LIVERPOOL INVESTMENT LETTER

November 2012

Cardiff Business School
Cardiff University

Julian Hodge Institute of Applied 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 Julian Hodge Bank. 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. This research has been given especial relevance by the ongoing discussions on the extra powers regularly requested by the European Union and also by the recent crisis in the eurozone.

The Liverpool Investment Letter is written by Patrick Minford and John Wilmot, 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.

The Liverpool Research Group in Economics is pursuing a research programme involving the estimation and use of macroeconomic models for forecasting and policy analysis. The Group is now mainly based in Cardiff Business School, Cardiff University, and is indebted to the School and to the Jane Hodge Foundation for their support. The Group's activities contribute to the programmes being pursued by the Julian Hodge Institute of Applied Macroeconomics. This Liverpool Investment Letter is typeset by Bruce Webb and published on behalf of the group by Liverpool Macroeconomic Research Limited, which holds the copyright, and is available on subscription at £325 per annum.

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THE BOUNCE-BACK IN UK GDP

In the UK third quarter GDP bounced back with a vengeance, rising 1% over the second quarter. But all it was doing was cancelling out the falls in the previous three quarters, leaving GDP the same as a year before and only 0.6% up over the last two years. But who really believes these numbers? In past recessions and early recovery periods there have been big revisions upwards well after the event. This is because in these periods people become more adventurous in the buying habits, whether people or firms. Necessity in the form of falling real incomes drives invention in getting value. Because this economic activity goes through new channels it is not picked up by the statisticians until much later when the newer surveys include these channels with proper weight.

A specific figure that looks doubtful is construction. According to the ONS it has fallen by no less than 11.4% in the past three quarters and is 11.2% down over the past year. This sort of drop does not tally at all well with the index of construction purchasing managers which at 49.5 is now only just under 50, the level that indicates unchanging output.

Yet another puzzle is that employment whether measured by total hours worked or by employment is healthily up on a year ago. Both are up about 2%. If we believe the output figures then productivity has dropped by 2% over the same period, yet employment in the public sector has fallen by 6.5% over the past year and 10% over the past two years; public service may have suffered a bit but probably not much so public sector productivity must have risen. Meanwhile private sector employment is up 4.7% on the last two years and 3.6% in the past year. With private output flat this is suggesting private sector productivity may have fallen by similar percentages — a puzzle indeed.

Overall, resolving these puzzles points to modest growth in output over the past two years. This is still disappointing for a recovery period but at least there is some growth.

The main candidates for the disappointing state of growth remain first the effects of high commodity prices on incomes and sectoral demand, with commodity-intensive sectors disproportionately hit. The second factor is the state of the banking sector in the UK, hit badly by the original crisis and then the euro-zone crisis, and further battered by manic over-regulation, as bureaucrats try to prove their enthusiasm to remedy their past casualness. Now the Bank and government have produced the Funding for Lending Scheme and rumour has it the regulators at the FSA are going easy on the demands for new bank capital for risky lending to SMEs. Alas, these moves come little and late; it remains to be seen if they can undo the damage. For the Coalition government to revive growth requires a volte-face on regulation and a willingness to return generally to a 'Thatcherite' agenda of reform and deregulation. It is not going to happen with the composition of this Coalition. The most that can happen is a social-reform agenda-competition in schools and hospitals, and the reform of welfare — and this is welcome; but will not revive growth.

Table 1: Summary of Forecast

		2010	2011	2012	2013	2014	2015	2016
GDP Growth[1]		2.1	0.7	0.8	2.0	2.3	2.5	2.6
Inflation	CPI	4.1	3.9	2.8	2.3	2.0	2.0	2.0
	RPIX	4.8	5.3	3.5	2.9	2.7	2.7	2.7
Unemployment (Mill.)								
	Ann. Avg.[2]	1.5	1.5	1.5	1.3	1.2	1.2	1.2
	4th Qtr.	1.5	1.6	1.5	1.3	1.2	1.1	1.1
Exchange Rate[3]		80.4	79.9	81.7	81.5	81.0	80.7	80.5
3 Month Interest Rate		0.7	0.9	1.2	1.4	2.1	2.5	2.5
5 Year Interest Rate		2.4	2.0	1.6	2.4	2.6	2.8	2.8
Current Balance (£bn)		−48.6	−29.0	−31.6	−32.5	−32.3	−32.2	−32.0
PSBR (£bn)		110.3	120.1	107.6	97.1	58.0	36.3	20.3

[1]Expenditure estimate at factor cost
[2]U.K. Wholly unemployed excluding school leavers (new basis)
[3]Sterling effective exchange rate, Bank of England Index (2005 = 100)

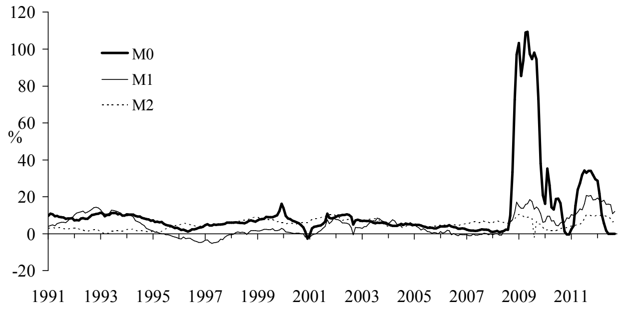
The state of the world economy

If we look further afield we see similarly patchy growth in the West. The reasons are similar, the one exception being the euro-zone crisis which is a mess created by the EU's overweening elite. That crisis will be with us for a decade, as this elite will not give way and its client 'peripheral' countries will not leave, terrified of the unknown .

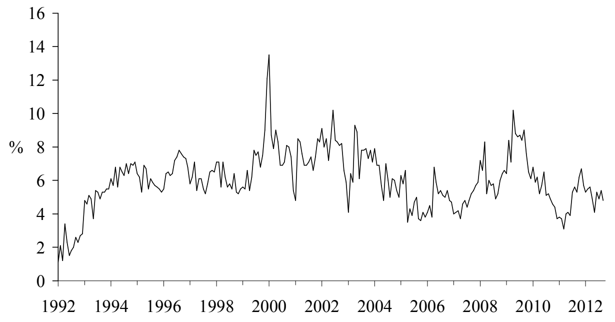
The emerging market countries are slowing a little this year, in the wake of inflation and monetary tightening in the past couple of years. But they are now easing money again and growth will resume. It remains the case that world growth is limited still by scarcity of raw materials and within that limited growth the lion's share is going to be taken by the emerging markets where productivity growth is strongest.

This environment of positive but limited world growth tilted away from the West suggests a portfolio strategy of equity investment, with some emphasis on emerging markets. Bond yields are at all time lows and if growth is continuing there must be better returns in business than in these low-income refuges of safety.

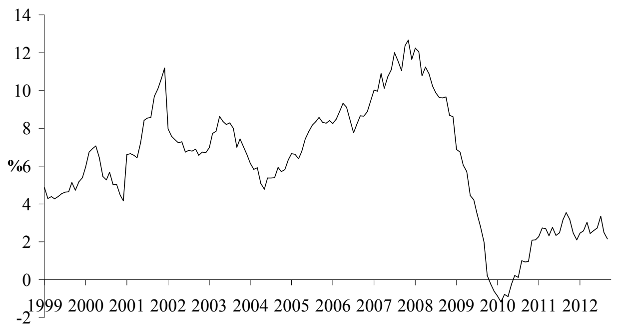
U.S.: Growth in Monetary Aggregates (Yr - on - Yr)



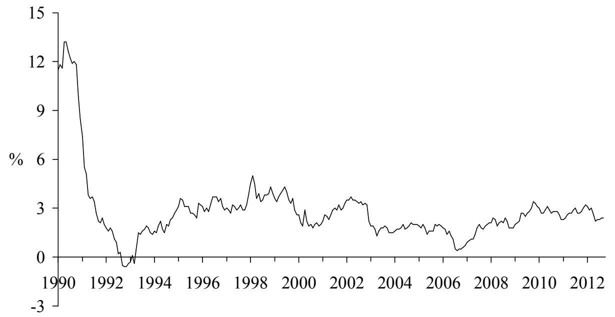
UK: Notes and Coins in Circulation Growth



Eurozone M3 Growth



Japan: Growth of M2+CD's



FOCUS ON JAPAN

Francesco Perugini

Outlook for domestic buying of JGB and Japan fiscal debt

One of the oddest things in the current world financial market scene is the behaviour of Japanese Government Bonds (JGBs): JGBs are issued by a government which is the most indebted among industrialized economies and at the same time is able to finance its debt at the lowest yield level in the world.

For decades, observers and investors have been expecting the interest rate on the JGB to rise, but this has yet to materialize. However the conditions that have kept the JGB market stable are rapidly changing. The household savings rate has steadily decreased over the last two decades due to population ageing and it is expected to become negative. Portfolio preferences for public debt among corporate and financial lenders are expected to shift toward riskier assets. And the current account, which mirrors foreign net saving, could well go into deficit.

These events will reduce inflows of capital into the government bond market in the coming years. Then to finance its deficit, the Japanese government may need to attract more foreign investors and raise JGB yields. As a result, without promoting growth or initiating a serious fiscal adjustment, weaker domestic capacity to absorb JGBs would put further pressure on Japanese fiscal consolidation.

Overview of Japan's fiscal situation

Japan has experienced a sustained period of fiscal deficits that have led to a dramatic increase in public debt over the past two decades. Gross government debt to GDP ratio more than tripled since 1990 to become by far the highest of any major economy (chart 1).

Rising public debt resulted from persistently low growth. In real terms, output growth was just 28% between 1990 and 2007 while, over the same period, other developed economies enjoyed greater economic expansion (real output growth France, and 63% in the UK). Moreover, the contraction experienced during the recent crisis and following the March 2011 earthquake reduced Japanese real output to its 2006 level. Stagnating output reflects the confluence of demand as well as supply side problems. Demand problems have been associated with inefficient and inadequate fiscal and monetary policy adjustments after the asset and land prices fall, while supply side issues indicate a trend decline in total factor productivity, a shrinking labour force, and highly regulatory business

Chart 1 - General Government Gross Debt
(source: OECD)

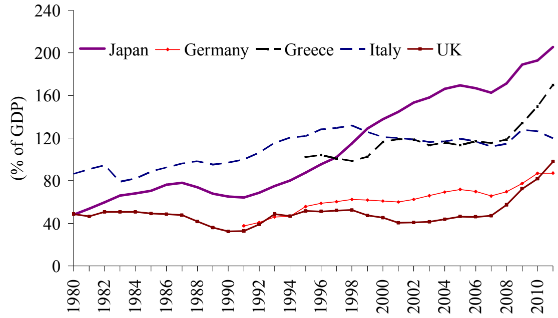
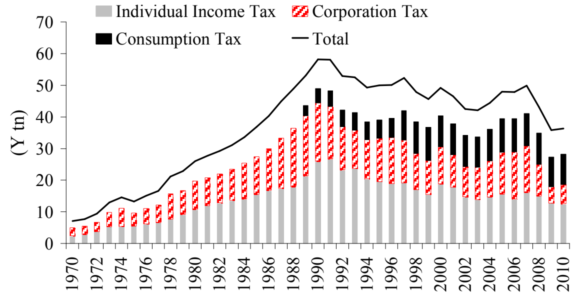


Chart 2 - Government Revenue breakdown (FY)
(source: MOF)



environment as the main causes of the Japanese "lost decades"[1].

At the same time low economic growth has spurred public spending and depressed tax revenues perpetuating a cycle of adverse debt dynamics. Tax revenues started to decline immediately after the collapse of asset and land prices in the early 1990s, and continued to weaken until 2003 (chart 2). They rose up to 2007 by about 20% and, since then, have slowed as a result of lower economic growth. The fall in tax revenue can be mainly attributed to a gradual fall in individual income and corporate income taxes, while revenues from the consumption tax after having increased

[1] For an analysis, see the April 2004 and the December 2011 issues of the Quarterly Economic Bullettin.

up to the end of the 90s, remained steady throughout the 00s.

Government expenditures grew especially throughout the 1990s (chart 3). From 2000 to 2008, they were mostly under control, apparently capped and on a slight decreasing trend, despite still rising social security spending. Any restraint was again called off in 2009, in response to sharp output declines in the global financial crisis, and in 2011 following the reconstruction spending for the earthquake.

Two major sources of expenditures are public works and social security. Increasing public works spending during the 1990s reflects a series of inefficient economic stimuli by the government, who believed in the use of traditional discretionary countercyclical Keynesian fiscal policy to support aggregate demand.[2] Fiscal expansions were also massively implemented recently in response to these recent shocks, the global financial crisis and to the March 2011 earthquake.

Social security expenditure has been the largest rising expenditure budget item since 1990s as the ageing of the population has accelerated[3]. In 1990 it represented about 17% of the budget but rose to over 31% of total expenditure in the latest approved budget for FY 2012. Most importantly, while social security payments rose for most the 1990s, social security insurance revenue remained stable since the end of the 1990s (chart 4).

The historical details of the public budget are showed on chart 5. Until the 90s fiscal spending grew in line with tax revenue, and the Japanese government debt to GDP ratio was lower than in other major economies. The fiscal deficit then started to expand and the gap began to widen. In the early 2000s, especially under the Koizumi (2001-2006) and

Chart 3 - Government Expenditure breakdown (FY)
(source: MOF)

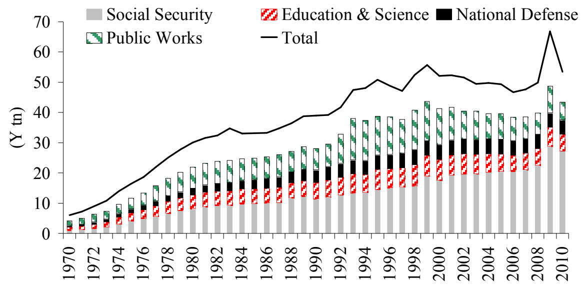


Chart 4 - Social Security Balance (FY)
(source: NIPSSR)

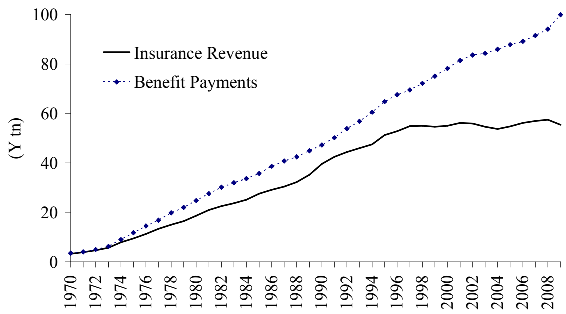
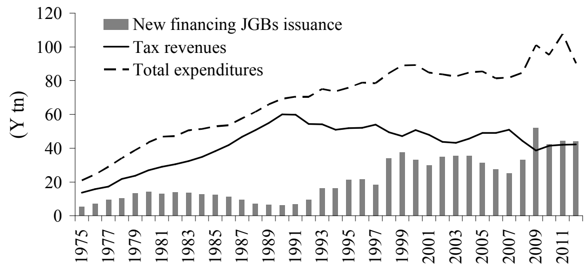


Chart 5 - General Account of the Central Government
(source: MOF)



The final budget for FY 1975-2009; the revised budget for FY 2010; the initial budget for FY 2012

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[2] A number of explanations has been put forward to justify the low impact of fiscal policy on economic activity. For instance, it has been argued that the potential growth rate somehow declined in the 1990s, and that the "clear water" content of the stimulus package was actually modest. Others instead claim that the government fiscal package went primarily to finance wasteful and low productivity public works projects, mostly in the agriculture sector and on road construction and subsidized politically important but inefficient firms and declining industries because of vested interests. Others contend that most of the public investment funds remained unused because of poor project implementation or that the rise in public debt increased uncertainty given the looming demographic burden which led to precautionary behaviour on the part of households and firms.

[3] The share of those age 65 and older has nearly doubled over the last two decades, to 23%, compared with 13% for the US and 16% for Europe.

Abe (2006-2007) administrations, the worsening of the fiscal deficit lost momentum. As a result, the amount of government bonds issuance for budget purposes fell to ¥25.4 trillion (4.9% of GDP) in FY2007 from ¥37.5 trillion (7.5% of GDP) in FY1999. However, the severe global recession that began in 2008 totally changed fiscal conditions. With the additional fiscal stimulus packages and the plunge in tax revenue, JGB issuance surged again, peaking in 2009 at about ¥52 trillion, and since then it has exceeded tax revenues.

Some observers have argued that although the Japanese government has accumulated large debts, it also owns a large amount of financial assets mostly in the social security system. Hence, taking this into account the general government net debt is only around 125% of GDP (chart 6). However, since the financial assets held by the social security system are earmarked for an unusually high level of future obligations (mainly on pensions), Japan's debt situation is more serious than the net debt figure would suggest.

The budget deficit from the flow of fund perspective

To analyse and discuss Japan's public debt sustainability and reconstruction it is extremely important to see not only government budget figures but also the flow of money in the overall economy. The government is no more than one of the sectors that make up the country's overall economy, so the ultimate fate of the budget deficits

largely depends on the macroeconomic situation facing the country. Chart 7 shows the balance sheet evolution for main economic sectors since the 80s,

taken from the Flow of Funds Accounts statistics compiled by the BOJ.

It is evident that since the 80s households have been the main provider of funds to other sectors of the economy and that the large amount of funds they hold has allowed the Japanese government to finance its deficit without difficulty throughout the years. At the end of fiscal year 2011 (March 2012) households asset surplus (assets exceed debts) stood at ¥1,150 trillion (about 245% of GDP).

The persistent rise in the private sector's asset surplus mainly due to an increase in currency and deposits (chart 8), mirrors the surplus of debt (assets are outweighed by liabilities) by the public sector, the non financial corporation and the foreign sector. However, while fund raising by the general government through the issuance of JGB has increased at a rapid pace, fund raising by non-financial corporations, through borrowing from financial institutions and issuing of securities, has continued to decline (chart 9). Reflecting such financial developments, on depository corporations' assets side, holdings of JGB have increased (chart 10), while on the liabilities side, deposits have also increased (chart 11). As a result, the size

Chart 6 - General Government Net Debt
(source: OECD)

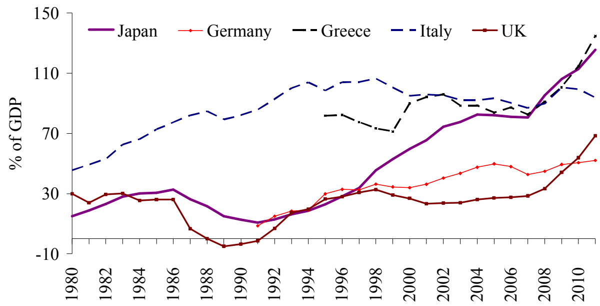


Chart 7 - Net Financial Assets and Liabilities by Sectors
(source: BOJ)

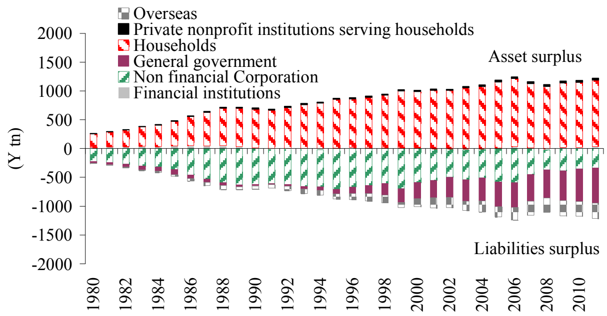


Chart 8 - Assets Composition of non financial Sectors
(source: BOJ)

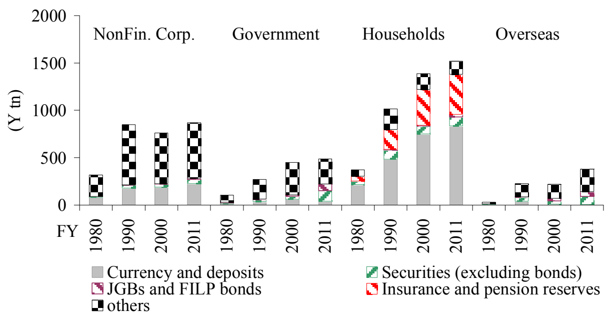
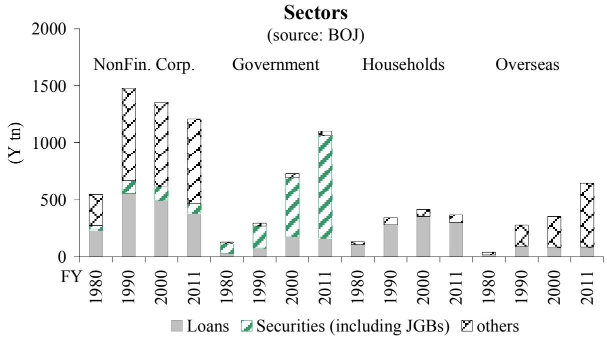


Chart 9 - Liabilities Composition of non financial Sectors
(source: BOJ)



of their balance sheets reached ¥1,586 trillion at the end of March 2012[4].

Another way of looking at financial developments is to examine flow variables, that is at the difference between the amount of funds invested and raised. This is because the asset/liabilities surplus in stock terms for each sector is a result of the saving surplus over investment. This is called financial surplus or deficit (the change in financial assets less the change in financial liabilities).

Chart 12 shows the financial surplus/deficit since 1980 as a percentage of GDP for main sectors of the economy. There are some noticeable trends. First, the financial surplus of households has declined steadily since the beginning of the 90s; second, the financial position of non-financial corporations turned from deficit to surplus at the end of the 90s; and third, the financial deficits of the general government have increased due to budget deficit expansion. Finally, the overall balance of the financial surplus/deficit in these sectors manifests itself in the financial deficit of the overseas sector.

What this reveals is an economy with an unconventional direction of funds flow. Unlike in the "classical" economy, both households and corporations have been attempting to save, rather than spend, money. And an additional player in the form of the government has taken on the normal role of the corporate sector, that is borrowing the cash that the private sector wishes to save.

What has caused these trends? The decline in the financial surplus of households reflects the secular downward movement of the savings rate[5]. Japan was long famous for having the highest household saving rate among the industrial countries. In the early 1980's, Japanese households were saving about 16% of their after-tax incomes. During this period, sharply rising incomes allowed Japanese households to increase their consumption rapidly while adding significant amounts to their savings. Although the saving rate came down gradually in the 1980s, it was still 12% in 1990. However it was with the economic stagnation that started in 1990-91 that households had to devote a rising share of their incomes to maintaining their level of consumer spending over the following decades. Although they had experienced large declines in share prices and house values, they had such large amounts of liquid savings in postal savings accounts and in banks that they did not feel the need to increase saving in order to rebuild assets. The saving rate fell below 10% by 2000 and then reached 5.8% in 2009.

Chart 10 - Assets Composition of financial Sectors
(source: BOJ)

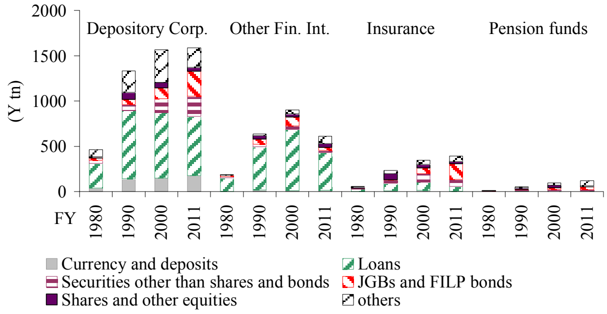


Chart 11 - Liabilities Composition of financial Sectors
(source: BOJ)

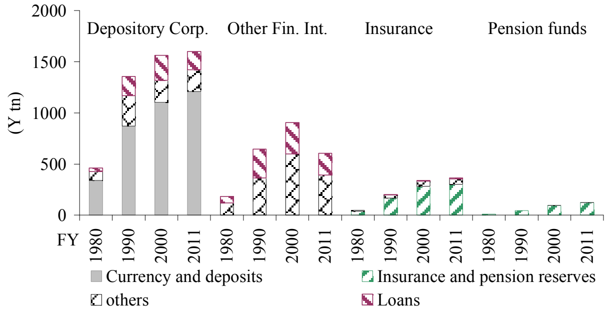
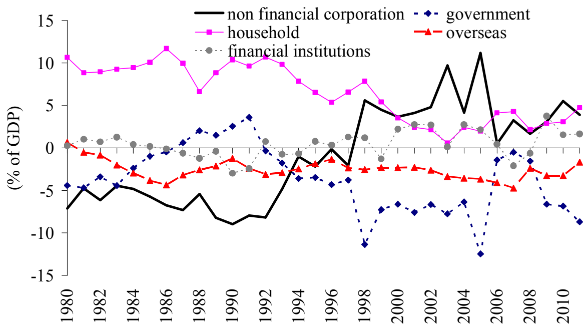


Chart 12 - Financial surplus/deficit by sector
(source: BOJ)



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[4] Depository corporations includes Banks, the Japan Post Bank and Collectively Managed Trusts.

[5] Horioka (2006), Edison (2005).

A variety of forces can explain the continuing decline, including the introduction of a long-term care insurance program and the improvement of public old-age pension benefits; the stagnation in income growth, caused by an acceleration of corporate restructuring and rising unemployment; and the increasing availability of consumer credit. However, there is a strong consensus among economists over the ageing of the Japanese populations as the main reason (chart 13). This view is consistent with the life-cycle theory, which assumes that while a rational household may save some of the income in youth, they may spend their savings after their retirement. Indeed the Japanese demographic structure is changing, with a higher number of retirees relative to the workers who are in their prime saving years. Recent surveys also tell us that younger Japanese are more interested in current consumption and less concerned about the future than previous generations were- presumably related to more extensive social security than before.

The saving behaviour (financial surplus/deficit) of the nonfinancial corporate sector is shown in more detail in chart 14 which plots the trends in gross corporate savings, capital spending and the difference between these two variables, that is excess savings or net lending/borrowing. It can be seen that Japanese firms have swung from being a large net borrower of funds from other sectors of the economy during the 80s to a net lender of funds from the second half of the 90s. With economic stagnation and slow growth expectations, investment in capital has dropped substantially and remained weak up to the middle of 2000 while gross saving has trended upwards until 2007 and almost doubled the level of the 1990. This change reflects a sustained drive towards restructuring after the excessive indebtedness built during the 1980s which prompted cuts in labour costs and employment. Corporate restructuring and lower interest and/or dividend payments generated a strong rise in profitability, that is earnings after interest and tax[6]. Japanese firms may have also increased saving to repay debt and reduce dependence on external financing.

The historical trend in the financial surplus/deficit of financial institutions is shown in chart 15 which, as for non-financial corporations, is further decomposed to emphasize the steady increases in savings since the early 90s. From 1990 to 2004 savings as a percentage of GDP rose from 1% to almost 4% and then remained around 3% since then. This upward trend reflects higher undistributed profits, especially among public financial institutions, and lower capital spending. Domestic private banks, instead, have been severely affected by credit costs and losses on large equity holdings following the asset and land prices fall of the early 90s. Excluding losses from financial operations and provisions against bad loans –as the national accounts statistics do- Japanese domestic banks' profits have been on a modest upward trend since the early 90s, as a reflection of administrative cost-cutting efforts, particularly in the personnel area.

Chart 13 - Household Saving rate and Demographics
(source: MOF, NIPSSR)

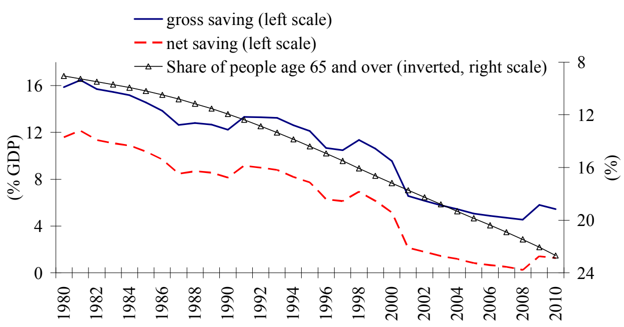


Chart 14 - Nonfinancial Corporate Sector
(source: MOF)

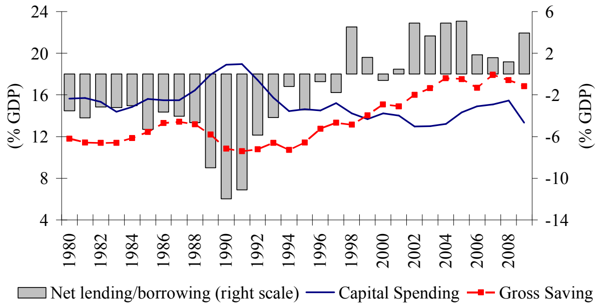
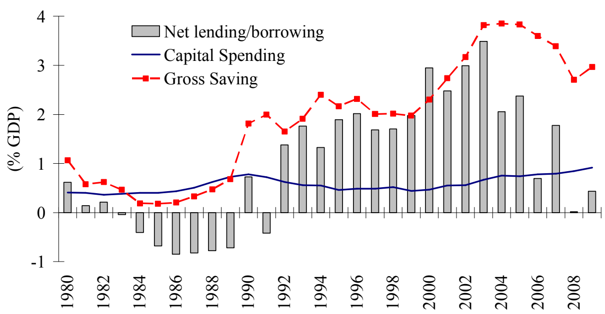


Chart 15 - Financial Institutions Sector
(source: MOF)



[6] Interest dropped from 12% of GDP in 1991 to less than 2% in 2009, while dividend payouts have persisted between 1–2% of GDP in periods of stress as well as in boom years.

MARKET DEVELOPMENTS

The yields on government bonds in the four big developed country markets have become very low due to continued fears for the banking system worldwide. These look exaggerated; meanwhile world growth is reasonably entrenched if not sparkling; it is also tilted towards emerging markets. So there should be better returns on business and hence to equity investment, not least in emerging markets. So we have taken 5% out of cash in the Sterling and Dollar portfolios (in the euro one cash is at a minimum) and distributed it around our emerging market equity portfolio.

Table 1: Market Developments

	Market Levels		Prediction for Oct/Nov 2013	
	Sep 26	**Oct 24**	**October Letter**	**Current View**
Share Indices				
UK (FT 100)	5768	5805	8496	8492
US (S&P 500)	1433	1409	1612	1599
Germany (DAX 30)	7277	7193	9183	9149
Japan (Tokyo New)	743	743	889	890
Bond Yields (government long-term)				
UK	1.69	1.84	2.10	2.10
US	1.62	1.77	4.00	4.00
Germany	1.45	1.56	4.00	4.00
Japan	0.78	0.78	1.50	1.50
UK Index Linked	0.08	0.11	–0.40	–0.40
Exchange Rates				
UK ($ per £)	1.62	1.60	1.58	1.58
UK (trade weighted)	84.5	83.5	81.3	81.3
US (trade weighted)	79.6	80.2	80.5	80.5
Euro per $	0.78	0.77	0.79	0.79
Euro per £	1.26	1.23	1.25	1.25
Japan (Yen per $)	77.8	79.8	81.0	81.0
Short Term Interest Rates (3-month deposits)				
UK	0.84	0.65	1.40	1.40
US	0.35	0.30	0.60	0.60
Euro	0.22	0.15	2.50	2.50
Japan	0.25	0.20	0.40	0.40

Table 2: Prospective Yields [1]

Equities: Contribution to £ yield of:

	Dividend Yield	Real Growth	Inflation	Changing Dividend Yield	Currency	Total
UK	3.60	2.0	2.3	42.00		49.90
US	2.10	2.5	2.0	9.00	1.43	17.03
Germany	3.40	1.5	1.7	24.00	–0.99	29.61
Japan	2.50	1.7	0.0	18.00	–0.05	22.15
UK indexed[2]	0.11		2.2	–8.00		–5.59
Hong Kong[3]	2.40	7.5	2.0	–4.00	1.43	9.33
Malaysia	3.00	5.2	2.0	38.00	1.43	49.63
Singapore	3.50	4.4	2.0	21.00	1.43	32.33
India	1.50	6.5	2.0	3.00	1.43	14.43
Korea	1.20	3.5	2.0	–20.00	1.43	–11.87
Indonesia	2.30	6.5	2.0	32.00	1.43	44.23
Taiwan	3.60	3.5	2.0	25.00	1.43	35.53
Thailand	2.90	4.4	2.0	24.00	1.43	34.73

Bonds: Contribution to £ yield of:

	Redemption Yield	Changing Nominal Rates	Currency	Total
UK	1.84	–2.60		–0.76
US	1.77	–22.30	1.43	–19.10
Germany	1.56	–24.40	–0.99	–23.83
Japan	0.78	–7.20	–0.05	–6.47

Deposits: Contribution to £ yield of:

	Deposit Yield	Currency	Total
UK	0.65		0.65
US	0.30	1.43	1.73
Euro	0.15	–0.99	–0.84
Japan	0.20	–0.05	0.15

[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

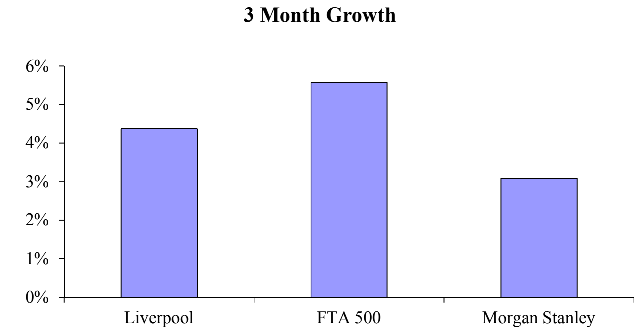
[3] Output based on China.

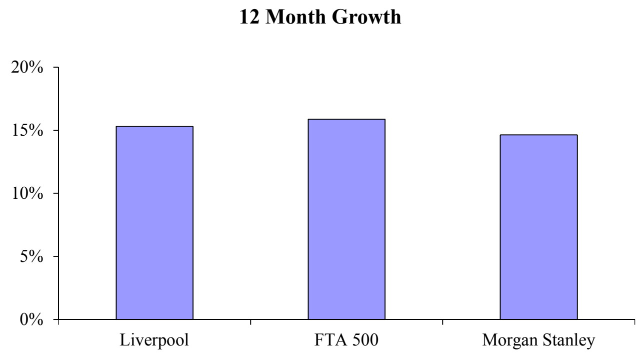
Table 3: Portfolio(%)

	Sterling Based Investor		Dollar Based Investor		Euro Based Investor	
	October Letter	**Current View**	**October Letter**	**Current View**	**October Letter**	**Current View**
UK Deposits (Cash)	10	5	10	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	3	4	3	4	3	3
Brazilian Shares	3	4	3	4	3	3
Chilean Shares	3	4	3	4	3	3
Mexican Shares	3	4	3	4	3	3
Peruvian shares	3	4	3	4	3	3
Other:						
Index-linked bonds (UK)	-	-	-	-	-	-

PORTFOLIO PERFORMANCE

The charts below, and the Table opposite, measure the performance of the Liverpool Model Portfolio against the FTA Non-financials share index, and the Morgan Stanley World Capital International index, over the period from January 2006 to end-October 2012.





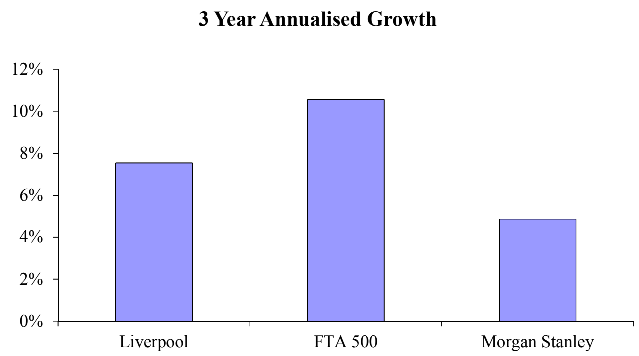


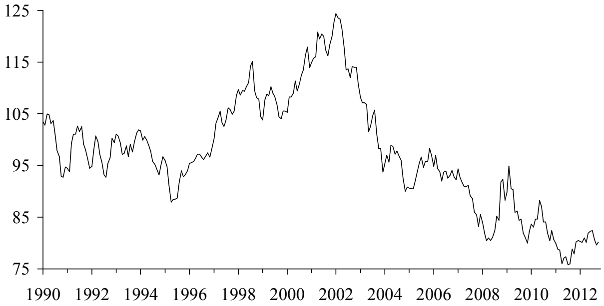
Table 4: Liverpool Portfolio Evaluation (End-June 1992 = 100)

Date	Index of Liverpool Portfolio	FTA Non Financials Index Total Return	Morgan Stanley World Capital International Index Total Return
2006			
1st Jan	297.46	313.59	365.50
Apr	315.78	334.87	386.04
Jul	302.95	332.52	360.85
Oct	313.66	340.59	371.76
2007			
1st Jan	331.94	361.22	382.93
Apr	343.65	376.53	389.99
Jul	364.54	403.07	403.44
Oct	378.18	401.46	405.04
2008			
1st Jan	394.93	411.25	403.19
Apr	387.93	367.01	365.34
Jul	386.86	381.90	355.90
Oct	399.43	324.99	335.11
2009			
1st Jan	437.80	314.73	323.33
Apr	423.18	294.99	283.79
Jul	440.33	315.62	295.72
Oct	506.73	375.37	355.96
2010			
1st Jan	525.13	408.79	365.52
Apr	562.49	436.43	399.80
Jul	530.11	382.77	351.60
Oct	570.59	435.61	378.02
2011			
1st Jan	618.84	476.51	413.02
Apr	619.56	481.43	420.69
Jul	629.42	494.36	418.86
Oct	546.47	437.69	358.02
2012			
1st Jan	574.29	482.11	384.40
Apr	628.86	495.88	414.96
Jul	603.72	480.40	398.13
Aug	612.81	487.49	403.34
Sep	615.10	506.97	406.98
Oct	630.11	507.18	410.42

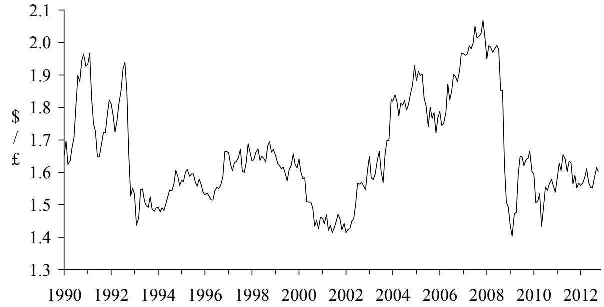
Source: Rensburg Sheppards Investment Management Limited, Liverpool Stock Exchange

INDICATORS AND MARKET ANALYSIS
FOREIGN EXCHANGE MARKETS[7]

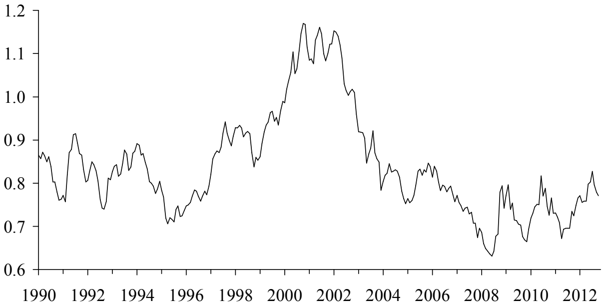
US : Trade Weighted Index
(Bank of England 1990 = 100)



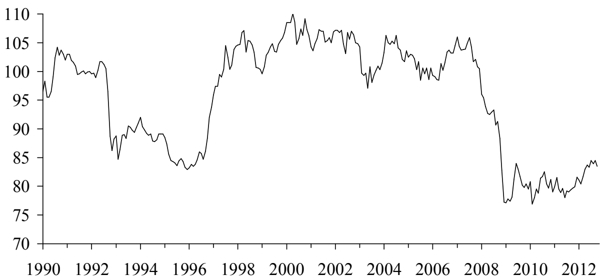
UK: Dollars Per Pound Sterling



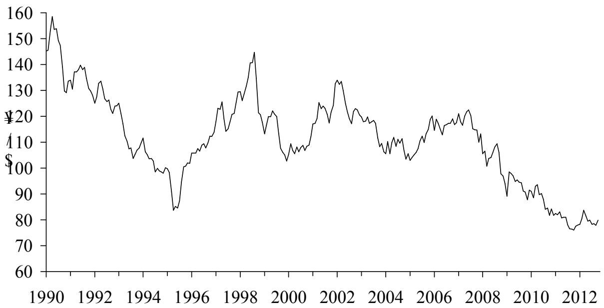
Euro per US dollar



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



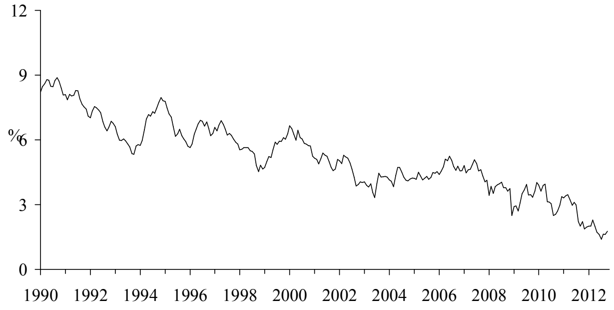
Japan : Yen Per U.S. Dollar



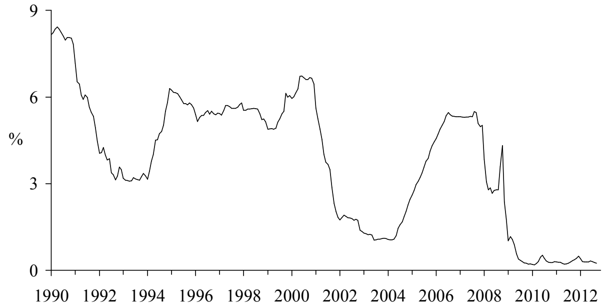
[7] John Wilmot, who has written these sections since this Letter began, is indisposed. We are issuing the charts without his commentary this month. We wish him a speedy recovery.

GOVERNMENT BOND MARKETS

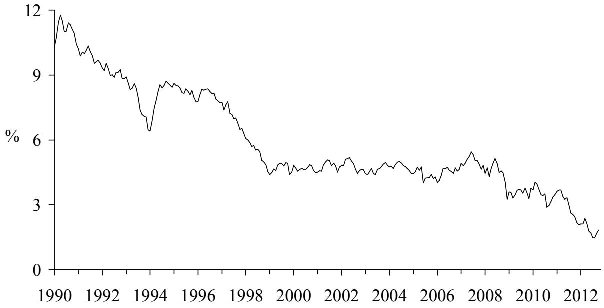
U.S.: Yield on Long-Term Government Bonds



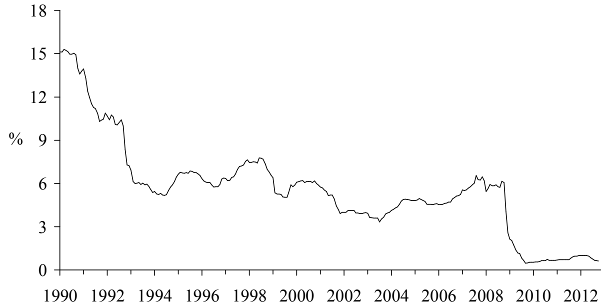
U.S. : 3-Month Certificate of Deposit



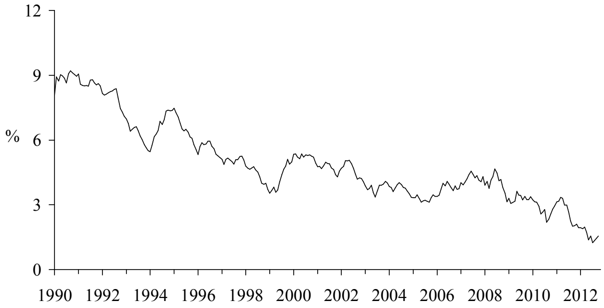
U.K. : Yield on Long-Term Government Bonds



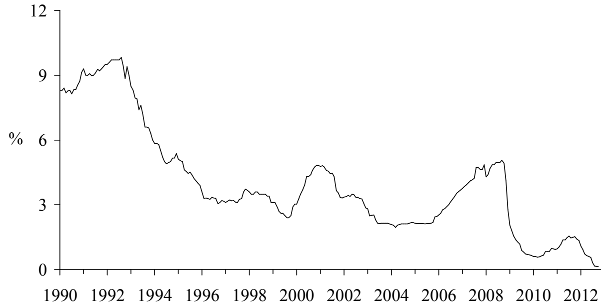
U.K. : 3-Month Interbank Rate



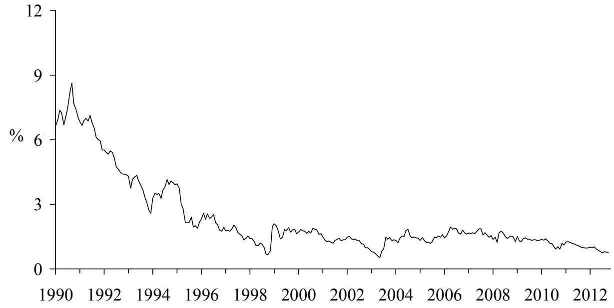
Germany: Yield on Public Authority Bonds



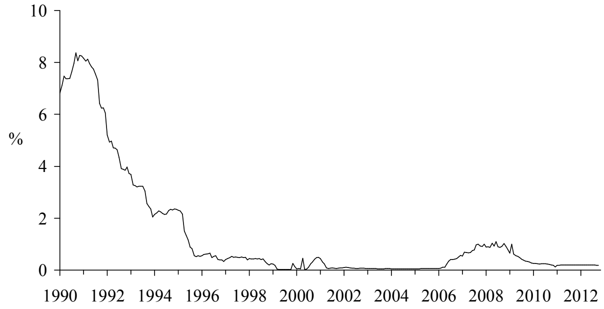
Germany : 3-Month Interbank Deposit Rate



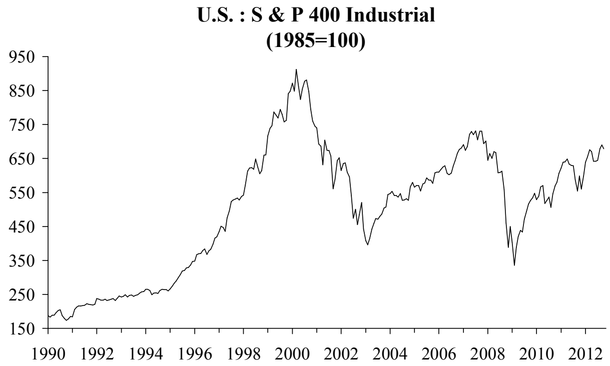
Japan: Yield on Long-Term Government Bonds

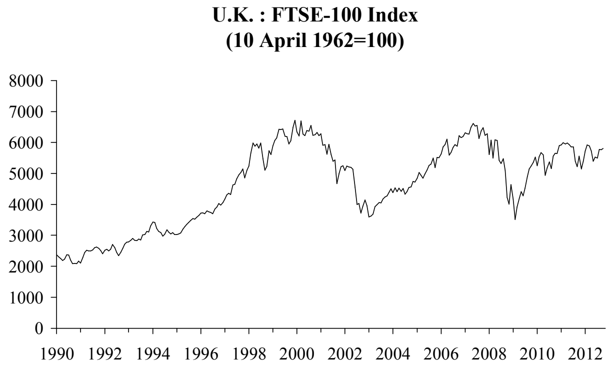


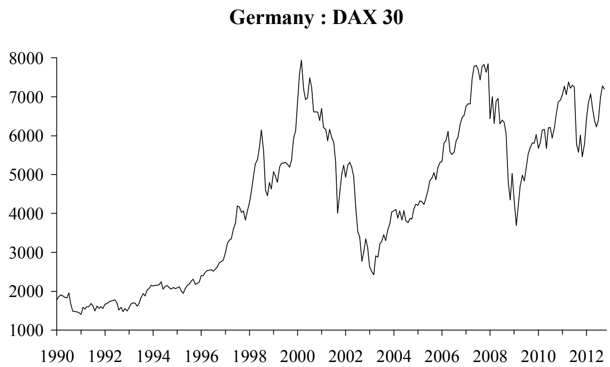
Japan : 3 Month Money Market Rate

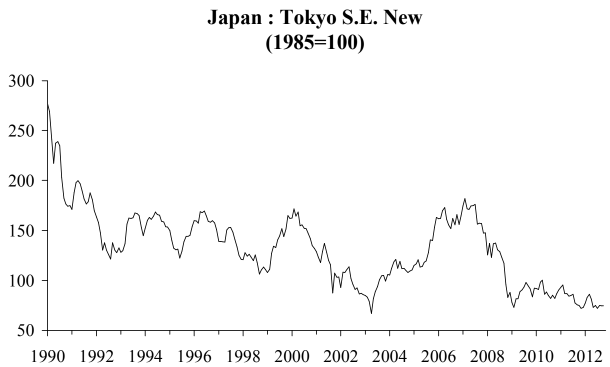


MAJOR EQUITY MARKETS









EMERGING MARKETS

Anupam Rastogi

India

The finance minister is sending signals at regular intervals that the time has come for the central bank to cut interest rates and boost the sagging economic growth. Corporate results for the quarter ending September were better than expected, and suggest that the economy has bottomed out. However, industrial investment is at rock bottom and industrialists, after the announcement of economic reforms, are waiting for softening of the interest rate policy.

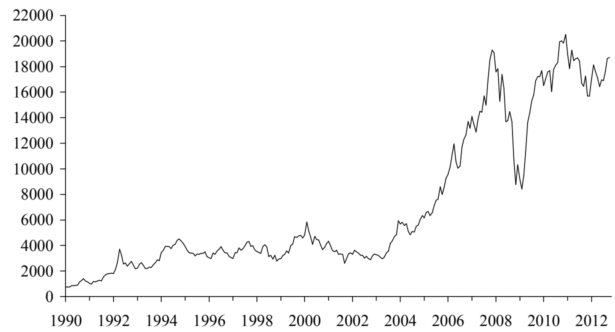
The International Monetary Fund and the World Bank have trimmed their forecasts on India's economic growth in the current fiscal year to 4.9% and 6.0% respectively. The World Bank said that with advanced economies growing at a slow pace, India will have to look to growth drivers at home to regain economic momentum.

The government expects the economy to grow around 6% in the second half of the current fiscal year and is firmly of the belief that many of the measures taken by the government to revive investor confidence will lead to a turnaround soon. But, daily, TV news shows expose one politician or another in corruption scandals. Domestic investors are worried whether reforms which need parliamentary approval will be able to go through the winter session of the parliament or not. A cabinet shuffle is likely to take place over the coming weekend, and that will herald the ruling party's strategy for the upcoming state elections in Gujarat, Andhra Pradesh and Himachal Pradesh, and the national election scheduled to be held no later than 2014.

To push growth, India's government needs to attract foreign investment and keep its fiscal and current-account deficits in check, according to the country's chief economic adviser. Both portfolio investment and foreign direct investment have notched up in the last few weeks as off-shore investors believe that India's problems are cyclical and India has solutions for them.

Standard & Poor's Ratings Services, however, reiterated in the first week of October that there is a significant chance that it would cut India's credit rating — a move that would relegate the sovereign's debt to junk territory — despite a series of recent policy steps aimed at reinvigorating the country's economy. "In our view, there is a significant chance that this trend [of weaker global economic prospects and Indian domestic policy instability] could eventually affect political, economic, fiscal or external factors to lower the credit rating on India," according to S&P. Moody's Investors Service rates India Baa3, also the lowest investment grade level, but with a stable outlook. Fitch Ratings, like S&P, has the sovereign rating of BBB– with a negative outlook.

India: BSE Sensitive



Finance Minister P. Chidambaram is confident of reining in government spending, partly by switching to a system that delivers subsidies by direct cash transfers instead of discounts. He hopes that India can post a budget deficit for the year ending March 31 of around 5.3% of GDP.

Inflation in India will remain at 7.5% to 8% in 2013 before moderating. Wholesale price inflation has remained around 7% to 7.6% in the last eight months, forcing the central bank to hold rates steady in the last three monetary-policy meetings, despite economic growth approaching its lowest in nearly a decade.

The Indian rupee soared to its highest level against the U.S. dollar since mid-April after India's federal Cabinet approved proposals to allow more foreign investment in the financial sector. Raising foreign-investment limits in insurance has been discussed since 2004. A bill to amend insurance laws has been pending with the Parliament for the past four years. Of 23 Indian private life insurers, 22 already have foreign partners. The country also has 24 general insurance companies, most of which also have foreign tie-ups.

Amid the regulatory uncertainty caused by frequent rule changes, insurers have lately cut back on creating new products, and capital investments have all but come to a halt. Still, many foreign insurers have remained interested, as the potential for growth is huge. Only 4.7% of the country's more than 1.2 billion people currently have insurance of any kind.

	09-10	**10-11**	**11-12**	**12-13**	**13-14**
GDP (%p.a.)	7.4	7.5	6.9	5.8	6.5
WPI (%p.a.)	9.5	9.0	7.5	7.5	7.0
Current A/c(US$ bill.)	-14.0	-31.0	-40.0	-35.0	-30.0
Rs./$(nom.)	48.0	49.0	49.5	54.5	52.0

China

The much awaited once-in-a decade change in the Chinese leadership will take place at the Party Congress, scheduled to start on November 8 in Beijing. China will report lower than 8% growth for the first time since 1999, when the economy grew by an annual rate of 7.6%. China's future premier, Li Keqiang, had once remarked that China's GDP data was 'man made.' However, he is unlikely to rock the boat and will go along with government statistics which project a smooth landing for the economy. We do not expect China's new leaders to move quickly: Chinese leaders normally take about 12 months to put together an outline of their vision and game plan for the next decade. This much time is also required by the new leader to consolidate his position within the party and military establishment.

China's gross domestic product grew at a rate of 7.6% on the year in the second quarter; its third-quarter growth rate fell to 7.4% in the third quarter compared with a year earlier. The seventh consecutive deceleration reflected a combination of weak demand from abroad, flagging investment at home and insufficient spending by China's households to pick up the slack.

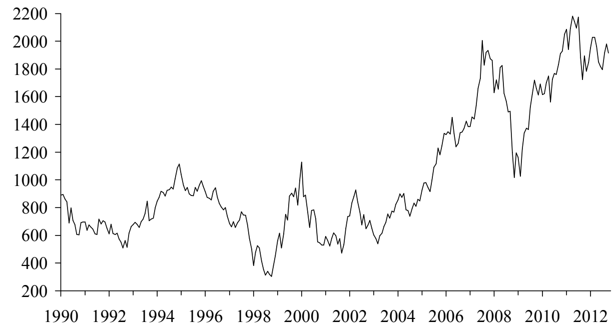
Consumer prices rose 1.9% from a year earlier, slightly below August's 2.0%. Inflation has come down from a high of 6.5% last year and we expect it to remain subdued for many months to come.

Exports were at a record monthly level of $186.4 billion in September, rising 9.9% from a year ago compared to the 2.7% rise in August and well above the median forecast of 5.0%. Imports were up 2.4%, compared with a 2.6% fall in August and a median forecast of a 2.0% rise. The September trade surplus expanded to $27.67 billion from $26.7 billion in August, surpassing a median forecast of $22.4 billion.

As the yuan is showing signs of appreciating, the smart money has begun flowing back into the country since September.

	09	10	11	12	13
GDP (%p.a.)	8.7	10.3	9.2	7.5	7.5
Inflation (%p.a.)	-0.8	5.9	4.3	2.2	2.7
Trade Balance(US$ bill.)	180	183	155	140	130
Rmb/$(nom.)	6.8	6.6	6.3	6.3	6.3

Korea: Composite Index



South Korea

The central bank expects Korea's economy to grow 2.4% this year, slightly below our forecast of 2.5% for 2012. The South Korean economy grew 1.8% in the third quarter from a year earlier on weak exports and slowing local demand.

South Korea's inflation rate accelerated to 2.0% in September, but remained below the central bank's 3.0% target ceiling. The higher rate was partly attributed to the rise in grain prices following a series of typhoons that damaged large stretches of farmland. The Korean central bank has tightened its inflation target range for the next three years from 2013 to 2015 to between 2.5% and 3.5% — narrower than the current 2–4% band. The narrowed inflation target range suggests a more hawkish stance by the Bank of Korea (BOK) next year.

The BOK has lowered its benchmark rate by a quarter-percentage point to 2.75%, a widely expected move that followed a similar cut in July. The cut brought the rate closer to the 2% level in 2009 when the BOK held it for about one and a half years to fight the global financial crisis before raising it by a total of 1.25 percentage points between July 2010 and June 2011.

South Korean exports fell for the third consecutive month in September as the global economic slump hit shipments from the world's seventh largest exporter. In the January–September period, the country posted a trade surplus of US$67.8 billion in the industrial sector, up 6.4% from a year earlier.

	09	10	11	12	13
GDP (%p.a.)	0.2	6.3	3.6	2.5	3.0
Inflation (%p.a.)	2.6	2.9	4.0	2.2	2.5
Current A/c(US$ bill.)	42.7	28.2	27.0	20.0	18.0
Won/$(nom.)	1200	1150	1100	1140	1140

Taiwan

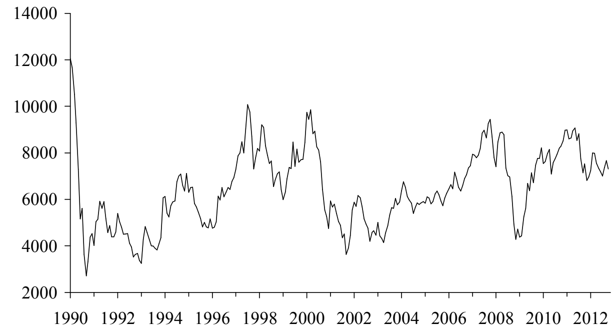
Taiwan's 2012 gross domestic product growth is expected to be slightly above 1% due to weak economic fundamentals worldwide. A strong rebound is unlikely to materialise; however, some improvement in 2013 is likely.

The island's inflation is likely to reduce from recent highs brought about by bad weather pushing up vegetable prices, though it is set to remain above the central bank's comfort line of 2%. Hence, the central bank has no room to change in rates at the next meeting in December, though a big fall in inflation would give the central bank room to move if the external demand situation deteriorated further.

Taiwan's exports of goods and services are expected to show a 1.24% annual growth for 2012, while its imports in that sector are likely to record a 0.48% drop. In September, after six straight months of declines, exports showed some improvement as demand for new electronics products strengthened ahead of the year-end shopping season. Moody's has maintained its Aa3 rating for foreign and local currency with a stable country outlook. Moody's does not expect any shock to the economy. Earlier S&P had maintained an AA– rating with stable outlook for Taiwan.

	09	10	11	12	13
GDP (%p.a.)	-1.9	10.8	4.0	1.0	2.0
Inflation (%p.a.)	0.0	1.3	1.2	2.0	1.3
Current A/c(US$ bill.)	16.0	16.0	18.0	20.0	22.0
NT$/$(nom.)	32.0	31.0	30.0	29.5	29.5

Taiwan: Weighted TAIEX Price Index



Brazil

Economic growth slowed from 7.5% in 2010 to 2.7% in 2011 and in the current year the growth is expected to shrink to 1.5%. Some analysts expect the growth to rebound to about 4% next year compared to our estimates of 3%. We are cautious as the main export markets of Brazil would still be facing tough time. The government is also not taking any chances, and is investing in further infrastructure projects to boost domestic growth.

Inflation, after falling to a low of 4.9% in June, has bounced back to 5.28% in September as drought in Brazil and the U.S. caused food prices to jump. This keeps the inflation within the policy-makers' target of 4.5% plus or minus 2 percentage points but higher than the target of 4.5%.

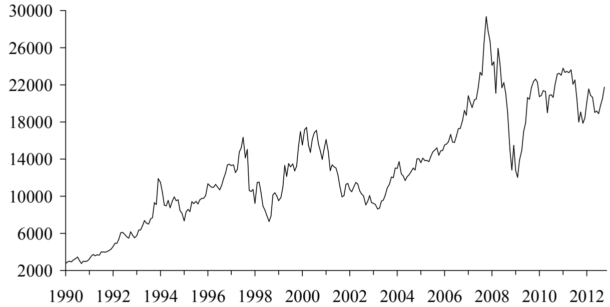
Brazil's central bank has cut interest rates by 25 basis points to 7.25% — an all-time low to ward off impact of global concerns about weak economic growth on the domestic economic growth.

Brazil's Real strengthened with news from China helping lift currencies on the expectation for improved global growth. The Real remains in an active trading range of BRL2.00–2.05 to the dollar.

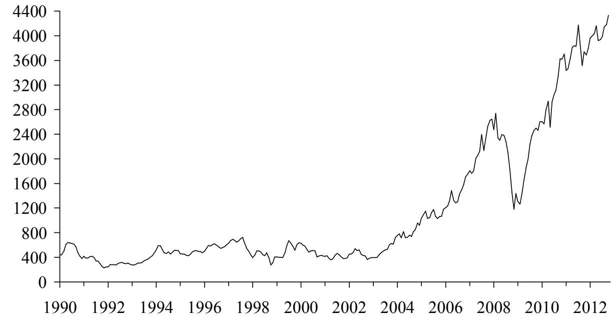
	09	10	11	12	13
GDP (%p.a.)	-0.2	7.5	2.7	1.5	3.0
Inflation (%p.a.)	4.1	5.9	6.5	5.5	5.5
Current A/c(US$ bill.)	-20.0	-47.3	-52.6	-60.0	-65.0
Real/$(nom.)	1.8	1.7	1.5	2.0	2.0

Other Emerging Markets

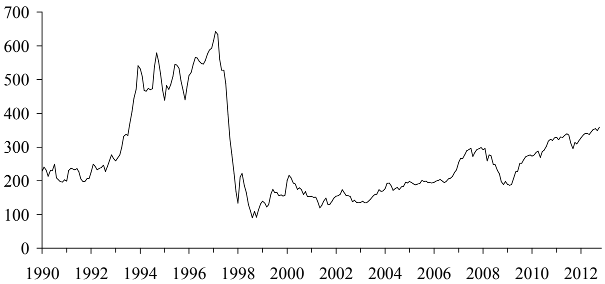
Hong Kong: FT-Actuaries



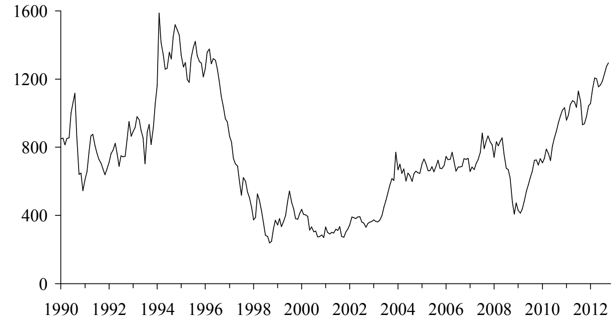
Indonesia: Jakarta Composite



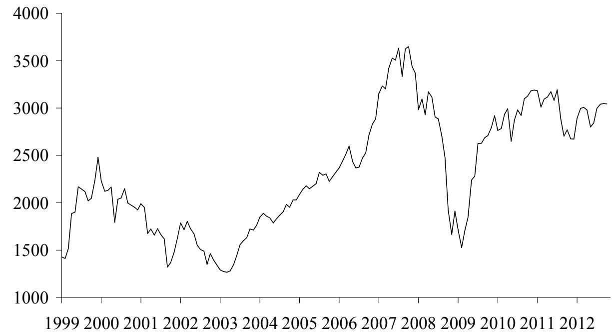
Malaysia: FT-Actuaries (US$ Index)



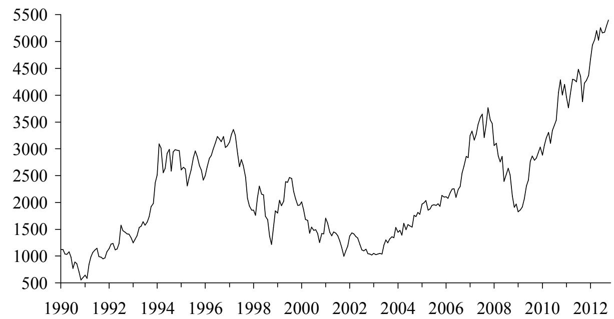
Thailand: Composite Index



Singapore: Straits Times Index

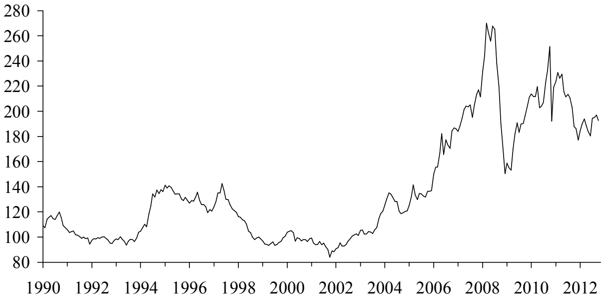


Philippines: Manila Composite

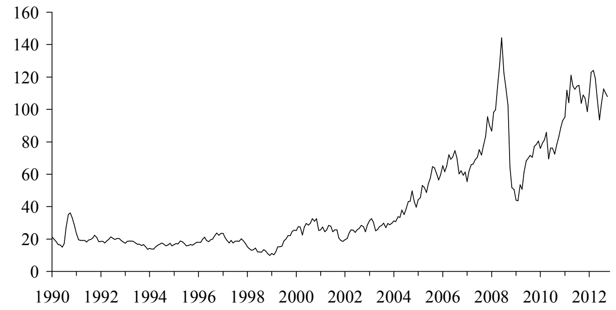


COMMODITY MARKETS

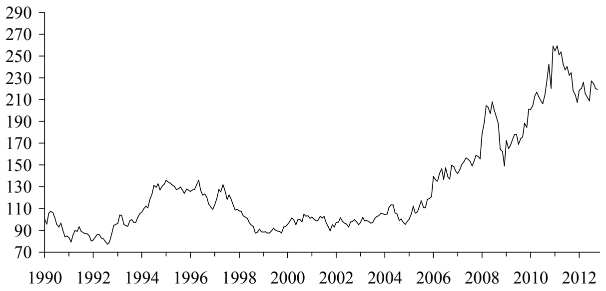
Commodity Price Index (Dollar)
(Economist, 2000=100)



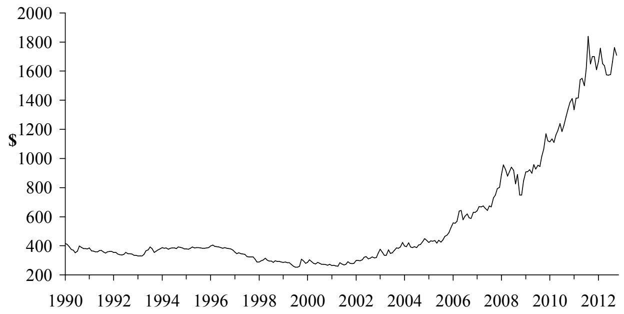
Oil Price: North Sea Brent (in Dollars)



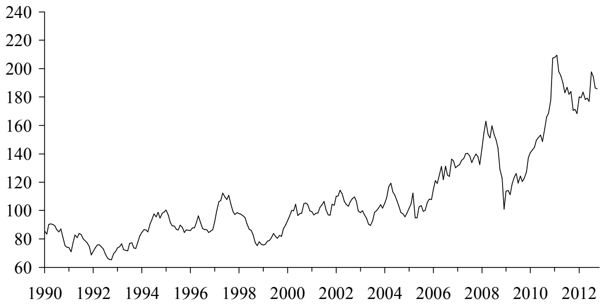
Commodity Price Index (Sterling)
(Economist, 2000=100)



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]
2009	1.3	2.8	1.1	80.6	89.3	-0.4	2.0	-0.2
2010	4.1	2.4	0.7	80.4	91.2	-3.8	4.8	-0.3
2011	3.9	2.0	0.9	79.9	92.4	-2.5	5.3	-0.4
2012	2.8	1.6	1.2	81.7	95.4	-1.6	3.5	-0.5
2013	2.3	2.4	1.4	81.5	95.7	-0.7	2.9	0.4
2014	2.0	2.6	2.1	81.0	95.6	0.2	2.7	0.6
2011:1	4.5	2.6	0.8	80.8	93.3	-2.9	5.3	0.2
2011:2	3.7	2.3	0.9	79.4	91.8	-2.8	5.2	-0.1
2011:3	3.7	1.6	0.9	79.2	91.5	-2.7	5.3	-0.7
2011:4	3.6	1.3	1.1	80.2	93.0	-1.5	5.3	-0.9
2012:1	2.6	1.1	1.1	81.1	94.3	-2.0	3.8	-1.1
2012:2	3.1	1.6	1.0	82.3	96.1	-1.9	3.6	-0.5
2012:3	2.9	1.8	1.4	81.9	95.7	-1.3	3.3	-0.3
2012:4	2.7	1.9	1.4	81.6	95.6	-1.0	3.2	-0.1
2013:1	2.4	2.1	1.4	81.5	95.5	-0.9	3.0	0.1
2013:2	2.3	2.4	1.4	81.3	95.4	-0.8	2.9	0.4
2013:3	2.2	2.6	1.4	81.7	96.0	-0.7	2.8	0.6
2013:4	2.1	2.6	1.6	81.4	95.9	-0.5	2.8	0.6

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)
2009	227.3	0.0	4.6	1.53	141.3
2010	232.4	2.3	4.6	1.50	138.8
2011	237.9	2.3	4.7	1.53	136.6
2012	243.2	2.1	4.6	1.53	135.6
2013	251.7	3.5	4.0	1.34	137.3
2014	262.8	4.4	3.7	1.24	140.6
2011:1	237.6	2.9	4.5	1.46	138.0
2011:2	237.2	2.6	4.6	1.50	136.8
2011:3	238.2	2.1	4.8	1.57	136.1
2011:4	238.8	1.6	4.8	1.60	135.4
2012:1	239.8	0.5	4.8	1.61	135.1
2012:2	242.1	2.1	4.7	1.56	135.4
2012:3	244.3	2.6	4.5	1.51	135.7
2012:4	246.7	3.3	4.4	1.46	136.3
2013:1	247.9	3.4	4.2	1.41	136.4
2013:2	250.6	3.5	4.1	1.36	137.0
2013:3	252.9	3.5	3.9	1.31	137.6
2013:4	255.6	3.6	3.8	1.26	138.3

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 Product[1] (£ 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
2009	140.8	674466.5	405440.7	218144.6	178391.0	-33226.3	94283.5
2010	143.8	688577.5	406544.7	238231.9	181470.9	-39127.8	98542.3
2011	144.7	693085.7	400020.3	240745.2	180361.1	-30475.0	97565.8
2012	145.9	698805.6	401772.6	254854.4	182833.9	-32881.9	107764.8
2013	148.8	712538.5	407982.4	260043.9	187329.0	-33205.7	109610.1
2014	152.1	728596.4	417155.4	265696.3	191131.8	-33153.8	112235.9
2009/08	-4.3		-3.7	-13.4	0.9		-5.0
2010/09	2.1		0.3	9.2	1.7		4.6
2011/10	0.7		-1.6	1.1	-0.6		-0.9
2012/11	0.8		0.4	6.1	1.5		11.1
2013/12	2.0		1.5	2.1	2.5		1.7
2014/13	2.3		2.2	2.2	2.0		2.4
2011:1	144.5	172985.8	100710.9	55274.0	47260.2	-6814.0	23445.3
2011:2	144.4	172880.5	100098.9	58650.3	43772.3	-7894.5	21746.5
2011:3	145.2	173866.2	99417.2	64048.0	44431.3	-8082.7	25947.6
2011:4	144.8	173353.2	99793.3	62772.8	44897.4	-7683.8	26426.5
2012:1	144.3	172790.5	100021.7	62533.0	45654.3	-7956.4	27462.2
2012:2	144.0	172361.5	100252.8	61076.7	45598.3	-8306.1	26258.6
2012:3	147.8	176935.9	100386.7	66094.5	45669.6	-8309.4	26902.2
2012:4	147.6	176717.7	101111.5	65150.2	45911.6	-8310.0	27141.8
2013:1	148.0	177154.1	101483.0	62722.2	48586.9	-8307.4	27326.9
2013:2	148.5	177778.4	101479.0	66229.2	45693.1	-8302.0	27320.6
2013:3	149.1	178446.3	101989.4	65774.3	46384.9	-8301.7	27401.8
2013:4	149.6	179159.7	103031.0	65318.2	46664.1	-8294.5	27560.8

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) Financial Year	Debt Interest (£bn)	Current Account (£ bn)
2009	10.3	1247.8	128.3	32.4	-26.1
2010	8.3	1335.1	110.3	36.6	-48.6
2011	7.3	1394.9	120.1	43.0	-29.0
2012	7.4	1463.3	107.6	48.1	-31.6
2013	6.4	1524.1	97.1	51.6	-32.5
2014	3.6	1591.8	58.0	56.8	-32.3
2011:1	3.9	338.3	13.2	9.7	-6.6
2011:2	8.4	337.4	28.4	10.0	-3.4
2011:3	5.7	349.7	19.8	10.4	-10.5
2011:4	9.3	352.3	32.9	11.0	-8.5
2012:1	5.6	355.5	39.0	11.5	-7.0
2012:2	7.5	355.2	26.5	11.6	-3.8
2012:3	6.8	367.1	24.9	12.0	-11.0
2012:4	7.0	369.2	25.7	12.2	-9.8
2013:1	8.2	371.8	30.5	12.3	-8.0
2013:2	6.2	375.5	23.4	12.5	-3.7
2013:3	6.0	378.9	22.6	12.7	-11.0
2013:4	6.1	382.5	23.1	13.0	-9.8

1 GDP at market prices (Financial Year)

WORLD FORECAST DETAIL

Growth Of Real GNP

	2008	2009	2010	2011	2012	2013
U.S.A.	0.0	–2.6	2.6	1.7	2.5	2.6
U.K.	–1.1	–4.3	2.1	0.7	0.8	2.0
Japan	–1.2	–6.3	4.3	–0.7	2.1	1.6
Germany	1.0	–4.7	3.6	3.0	1.1	2.0
France	0.1	–2.5	1.5	1.7	1.0	1.2
Italy	–1.3	–5.1	0.9	0.5	0.1	0.3

Real Short-Term Interest Rates

	2008	2009	2010	2011	2012	2013
U.S.A.	1.8	–1.6	–1.8	–1.7	–1.5	–1.3
U.K.	4.2	–0.4	–3.8	–2.5	–1.6	–0.7
Japan	1.8	1.1	0.5	0.4	0.4	0.4
Germany	3.5	–0.4	–1.3	–0.3	0.8	0.5
France	3.8	–0.8	–1.4	–0.3	0.9	0.5
Italy	3.1	–0.8	–1.4	–0.3	–0.3	0.0

Real Long-Term Interest Rates

	2008	2009	2010	2011	2012	2013
U.S.A.	2.2	1.3	1.1	1.2	2.0	2.0
U.K.	1.4	–0.2	–0.3	–0.4	–0.5	0.4
Japan	2.0	1.4	1.1	1.1	1.3	1.5
Germany	3.0	2.3	1.9	1.8	2.0	2.0
France	3.0	2.2	1.9	1.8	2.0	2.0
Italy	2.8	2.2	1.9	1.8	2.0	2.2

Index Of Real Exchange Rate(2000=100)[1]

	2008	2009	2010	2011	2012	2013
U.S.A.	80.1	88.7	81.7	81.8	82.0	82.1
U.K.	87.6	77.5	77.3	76.8	79.6	78.4
Japan	87.9	89.0	80.2	79.8	79.7	80.0
Germany	105.1	105.8	99.3	99.0	99.1	99.0
France	106.4	104.3	101.7	102.0	102.0	102.1
Italy	106.6	105.4	100.5	100.8	101.0	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.

Growth Of Consumer Prices

	2008	2009	2010	2011	2012	2013
U.S.A.	3.8	–0.3	1.8	3.1	2.0	2.0
U.K.	3.3	1.3	4.1	3.9	2.8	2.3
Japan	1.4	–1.4	–1.0	–0.3	–0.2	0.0
Germany	2.6	0.4	1.1	2.3	1.8	1.7
France	2.8	0.1	1.5	2.1	1.6	1.6
Italy	3.4	0.8	1.5	2.8	2.7	2.8

Nominal Short-Term Interest Rates

	2008	2009	2010	2011	2012	2013
U.S.A.	1.5	0.2	0.1	0.3	0.5	0.7
U.K.	5.5	1.1	0.7	0.9	1.2	1.4
Japan	0.4	0.1	0.1	0.4	0.4	0.4
Germany	3.9	0.7	0.4	1.5	2.5	2.5
France	3.9	0.7	0.4	1.5	2.5	2.5
Italy	3.9	0.7	0.4	1.5	2.5	2.5

Nominal Long-Term Interest Rates

	2008	2009	2010	2011	2012	2013
U.S.A.	3.7	3.2	3.1	3.2	4.0	4.0
U.K.	4.3	2.8	2.4	2.0	1.6	2.4
Japan	1.5	1.3	1.1	1.2	1.5	1.5
Germany	4.4	4.0	3.8	3.8	4.0	4.0
France	4.4	4.0	3.8	3.8	4.0	4.0
Italy	4.4	4.0	3.8	3.8	4.0	4.0

Nominal Exchange Rate
(Number of Units of Local Currency To $1)

	2008	2009	2010	2011	2012	2013
U.S.A.[1]	86.07	85.98	83.73	78.08	80.20	80.50
U.K.	1.85	1.57	1.55	1.61	1.58	1.58
Japan	103.40	93.54	87.48	79.36	81.00	81.00
Eurozone	0.68	0.72	0.75	0.72	0.78	0.79

[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