitly by the past.

This sort of Old Keynesian model may be convenient but it is most unlikely to match the behaviour of the economy, not to speak of its deep violation of modern theory. But leave that on one side: the point here is that the OBR has used its assumptions about demand to create a forecast of output, which has nothing at all to do with productivity. These demand assumptions seem to be heavily influenced by the Treasury’s own views of Brexit: that it is damaging to consumption, investment and exports; and that government spending must be held back also to prevent more damage to the public finances. All of this is a recipe for dismal growth. The OBR says it has been ‘neutral’ in its view of Brexit, by which it seems to mean that it has reduced export forecast growth but also reduced import forecast growth by a similar amount due to Brexit; so the two offset each other in their effect on demand for UK output. But this is disingenuous because in these models exports are a ‘driver’ of demand from the outside while imports respond to demand inside the economy. As a result their export assumption due to Brexit is lowering output growth and in so doing also lowering import growth: not ‘neutral’ at all!

In short it looks as if the OBR has made what it thinks is a ‘reasonable’ forecast of demand based on Brexit uncertainties, which it constantly refers to. And has ‘buttressed’ this with an estimate of an ‘output gap’ which is

says implies no excess capacity in the economy, plus a forecast of ‘trend output’ based on its assessment of productivity growth. It then suggests that the economy will follow the path of ‘potential output’ from here to 2023 — an astonishing coincidence. At all points its methods look highly questionable: a) on the demand projection which is entirely gloomy b) on the absence of any excess capacity which is most questionable given labour availability in firms and capital availability which slow investment suggest is highly ample c) on the growth in underlying productivity (which is hugely uncertain but very probably much underestimated- see below). The OBR has managed to use three interlocking assessments which happen between them to provide a miserable backdrop to policy at a time of crucial change, playing to the story that Brexit has damaged the economy and needs to be tamed into a ‘soft’ (i.e. no) Brexit to be redeemed.

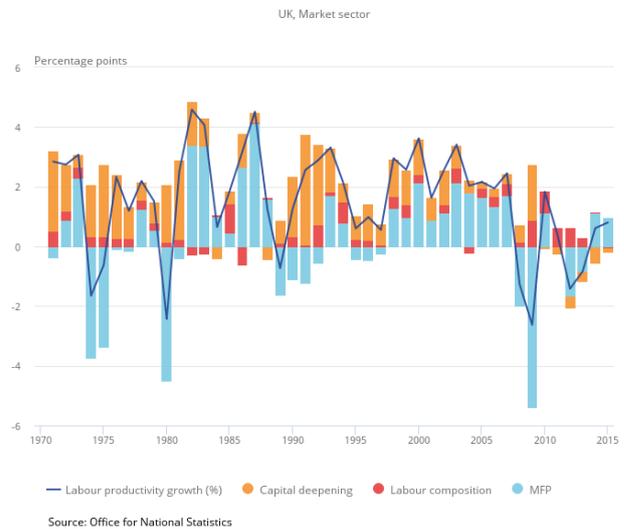
- 2) On the question of productivity growth: Is the outlook for productivity really so bad? The OBR will no doubt agree that it varies greatly with the state of the economy and the labour market, because firms treat labour more and more like capital, owing to the ‘human capital’ embodied in it that is vital for the firm. Hence labour utilisation can vary greatly. Growth has hitherto been driven by a flexible labour market where people have been anxious to create jobs in a situation of excess labour supply. Is it not more likely that as the labour market tightens, aided by Brexit in stopping the inflow of taxpayer-subsidised unskilled EU labour, firms will increase their utilisation of their labour holdings? The OBR will have seen that in the third quarter productivity rose 0.5% as labour participation fell. Could this be a harbinger of the future?

On this question suppose we take the OBR’s story about productivity at face value. It is a flimsy thing to use for a forecast u-turn like this. Productivity (i.e. output per employee or per hour) responds strongly to the economy as you can easily see from the ONS chart of productivity shown below. In recessions it plunges because output falls faster than firms lay off workers. It did so particularly badly in the financial crisis recession. Firms hang on to a lot of workers even when output falls because workers these days are like capital: they are often hard to find again and their knowledge is vital to the firm. Then also in recessions in a flexible wage economy like ours they become a lot cheaper to hire because they want to keep jobs and to be hired where they don’t have jobs. In the recovery jobs rise as fast or even faster than output because of this. But at a certain point the labour market gets tight and firms have to use their workers more intensively, just like they raise their utilisation of capital as demand rises.

For this reason even measuring ‘underlying productivity’ in manufacturing is hard because you have to allow for this variable utilisation. Even on our current poor measures productivity seems to have risen sharply in the third quarter, as employment among 16–64 year olds fell 0.1% while the ONS final estimate for output growth looks like being 0.4%.

This 0.5% rise in productivity in the third quarter is an annualised 2% growth rate! We may well be on the verge of seeing a shortage of labour developing that will force firms to use their labour stock more intensively.

Figure 3: Decomposition of annual labour productivity growth, 1971 to 2015



- 3) On the measurement of productivity: Is the OBR sure that we have sensible measurement of productivity? Is the OBR concerned about its measurement in the 80% of our economy that consists of services? Is it aware that the ONS has yet to implement any of the findings of the institute that was set up (ONS, 2008) to examine the measurement of public service output whose valued added is still measured simply by the wage bill? Or that the ONS has no plans to measure the quality of private sector services which would seem to have steadily improved over the past two decades owing to computerisation, the mobile phone and so forth? The ONS has an active programme of work improving its measures of the quality of goods such as washing machines and computers; does the OBR not think it is time the ONS turned more actively to measuring the quality of services when they are so important to our GDP and the productivity measure OBR are using to determine their forecast?

We need to be aware of our total inability to measure quality of services, now 80% of our economy; this makes one realise we know next to nothing about true productivity. The ONS is bravely trying to measure ‘hedonic’ (i.e. quality-adjusted) prices of key goods like computers and mobile phones; it has an institute (see ONS, 2008) to measure public services quality (20% of GDP) which so far is in the discussion phase. And nothing at all for the other 60% of GDP in the private services sector where it is likely productivity has soared (but not according to ONS measures).

The difficulty of relying on productivity growth as a guide to the future growth of GDP is one of measurement. It is relatively easy to measure non-services productivity, such as

manufacturing, where the UK made huge strides in productivity in the 1980s and 1990s as it contracted low-value manufacturing in favour of high-tech manufacturing, shrinking the labour force employed substantially from 25% of total employment in 1980 to only 8% today. However, by the time of the financial crisis, the economy was dominated by services where productivity measurement is notoriously bad. This can be seen from the second chart from ONS, 2017, ‘Figure 4’, which shows productivity growth by sector from 1998 to 2000. The sectors from Distribution (denoted GI) and to its right are the service sectors of the market economy, as listed below the chart. (Public sector productivity by definition grows at zero because output is actually measured by the number of employees times their real wages.) But plainly some of these numbers are completely absurd: consider for example education (PQ) and health, and the arts (RSTU), respectively third and second from the right, where productivity supposedly plunged.

Figure 4: Decomposition of annual average labour productivity growth, 1998 to 2015



Sectors in ‘Figure 4’ above, by industry from left to right

Industry ¹	Industry Description
ABDE*	Agriculture; forestry and fishing; Mining and quarrying; Utilities
C	Manufacturing
F	Construction
GI	Wholesale and retail trade; Accommodation and food services
H*	Transportation and storage
J*	Information and communication
K	Financial and insurance activities
LMN*	Real estate activities; Professional and scientific activities; Administrative and support activities
PQ*	Education; Health and social work
RSTU*	Arts and entertainment; Other services
Total MS	Total Market Sector

Source: Office for National Statistics

Notes:

1. Standard Industrial Classification (2007)
2. * Denotes industry affected by removal of non-market sector components

This is a point that has been made carefully by Hal Varian, a distinguished academic, now the chief economist of Google. He argues that GDP — which cannot capture the huge gains in quality of services such as those of a mobile phone, not to speak of goods now available freely (such as free software) — should be abandoned in favour of measuring the value to consumers of their expenditure.

In the past year, nominal GDP has grown 3.7% and the ‘GDP deflator’ (representing the ‘price’ of GDP) by 2.1%. Interestingly, the public finances are improving as revenues have risen around 4% with public spending rising by only 3% (reflecting weak growth in public employee wages). By looking at these facts in terms of real GDP growth, one misses the point that wage growth is weak partly because prices quality-adjusted are not rising as much as the CPI indicates while revenues are rising because the Government can afford for the same reason not to ‘index’ them to the CPI.

The state of the economy

The latest PMI for manufacturing coming in over 58 and suggesting investment and export orders are both strong suggest that the fourth quarter is growing reasonably. Plainly there is uncertainty over Brexit policy, with agreement on future EU arrangements agreed neither with the EU nor even within our own government. However, with the Budget, Philip Hammond took some paces towards existing government policy to leave both the Single Market and the Customs Union; while it is still possible that the UK could agree to ‘shadowing’ both once outside, this would be violently opposed by the Brexit movement and seems to be a non-starter. Hence the outline of the future relationship should emerge in a matter of months and it is likely to be a full exit but with a transitional delay of two years for preparation; free trade talks with the rest of the world, or at least the first tranche, would aim to be finished by the end of this.

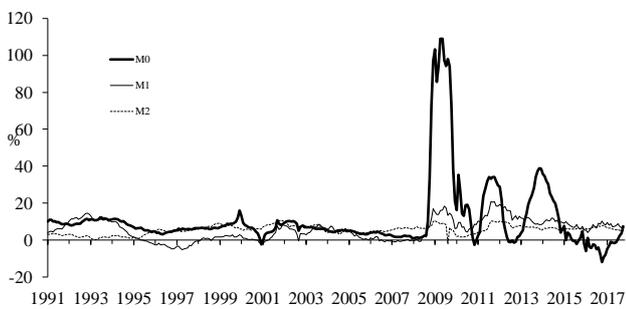
There are far worse uncertainties than this provided it is resolved in such a timeframe. Far worse is the threat of a Corbyn government, which threatens to replay the Wedgwood Benn ‘siege economy’ drama of the mid-1970s. Interestingly that drama taught the British people a horrible lesson and led to Mrs. Thatcher’s governments from 1979. It is hard to believe they have really forgotten that lesson and are ready to repeat the experiment. Current opinion polls when we have such a weak and storm-tossed Tory government suggest they are not ready to since they imply Labour would still not get a majority.

With the PMIs here and everywhere else depicting a world upswing at last, the economy seems poised to achieve healthy growth in 2018. We expect net exports to strengthen and investment to pick up; also productivity as labour is more strongly utilised. The sooner the Brexit agenda is adopted the sooner we will get the strengthening we expect

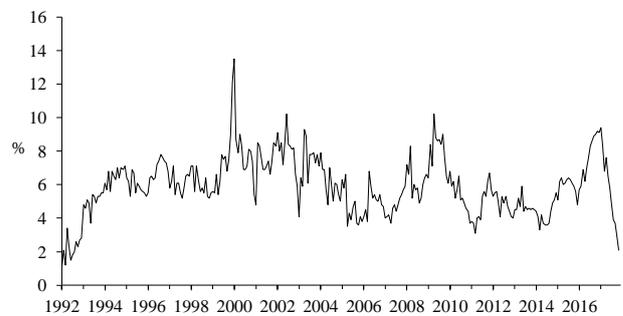
from new free trade policies, better regulation and the removal of the unskilled immigrant wage subsidy. With public debt having peaked at 80% of GDP and now starting to fall steadily with an improving PSBR, there will be scope for a Brexit dividend package from 2020. This will further underpin strong growth with tax cuts and necessary extra

spending on public services and infrastructure. Our new post-Brexit forecast has growth exceeding 3% in 2025. With the Brexit Dividend that date could be brought forward.

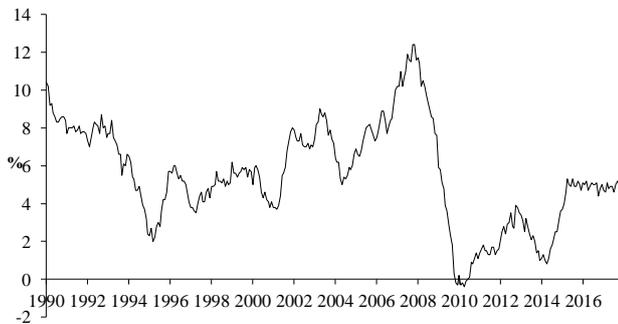
U.S.: Growth in Monetary Aggregates (Yr - on - Yr)



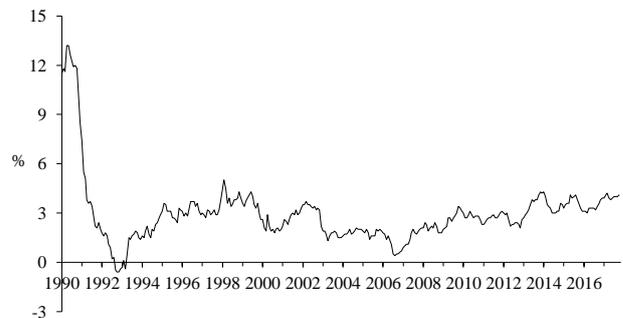
UK: Notes and Coins in Circulation Growth



Eurozone M3 Growth



Japan: Growth of M2+CD's



FOCUS ON JAPAN

Francesco Perugini

Economists optimistic about future prospects as GDP continues to grow.

According to the recent preliminary estimate by the Cabinet Office, real GDP grew by 0.3% q-o-q in the July–September quarter of 2017, following a 0.6% q-o-q rise in the April–June quarter. The growth in the third quarter extends the streak of positive growth to 7 quarters, and it marks the longest expansion since 2001.

By components of GDP, the growth was led by external demand as the net export contribution to GDP rose to 0.5% q-o-q from a negative reading of 0.2% q-o-q in the April–June quarter. Shipments of cars and electronic parts to the US and Asia were strong, reflecting improving global demand.

Private consumption, which accounts for about two-thirds of GDP, on the other hand, pushed down the headline GDP growth as private consumption contracted by 0.5% q-o-q. It is the first quarterly decline in private consumption since Q4 2015. “Private consumption fell because of bad weather,” said Nobuyasu Atago, chief economist at Okasan Securities Co. and a former BOJ official. “Cyclical conditions are not bad for the economy and I expect a rebound in overall growth in the fourth quarter,” he said. Economists believe that there is no cause for excessive pessimism as the slowdown in private consumption was widely expected and it will likely trend toward a moderate recovery. But the prevailing view is that robust wage growth continues to be the missing link that would spur consumers to become more confident about spending. “On balance, private consumption will likely grow at a moderate pace and yet slow wage growth will become a bottleneck,” said Yuichi Kodama, chief economist at Meiji Yasuda Life Insurance Co. “The economy may be cruising ahead, but what matters is how it’s going to build speed from now.”

Meanwhile, capital expenditure rose 0.2% in July–September from the previous quarter. “Business investment wasn’t too strong, but if you look at the BOJ’s tankan survey, there are still plans for fairly strong investment,” said Masaki Kuwahara, senior economist at Nomura Securities. “The U.S. economy is doing well, so overseas demand should continue to do reasonably well.” Also Hidenobu Tokuda, senior economist at the Mizuho Research Institute believes that “the recovery trend is expected to continue, supported by investment in automation to cope with labour shortages and demand related to the hosting of the Tokyo Olympics and Paralympics” in 2020.

Overall, economists are moderately optimistic about future economic trends. “Japan’s economy is in a sweet spot,” said Takuji Aida, chief Japan economist at Societe Generale SA. “Japan’s economy will continue its moderate growth rate in coming quarters,” Aida said. Others believe that the recovery in the global economy will boost Japanese exports

and keep the Japanese economy on a path of moderate growth, as China is seen likely to avoid a sharp slowdown thanks to infrastructure investment, and as progress on tax cuts brightens prospects for the US. “Looking at the near term, demand for electronics parts used for new-model smart phones are expected to help Japan’s exports,” said Masaki Kuwahara, senior economist at Nomura Securities. “In the longer term, brisk demand for capital expenditure in advanced nations will support the global economy and Japan’s exports as receding political uncertainty releases pent-up demand for upgrades of existing production facilities.” Moreover, “the data will make it easier for Prime Minister Shinzo Abe to push a planned ¥2 trillion economic package through the Diet by year-end,” Bloomberg economist Yuki Masujima said.

However, economists also worried that the recent scandal that has involved car automakers may negatively impact on exports. Kobe Steel, Japan’s third-biggest steelmaker, admitted last month it had falsified specifications on the strength and durability of aluminium, copper and steel products, misconduct that may have stretched back more than 10 years. Big manufacturers of cars, aircraft and bullet trains have long relied on Kobe Steel to provide raw materials for their products, making the steel maker a crucial, if largely invisible, pillar of the Japanese economy. Furthermore, Nissan Motor has recently suspended car production for the Japanese market after admitting unauthorised workers were certifying vehicles even after discovery of malpractice at the group in a deepening of the inspection scandal. Revelations have resulted in a recall of 1.2 million cars and a halt to production of vehicles it makes for the Japanese market over three weeks to early November — its sales of passenger cars, excluding minivehicles, tumbled 46.8% in November from a year earlier to 16,888 vehicles, the Japan Automobile Dealers Association said, following a slide of around 53% in October. Mitsubishi Motors and Suzuki Motor both admitted last year that they had been exaggerating the fuel economy of their vehicles by cheating on tests.

The current economic expansion, which began in December 2012, is likely to have entered its 60th month, surpassing the 57-month “Izanagi boom” between 1965 and 1970. The longest economic boom logged in postwar Japan lasted 73 months, between 2002 and 2008. Still, the benefits of such an expansion have yet to be felt broadly by consumers as nearly five years of “Abenomics” has so far failed to break Japan free from deflation. As employment and income conditions are improving, the economy is expected to recover going forward, but attention should be given to the implementation of structural reforms, which are long-awaited and vital to promote higher and more sustainable growth.

MARKET DEVELOPMENTS

With the Trump tax reform bill now passed in both houses of Congress, US tax cuts are in prospect, while already we are seeing Trump deregulation starting across the board. This is putting corporate America and would stock markets in a continuously improving mood. Monetary policy

is tightening in the US and the UK will surely follow, having just reversed the post-Brexit cut in rates. The ECB should follow next year under German prodding. The era of emergency low interest rates is ending.

Table 1: Market Developments

	Market Levels		Prediction for Sep/Oct 2018	
	Nov 1	Dec 6	Previous Letter View	Current
Share Indices				
UK (FT 100)	7488	7348	12153	10117
US (S&P 500)	2579	2629	3126	3187
Germany (DAX 30)	13466	12999	21343	20603
Japan (Tokyo New)	1787	1765	2216	2189
Bond Yields (government)				
UK	1.38	1.36	2.00	1.50
US	2.36	3.32	3.00	3.00
Germany	0.38	0.30	0.80	0.80
Japan	0.06	0.04	0.10	0.10
UK Index Linked	-1.56	-1.62	-1.00	-1.00
Exchange Rates				
UK (\$ per £)	1.33	1.34	1.27	1.30
UK (trade weighted)	78.35	78.70	75.50	76.1
US (trade weighted)	101.14	99.10	102.4	102.4
Euro per \$	0.86	0.85	0.85	0.85
Euro per £	1.14	1.14	1.08	1.11
Japan (Yen per \$)	114.1	112.3	114.1	114.1
Short Term Interest Rates (3-month deposits)				
UK	0.48	0.51	0.60	0.70
US	1.39	1.52	1.80	1.80
Euro	-0.41	-0.41	-0.20	-0.20
Japan	-0.05	-0.25	0.10	0.10

Table 2: Prospective Yields¹

Equities: Contribution to £ yield of:						
	Dividend Yield	Real Growth	Inflation	Changing Dividend Yield	Currency	Total
UK	3.60	2.0	2.5	34.00		42.10
US	1.99	2.4	1.9	16.90	2.88	26.07
Germany	3.30	1.9	1.6	55.00	2.67	64.47
Japan	1.90	1.2	0.8	22.00	1.28	27.18
UK indexed ²	-1.62		2.5	1.00		1.89
Hong Kong ³	2.60	6.3	1.9	-4.00	2.88	9.68
Malaysia	3.30	4.8	1.9	49.00	2.88	62.08
Singapore	3.50	2.0	1.9	8.00	2.88	18.38
India	1.40	8.0	1.9	23.00	2.88	36.78
Korea	1.10	3.0	1.9	-21.00	2.88	-12.12
Indonesia	2.20	5.4	1.9	30.00	2.88	42.38
Taiwan	2.80	3.4	1.9	12.00	2.88	22.98
Thailand	3.20	2.6	1.9	24.00	2.88	35.08
Bonds: Contribution to £ yield of:						
	Redemption Yield	Changing Nominal Rates	Currency	Total		
UK	1.36	-1.40				-0.04
US	2.32	-6.80	2.88			-1.60
Germany	0.30	-5.00	2.67			-2.03
Japan	0.04	-0.60	1.28			0.72
Deposits: Contribution to £ yield of:						
	Deposit Yield	Currency	Total			
UK	0.51		0.51			
US	1.52	2.88	4.40			
Euro	-0.41	2.67	2.26			
Japan	-0.25	1.28	1.03			

¹ Yields in terms of €s or \$s can be computed by adjusting the £-based yields for the expected currency change.

² UK index linked bonds All Stocks

³ Output based on China.

Table 3: Portfolio(%)

	Sterling Based Investor		Dollar Based Investor		Euro Based Investor	
	November Letter	Current View	November Letter	Current View	November Letter	Current View
UK Deposits (Cash)	5	5	5	5	1	1
US Deposits	-	-	-	-	-	-
Euro Deposits	-	-	-	-	-	-
Japanese Deposits	-	-	-	-	-	-
UK Bonds	-	-	-	-	-	-
US Bonds	-	-	-	-	-	-
German Bonds	-	-	-	-	-	-
Japanese Bonds	-	-	-	-	-	-
UK Shares	19	19	14	14	17	17
US Shares	14	14	19	19	16	16
German Shares	14	14	14	14	21	21
Japanese Shares	9	9	9	9	11	11
Hong Kong/Chinese Shares	4	4	4	4	4	4
Singaporean Shares	4	4	4	4	4	4
Indian Shares	4	4	4	4	4	4
Thai Shares	3	3	3	3	3	3
South Korean Shares	4	4	4	4	4	4
Taiwanese Shares	4	4	4	4	3	3
Brazilian Shares	4	4	4	4	3	3
Chilean Shares	4	4	4	4	3	3
Mexican Shares	4	4	4	4	3	3
Peruvian shares	4	4	4	4	3	3
Other:						
Index-linked bonds (UK)	-	-	-	-	-	-

INDICATORS AND MARKET ANALYSIS

FOREIGN EXCHANGE MARKETS

**US : Trade Weighted Index
(Bank of England 1990 = 100)**



UK: Dollars Per Pound Sterling



Euro per US dollar



**UK: Trade-Weighted Index
(Bank of England 1990 = 100)**



Japan : Yen Per U.S. Dollar

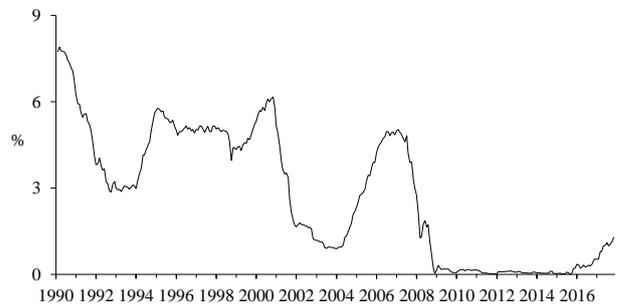


GOVERNMENT BOND MARKETS

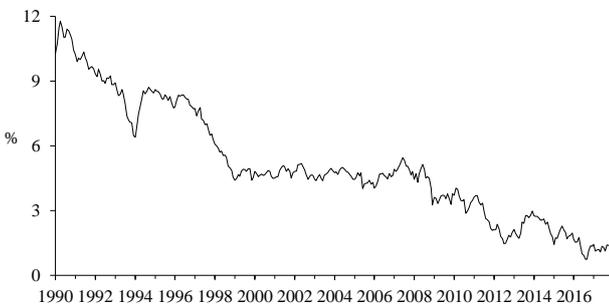
U.S.: Yield on Long-Term Government Bonds



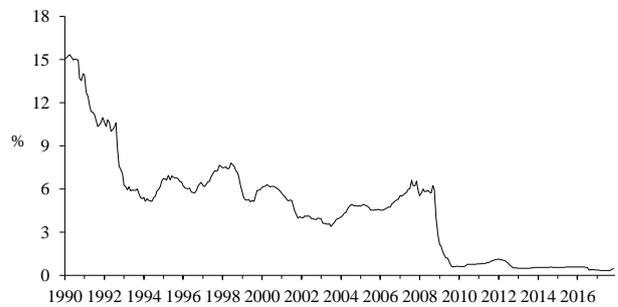
U.S. : 3-Month Treasury Bill



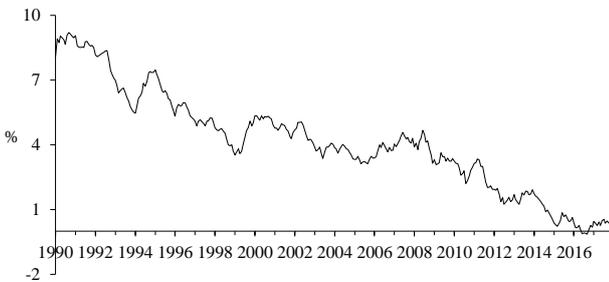
U.K.: Yield on Long-Term Government Bonds



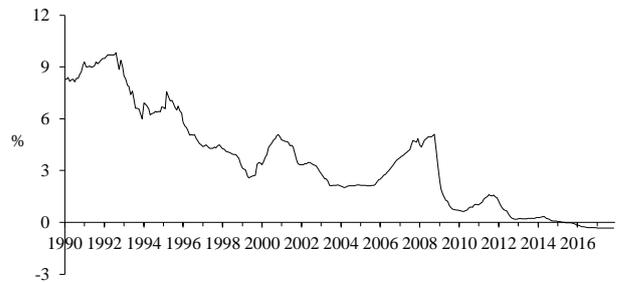
U.K. : 3-Month Interbank Rate



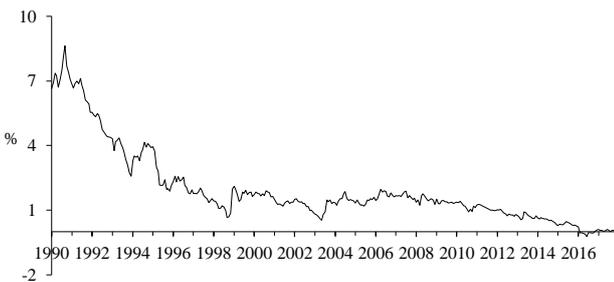
Germany: Yield on Public Authority Bonds



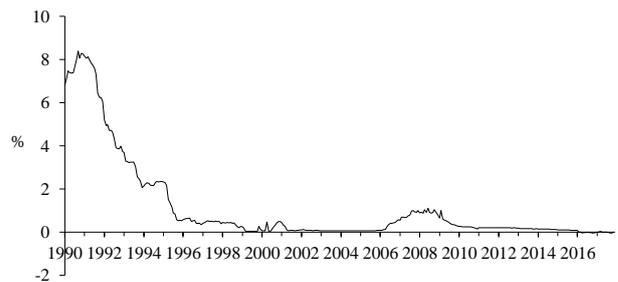
Germany : 3-Month Interbank Deposit Rate



Japan: Yield on Long-Term Government Bonds

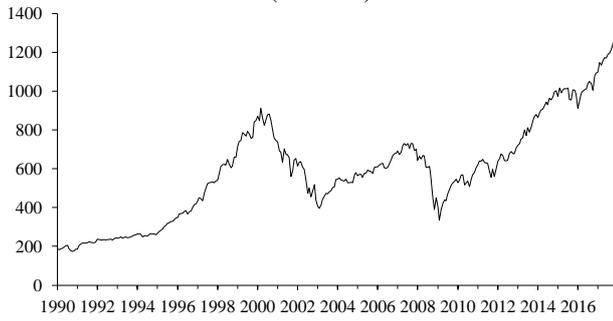


Japan : 3 Month Money Market Rate

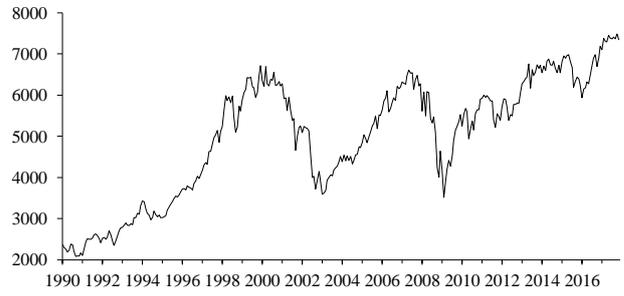


MAJOR EQUITY MARKETS

**U.S. : S & P 400 Industrial
(1985=100)**



**U.K. : FTSE-100 Index
(10 April 1962=100)**



Germany : DAX 30



**Japan : Tokyo S.E. New
(1985=100)**



EMERGING MARKETS

Anupam Rastogi

India

Indian political discourse is running on the steroids of World Bank's Ease of doing Business where India has jumped 30 notches compared to last year in the world. Compared to 140 in 2016, India stands at number 100 today. Moody's rating upgrade of India, after 13 years, is a shot in the arm for the Narendra Modi government. GDP grew 6.3% in the third quarter compared to 5.7% in the second quarter of 2017. Furthermore, the ruling party had a resounding victory in local elections. This result is a harbinger for the ruling party in the crucial provincial elections of Gujarat state from where PM Modi hails.

GDP is projected to expand 6.5% in the current fiscal year and scale up to 7.6% in the next fiscal year. Inflation is creeping up again, and the central bank expects it to exceed its targets. The yield on benchmark Indian government bonds has been rising — now at 7%, the highest in the year. Hence, we expect the central bank to take a pause. With systemic changes brought in the economic administration such as introduction of Good and Services Tax (GST), implementation of on-line processing of transaction and stricter interpretation of Insolvency and Bankruptcy Code (IBC) means that private sector investment will increase gradually. Government believes that India has the ability to realize its economic growth potential of 8.5% per year.

Exports growth in the first seven months of the current financial year has been tepid and with an appreciating rupee, the government's task to promote exports has become challenging. Imports are also likely to see a surge with the appreciating rupee. However, the country's current account deficit will remain around 2% of gross domestic product (GDP).

In November, the government pledged a close-to-\$33 billion capital infusion into state-run banks to help shore up their resources. The move has been welcomed and triggered a rally in bank shares. India's stock market has continued to scale new heights. This rally is domestically driven, with little foreign money driving the market higher.

Money is flowing into funds in India as the government is working to transform the economy. Private equity players are getting ready to bid for stressed assets, which they expect to bag at attractive valuations after an ordinance amended the Insolvency and Bankruptcy Code. The ordinance has practically barred most promoters of the defaulting companies from bidding for their assets in the bankruptcy auction.

PE players have raised distressed assets funds totalling over \$4 billion in the past two years, sensing an opportunity in the

India: BSE Sensitive



increasing number of bad assets in the banking system. These include a \$1.04-billion fund raised by Brookfield and SBI in July 2016 and a \$1-billion fund raised by Piramal Group and Bain Capital in August 2016.

Both Moody's and S&P reviewed India's credit rating. Moody's has upgraded India's sovereign debt for the first time in more than a decade. But S&P has left the rating unchanged. Moody's lifted India to Baa 2, a notch above Baa 3 — its first upgrade since 2004 and the first in nearly as long from any global rating company. Standard & Poor's hasn't upgraded India since 2007.

In upgrading India's sovereign rating, Moody's cited a deterioration in fiscal metrics as a key risk factor even as it noted the likelihood of further upgrades if the metrics improves. How the fiscal metrics shape up over the next year will depend to a large extent on whether the government resists the temptation to splurge in the last full budget ahead of the next parliamentary elections.

Moody's says that, in upgrading India, it is being guided by future prospects, not the current indicators. There are two arguments that Moody's makes. The first is about sustainability of India's growth. Second, it believes that the reforms carried out by the Modi government — demonetization, GST, bank recapitalization, the monetary policy framework, Aadhaar, etc. — have improved the potential for growth.

	16-17	17-18	18-19	19-20	20-21
GDP (%p.a.)	7.1	6.5	7.6	8.1	8.2
WPI (%p.a.)	4.5	3.5	4.0	4.1	4.0
Current A/c(US\$ bill.)	-24.0	-26.0	-28.0	-30.0	-32.0
Rs./\$(nom.)	68.2	65.5	66.5	67.5	68.0

China

The Chinese economy is showing signs of slowing down in October after Beijing withdrew stimulus efforts and closed factories in Northern China around a big Communist Party meeting. Government spending saw a rare on-year decline in October while banks sharply scaled back lending. Due to the closure, growth in factory output, fixed-asset investment and retail sales all slowed a little in October, as Beijing imposed tighter pollution controls and continued restrictions on home purchases in the country's big cities. The official manufacturing purchasing managers index, a gauge of China's factory activity, fell to 51.6 in October from 52.4 in September.

China Consumer Index rose 0.8 points in November to 75.6, its highest reading since July 2011. The index was 7.8 points higher than last year. As interest rates in the bond market rose in the last month, it added pressure on companies already struggling to service their debt. Investors have also panicked over the prospect of a further tightening in monetary policy following the party congress. The central bank's key policy rate has been raised to 2.5%. Monetary tightening has been modest, especially with producer price inflation running at about 7%, and rising core consumer prices.

China's exports rose 6.1% in October from a year earlier, compared with an 8.1% increase in September. Imports expanded 17.2%, compared with a gain of 18.7% in September.

From behind a wall of controls on outward capital movements, China is showcasing to the world its state intervention and authoritarian model. From the other side, we can see strongly controlled capital markets, a currency against which foreigners can't build major claims, and a limited appetite for voluntary deleveraging.

Chinese stocks are under pressure, as concern about a government crackdown on leverage levels continue to unnerve investors, leaving sentiment fragile.

China has announced plans to ease limits on foreign ownership of financial services groups, following years of complaints that such restrictions block foreign groups' development in the country. China would lift the cap on foreign equity stakes in securities, fund management and futures companies to 51% from the current 49%, without providing a timeline. The cap will be removed entirely three years after the new limit takes effect. China will also eliminate the 20% ceiling on ownership of a Chinese commercial bank or asset management companies by a single foreign investor and the 25% cap on total foreign ownership of such companies. The announcement came a day after US president Donald Trump's state visit to Beijing. It seems that China is heading towards liberalization but it's going to be a slow, methodical process rather than a Big Bang approach.

China: SSE Composite Index



President Xi Jinping has solidified his hold on the Chinese government following the recent party congress, giving him leeway to tackle the country's deep-seated economic problems. The focus is on China's 60 trillion yuan (around \$9 trillion) asset-management industry. Regulators have tightened regulations on the so-called wealth- and asset-management products, the highly leveraged products that banks have sold to their customers in recent years, which in turn have fuelled frothy domestic bond, stock and commodity markets.

China has returned to One-Man reign after the 19th Party Congress failed to appoint a next-in-line to Mr. Xi. Thus, ending collective leadership, along with term limits. Some China watchers speculate that Mr. Xi may feel a successor at his shoulder which will slow him in a historic opportunity to return China to its central place in the world. Of course, he can anoint one any time; the Politburo is packed with his supporters. In his long speech to the congress, he suggested that developing countries would be wise to adopt China's economic model.

What seems to be worrying the rest of the world is that China wants to recapture its glorious past and put the last two centuries history of subjugation behind it. China will seize the opportunity and fill the space left by America's retreat. Mr. Xi, in his address to the APEC summit in Vietnam, again spoke in praise of globalization. To counter this, Japan, Australia, India and US restarted the 'quad' on fringes of ASEAN summit. This is a diplomatic initiative set up a decade ago to counterbalance China's growing power in the region. They talked of the importance of the Indo-Pacific region being "free and open" and bound by a "rules-based order". So far, Beijing has not protested at initial steps towards the creation of a new regional alliance. The whole idea is how to contain China.

	16	17	18	19	20
GDP (%p.a.)	6.5	6.7	6.3	6.0	5.6
Inflation (%p.a.)	2.0	2.2	2.0	2.1	2.0
Trade Balance(US\$ bill.)	510	400	380	350	300
Rmb/\$ (nom.)	6.7	6.6	6.5	6.6	6.7

South Korea

The improvement in global growth has provided a shot in the arm to South Korea's gross domestic product. It expanded at the fastest pace in seven years in the third quarter of 2017 and the economy is most likely to expand 3.2%. But, the IMF reckons that the potential growth rate has dropped below 3% due to demographic factors. It recommends that the South Korea should continue to adopt expansionary financial and loose monetary policies to shore up growth. The economy is expected to grow 3% only in 2018. We hope that consumer demand would help in economy to grow in 2018.

The consumer price index rose 1.8% in October which is well within the Bank of Korea's 2% target. But the Bank of Korea raised its benchmark interest rate for the first time since 2011, marking a likely turning point for Asian central banks. Governor Lee Ju-yeol said during a news conference that the decision to raise the seven-day repurchase rate to 1.5% by 25 basis points was meant to prevent financial imbalances.

South Korea posted a merchandise trade surplus of \$7.84 billion in November. Exports climbed 9.6% on year in November to \$49.67 billion and imports climbed an annual 12.3% to \$41.83 billion in November.

South Korean companies are hopeful that signs of improved diplomatic ties between Seoul and Beijing mean their long-running dispute, which is seen costing the country's economy billions of dollars since last summer, is coming to an end. China and South Korea have announced that they would work to patch up their relationship after the spat, which was sparked around August 2016 by Seoul's decision to install a U.S. missile-defence system that Beijing has said undermines its national security. Since then, some South Korean companies — which had grown increasingly reliant on China — have faced an economic backlash, suffering sales slumps, product boycotts, business suspensions and a sudden cut-off in Chinese tourism.

	16	17	18	19	20
GDP (%p.a.)	2.8	3.2	3.0	2.6	2.5
Inflation (%p.a.)	1.0	2.3	1.8	1.8	1.9
Current A/c(US\$ bill.)	88.0	88.0	86.0	80.0	78.0
Won/\$(nom.)	1160	1125	1140	1145	1150

Taiwan

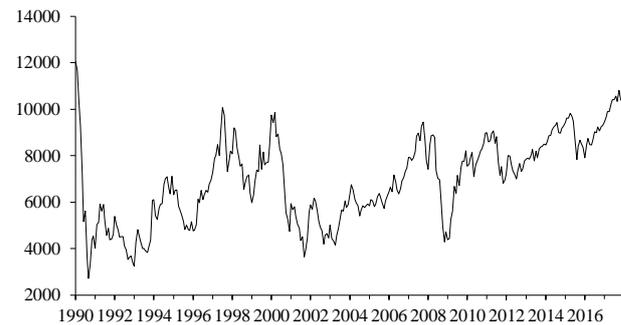
With exports increasing, Taiwan's economy grew 3.10% in the third quarter and GDP growth is likely to be 2.6% in 2017 and 2.3% in 2018. Real growth in exports of merchandise and services is expected to hit 6.63% for 2017, as global demand, in particular for high-tech devices, has remained strong.

Private consumption will be more in line with expectations and grow about 2.14% in real terms in 2017. The upward revision was due to an improving job market and a booming

Korea: Composite Index



Taiwan: Weighted TAIEX Price Index



stock market. Private investment, on the other hand, will remain subdued.

Inflation in Taiwan remains under control. The consumer price index for 2017 and 2018 is expected to rise 0.62% and 0.96%, respectively.

The Taiwan stock market hit its highest point in nearly three decades years in the last week of November. The market is closely linked to the fortunes of US heavyweights like Apple.

Taiwan has enhanced cyber defences against threat from China's hacking attacks as the ruling party fears that Beijing will seek to sway polls next year. The party and government agencies say they continue to be hit by hacking attacks from the mainland. Concerns are growing that tactics similar to those used by Russia to influence last year's US election may be employed by China against Taiwan ahead of local polls scheduled for 2018.

	16	17	18	19	20
GDP (%p.a.)	1.4	2.6	2.3	2.3	2.3
Inflation (%p.a.)	1.0	1.0	1.0	1.2	1.2
Current A/c(US\$ bill.)	64.0	68.0	68.0	70.0	71.0
NTS/\$(nom.)	32.5	32.0	32.0	32.0	32.0

Brazil

After a 3.6% contraction in 2016 and a 3.8% contraction in 2015, the Brazilian economy is expected to grow by 1%, and may grow to as much as 2.5% in 2018. The economic recovery is reducing pressure on Congress for a fast decision on pension reform.

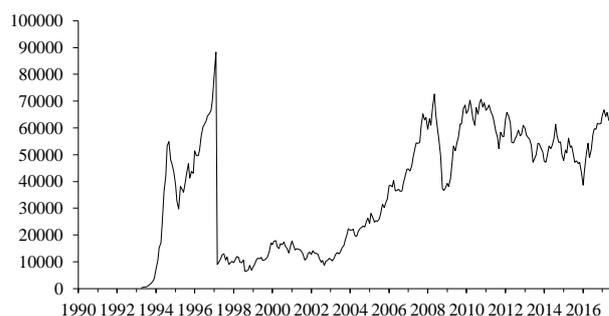
Brazil's inflation rate accelerated to a five-month high in mid-November as electricity prices increased in the last few months. Consumer prices, as measured by the IPCA index rose 2.77% in the twelve months through mid-November, marginally higher than 2.70% at the end of October. Thankfully, food prices continued to fall in November, keeping the IPCA rate under control.

Imports of finished manufactured goods, which are usually consumer products, soared 44% in the third quarter compared with a year earlier. Brazil posted a lower-than-expected, but still strong, trade surplus in November. The country had a \$3.5 billion trade surplus in November, down from \$5.3 billion in October.

Brazil's government is watering down a proposal to overhaul the country's insolvent pension system, in order to get congressional support for the unpopular bill ahead of general elections next year. Brazil's pension system consumes nearly half of the national budget and is set to have a \$56 billion deficit this year. Finance Minister Henrique Meirelles said the new proposal would still save nearly \$150 billion in taxpayer money over the next decade, roughly 60% of what the government intended to save in its initial plan.

Pension reform has proved particularly difficult in Brazil. The government is using television ads to convince a sceptic

Brazil: Bovespa



public, angered with costly pension perks given to public servants. The World Bank estimates that 35% of pension subsidies benefit only the 20% richest Brazilians, while just 18% of subsidies go to the 40% poorest.

Brazil's economic weakness has given a big opportunity to Chinese investors. China has the excess capital and know-how in infrastructure and Brazil has raw materials and food. But Brazilian nationalist politicians are beginning to raise the issue of China's influence ahead of presidential elections due next year. The omens for the presidential election in 2018 are bad. Luiz Inácio Lula da Silva, under sentence for corruption, is leading in the polls, but may be prevented from standing. In all likelihood, economic reforms will give way to political exigencies.

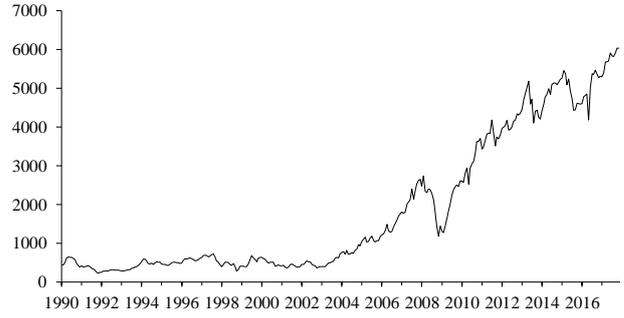
	16	17	18	19	20
GDP (%p.a.)	-3.6	0.7	2.5	3.0	3.2
Inflation (%p.a.)	6.3	3.0	4.0	4.0	4.2
Current A/c(US\$ bill.)	-28.0	-25.0	-25.0	-32.0	-30.0
Real/\$ (nom.)	3.5	3.2	3.2	3.2	3.2

Other Emerging Markets

Hong Kong: FT-Actuaries



Indonesia: Jakarta Composite



**Malaysia: FT-Actuaries
(US\$ Index)**



Thailand: Composite Index



Singapore: Straits Times Index



Philippines: Manila Composite



COMMODITY MARKETS

Commodity Price Index (Dollar)
(Economist, 2000=100)



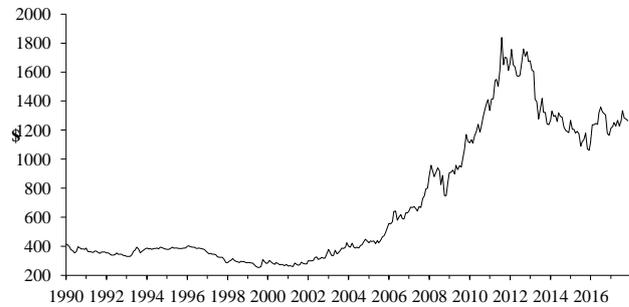
Oil Price: North Sea Brent (in Dollars)



Commodity Price Index (Sterling)
(Economist, 2000=100)



Gold Price (in Dollars)



Commodity Price Index (Euro)
(Economist)



UK FORECAST DETAIL

Prices, Wages, Interest Rates and Exchange Rate Forecast (Seasonally Adjusted)

	Inflation % ¹ (CPI)	Short Dated (5 Year) Interest Rates	3 Month Int. Rates	Nominal Exchange Rate (2005=100) ²	Real Exchange Rate ³	Real 3 Month Int. Rates % ⁴	Inflation (RPIX)	Real Short Dated Rate of Interest ⁵
2016	1.1	0.7	0.5	82.1	80.6	-1.0	1.9	-1.7
2017	2.6	1.1	0.4	77.1	74.9	-2.0	3.3	-1.4
2018	2.5	1.4	0.6	76.4	75.0	-1.5	3.1	-1.0
2019	2.1	2.5	1.2	75.6	74.5	-0.9	2.8	0.2
2020	2.0	3.5	2.4	74.1	73.1	0.2	2.7	1.2
2021	2.1	2.9	3.1	73.0	72.4	0.2	2.8	0.5
2017:1	1.9	0.6	0.3	76.8	73.9	-2.1	3.3	-0.3
2017:2	2.6	1.2	0.4	77.3	75.3	-2.0	3.2	-1.1
2017:3	2.8	1.2	0.4	77.2	75.3	-2.0	3.3	-0.5
2017:4	2.9	1.2	0.5	76.9	75.3	-1.9	3.4	-0.4
2018:1	2.6	1.3	0.5	77.1	75.3	-1.5	3.1	-0.3
2018:2	2.5	1.5	0.6	76.6	75.2	-1.5	3.1	0.6
2018:3	2.5	1.5	0.6	75.7	74.2	-1.4	3.1	-0.1
2018:4	2.5	1.5	0.7	76.1	75.2	-1.4	3.1	0.4
2019:1	2.1	2.5	0.8	76.6	75.2	-1.3	2.8	-0.5
2019:2	2.1	2.5	0.8	75.5	74.3	-1.2	2.8	-0.4
2019:3	2.1	2.5	1.1	75.3	74.2	-1.0	2.8	-0.4
2019:4	2.1	2.5	1.8	75.1	74.3	-0.2	2.8	-0.1

¹ Consumer's Expenditure Deflator

² Sterling Effective Exchange Rate Bank of England

³ Ratio of UK to other OECD consumer prices adjusted for nominal exchange rate

⁴ Treasury Bill Rate less one year forecast of inflation

⁵ Short Dated 5 Year Interest Rate less average of predicted 5 year ahead inflation rate

Labour Market and Supply Factors (Seasonally Adjusted)

	Average Earnings (1990=100) ¹	Wage Growth ²	Unemployment (New Basis) Percent ³	Millions	Real Wage Rate ⁴ (1990=100)
2016	253.2	2.4	2.2	0.8	142.9
2017	257.8	2.0	2.2	0.8	142.1
2018	263.9	2.3	2.1	0.8	141.7
2019	268.7	1.8	2.0	0.7	141.2
2020	273.2	1.7	1.9	0.7	140.6
2021	281.4	3.0	1.6	0.6	141.9
2017:1	255.8	2.4	2.1	0.8	143.9
2017:2	256.3	1.7	2.2	0.8	141.2
2017:3	259.8	2.1	2.2	0.8	142.3
2017:4	259.5	2.0	2.2	0.8	141.1
2018:1	261.2	2.1	2.1	0.8	142.9
2018:2	262.8	2.6	2.1	0.8	141.1
2018:3	265.6	2.2	2.1	0.8	141.7
2018:4	266.2	2.6	2.0	0.7	141.0
2019:1	265.3	1.6	2.0	0.7	142.1
2019:2	268.5	2.1	2.0	0.7	141.1
2019:3	270.0	1.7	2.0	0.7	141.1
2019:4	271.1	1.9	1.9	0.7	140.6

¹ Whole Economy

² Average Earnings

³ Wholly unemployed excluding school leavers as percentage of employed and unemployed, self employed and HM Forces

⁴ Wage rate deflated by CPI

Estimates and Projections of the Gross Domestic Product¹ (£ Million 1990 Prices)

	Expenditure Index	£ Million '90 prices	Non-Durable Consumption ²	Private Sector Gross Investment Expenditure ³	Public Authority Expenditure ⁴	Net Exports ⁵	AFC
2016	159.4	763130.9	440238.4	292912.0	198473.7	-55145.2	113348.0
2017	162.8	779568.4	447220.8	297451.9	199478.8	-49716.2	115424.6
2018	165.9	794590.2	455625.1	299857.2	200245.3	-43280.0	117858.2
2019	169.0	809541.5	465605.1	303926.7	200695.7	-40400.3	120284.1
2020	172.3	825206.6	476269.2	305305.4	201423.9	-34950.6	122842.0
2021	176.1	843441.4	485909.2	309134.3	202752.9	-28559.5	125795.9
2017/16	2.2		1.6	1.6	0.5		2.0
2018/17	2.0		1.9	1.0	0.4		2.1
2019/18	1.9		2.2	1.4	0.2		2.1
2020/19	1.9		2.3	0.5	0.4		2.1
2021/20	2.2		2.0	1.3	0.7		2.4
2022/21	2.3		2.0	2.7	-0.4		2.4
2017:1	161.6	193453.0	111073.9	73556.2	51435.0	-14278.1	28888.6
2017:2	162.3	194338.3	111485.4	73924.4	49462.3	-11901.3	28633.8
2017:3	163.3	195457.5	111947.0	74780.4	49336.1	-11847.1	28760.0
2017:4	164.0	196319.7	112714.5	75190.9	49245.4	-11689.6	29142.1
2018:1	164.8	197254.3	112852.8	74349.1	50854.4	-11513.1	29289.0
2018:2	165.6	198214.1	113552.8	74664.3	49963.7	-10595.0	29371.9
2018:3	166.4	199176.7	114256.6	74949.1	49779.7	-10289.0	29520.2
2018:4	167.0	199945.0	114962.8	75894.7	49647.5	-10882.9	29677.2
2019:1	167.8	200919.0	115328.3	75359.1	50223.8	-10152.1	29839.5
2019:2	168.6	201889.2	116041.1	75576.5	50207.6	-9947.7	29987.7
2019:3	169.4	202869.6	116756.5	75564.6	50155.0	-9460.6	30145.5
2019:4	170.3	203863.7	117479.2	77426.5	50109.3	-10840.0	30311.4

¹ GDP at factor cost. Expenditure measure; seasonally adjusted

² Consumers expenditure less expenditure on durables and housing

³ Private gross domestic capital formation plus household expenditure on durables and clothing plus private sector stock building

⁴ General government current and capital expenditure including stock building

⁵ Exports of goods and services less imports of goods and services

Financial Forecast

	PSBR/GDP % ¹	GDP ¹ (£bn)	PSBR (£bn)	Debt Interest (£bn)	Current Account (£ bn)
			Financial Year		
2016	2.3	1960.1	45.1	58.7	-87.4
2017	2.0	2040.6	40.1	61.5	-65.6
2018	1.6	2132.8	33.4	63.8	-54.3
2019	1.1	2221.1	24.2	67.6	-49.4
2020	0.3	2312.7	6.6	65.2	-39.0
2021	-0.3	2419.2	-6.6	62.0	-26.4
2017:1	-3.0	493.2	-14.6	15.0	-17.5
2017:2	2.4	501.6	12.0	15.2	-18.9
2017:3	1.6	507.5	8.4	15.3	-17.7
2017:4	1.4	514.1	7.4	15.5	-11.5
2018:1	2.4	517.7	12.4	15.5	-12.3
2018:2	1.8	525.4	9.6	15.7	-16.8
2018:3	1.6	531.2	8.4	15.9	-15.2
2018:4	1.3	537.5	7.3	16.0	-10.0
2019:1	1.5	539.1	8.0	16.3	-9.8
2019:2	1.3	547.1	7.0	16.4	-15.8
2019:3	1.1	553.1	6.2	16.7	-13.7
2019:4	1.0	560.1	5.6	17.2	-10.1

¹ GDP at market prices (Financial Year)

WORLD FORECAST DETAIL

Growth Of Real GNP

	2013	2014	2015	2016	2017	2018
U.S.A.	1.5	2.4	2.4	2.1	2.2	2.4
U.K.	2.2	2.9	2.2	1.8	2.2	2.0
Japan	1.4	-0.1	0.5	1.0	1.6	1.2
Germany	0.3	1.6	1.7	1.8	1.9	1.9
France	0.7	0.2	1.1	1.4	1.6	1.6
Italy	-1.7	-0.3	0.8	1.1	1.3	1.1

Growth Of Consumer Prices

	2013	2014	2015	2016	2017	2018
U.S.A.	1.5	1.6	0.1	1.3	2.0	1.9
U.K.	2.3	1.7	0.2	1.1	2.6	2.5
Japan	0.4	2.7	0.8	0.2	0.5	0.8
Germany	1.5	0.9	0.3	0.5	1.7	1.6
France	0.9	0.5	0.0	0.4	1.0	1.1
Italy	1.2	0.2	0.1	0.2	1.4	1.2

Real Short-Term Interest Rates

	2013	2014	2015	2016	2017	2018
U.S.A.	-1.5	-0.1	-1.1	-1.4	-0.7	-0.2
U.K.	-0.8	-2.2	-0.5	-1.0	-2.0	-1.5
Japan	-2.5	-0.6	0.0	-0.7	-0.7	-0.8
Germany	-0.6	-0.2	-0.6	-2.0	-1.9	-1.8
France	-0.2	0.1	-0.5	-1.5	-1.4	-1.3
Italy	0.1	0.0	-0.3	-1.6	-1.5	-1.4

Nominal Short-Term Interest Rates

	2013	2014	2015	2016	2017	2018
U.S.A.	0.1	0.0	0.2	1.0	1.2	1.8
U.K.	0.6	0.6	0.6	0.5	0.4	0.6
Japan	0.2	0.2	0.2	0.0	0.1	0.1
Germany	0.3	0.1	-0.1	-0.2	-0.3	-0.2
France	0.3	0.1	-0.1	-0.2	-0.3	-0.2
Italy	0.3	0.1	-0.1	-0.2	-0.3	-0.2

Real Long-Term Interest Rates

	2013	2014	2015	2016	2017	2018
U.S.A.	1.6	0.7	0.3	0.3	0.6	1.1
U.K.	-0.8	-0.7	-1.0	-1.7	-1.4	-1.0
Japan	-0.8	-1.1	-1.3	-1.2	-0.7	-0.8
Germany	0.8	-0.8	-1.0	-1.6	-1.1	-0.8
France	1.1	-0.5	-0.8	-1.4	-0.2	0.1
Italy	1.2	-0.5	-0.7	-1.3	1.1	1.4

Nominal Long-Term Interest Rates

	2013	2014	2015	2016	2017	2018
U.S.A.	3.0	2.2	2.2	2.4	2.5	3.0
U.K.	1.3	1.8	1.3	0.7	1.1	1.4
Japan	0.7	0.3	0.3	0.0	0.1	0.0
Germany	1.9	0.5	0.6	0.4	0.5	0.8
France	1.9	0.5	0.6	0.4	0.9	1.2
Italy	1.9	0.5	0.6	0.4	2.3	2.6

Index Of Real Exchange Rate(2000=100)¹

	2013	2014	2015	2016	2017	2018
U.S.A.	82.1	83.9	93.0	94.0	94.5	94.8
U.K.	86.5	93.1	91.6	80.6	74.9	75.0
Japan	63.5	59.8	56.0	58.4	58.3	58.1
Germany	99.0	99.9	94.7	95.0	94.3	94.9
France	100.7	100.8	96.2	96.0	95.3	95.1
Italy	106.9	107.5	102.1	102.0	101.2	101.1

¹ The real exchange rate is the domestic price level relative to the foreign price level converted into domestic currency. A rise in the index implies an appreciation in the real exchange rate.

Nominal Exchange Rate

(Number of Units of Local Currency To \$1)

	2013	2014	2015	2016	2017	2018
U.S.A. ¹	85.61	89.04	103.08	101.91	102.20	102.40
U.K.	1.55	1.65	1.53	1.35	1.28	1.27
Japan	98.20	106.70	120.00	118.40	112.60	114.10
Eurozone	0.75	0.76	0.90	0.95	0.86	0.85

¹ The series for the USA is a trade weighted index (1990=100); the series for the UK is \$ per £

* Forecasts based on the Liverpool World Model