Presentation to The Actuarial Profession Pensions Conference 2011

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Summary

1. Inflation versus deflation
2. Are equities undervalued relative to bonds?
3. The medium-term risks to the bond market
4. Bonds may perform well during the current slowing?

Inflation versus deflation

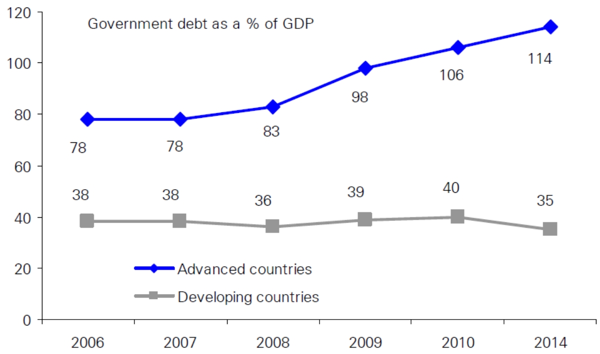
- Greenspan fears inflation, while Bernanke is setting policy on the basis of deflation concerns
- Those who fear inflation point to the high fiscal deficits and the significant amount of QE. Recent events in the MENA region could provide a catalytic shock
- Deflationists point to the high output gap and the risks from persisting global imbalances
- While either outcome is possible, I have previously suggested that the markets are likely to alternate between inflation and deflation 'scares', though tail risks remain high

Fiscal deficits and inflation – theory

- More economists are pointing to the possibility of **fiscal dominance** originally raised by Sargent-Wallace
- There are circumstances when doubts about fiscal solvency can make it impossible for central banks to aim for price stability

Fiscal situation is worse

Rising public debt in industrial countries poses fiscal challenges



Source: DB Global Markets Research, IMF

The fiscal balance and inflation – the evidence

- Effect of an increase in budget deficit by 1% of GDP
- In high inflation countries: increases inflation by 4.2%
  - ('high inflation' is defined as a period when monthly inflation exceeds 100% pa)
- In low inflation countries: the effect of fiscal balance is estimated as close to zero

*** See Fischer el al (2002)**

Understanding the evidence linking the fiscal balance and inflation

- The moderate inflation countries tend to have deeper financial markets and more credible independent central banks. This allows a continuous rolling over of debt stocks, making seigniorage less necessary[1]
  — Also, fiscal dominance has been more difficult
- Might this change?

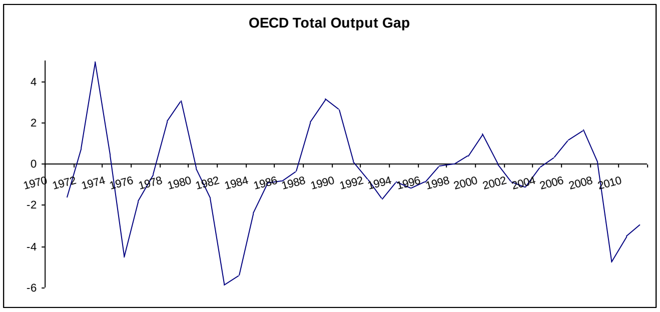
[1] See Luis Catao and Marco Terrones (2003) "Fiscal Deficits and Inflation", IMF Working Paper no. 01/74, for further discussion

Tail risks:
Possible reasons for a change in the fiscal deficits-inflation link in low inflation countries

- Central Banks may choose to behave differently
  — For example, the risk of a government default increases the chance of a crisis for the domestic financial system – a Central Bank may accord a higher priority to financial stability over its inflation-targeting role
- Alternatively, central bankers might have a bias because allowing deflation expectations to become entrenched would be dangerous, while they feel they know how to deal with inflation. Could this bias lead to higher inflation over time?

Deflationary forces

OECD output gap estimates and projections for total OECD area



Note the large current and projected output gap

Source: OECD Economic Outlook, Bloomberg

Could global imbalances jeopardise US growth?

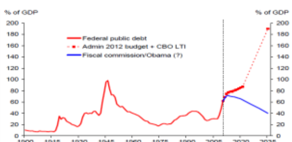
- Blanchard (2009) raises the issue of what happens when the fiscal stimulus is phased out and the inventory adjustment comes to an end in the US
  - — Household savings ratio – a decline to pre-crisis levels is neither likely nor desirable
- Therefore, might be necessary for US net exports to increase
  - — That will almost certainly require Asia's current account surplus to fall (especially true for China)

Possible impact of global imbalances

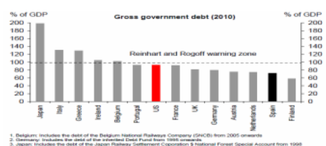
- What if Asia does not rebalance in a timely fashion?
  - Either the US recovery is rather anaemic, and/or the continuing fiscal stimulus leads to 'disorderly' moves in the bond and currency markets at some point

The US fiscal situation – the risks

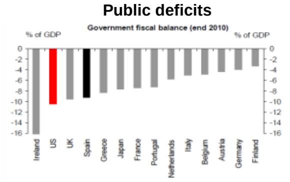
Public debt at peacetime high too



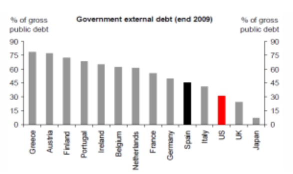
Public debt



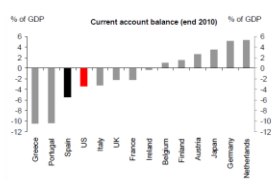
Public deficits



Share of public debt held abroad



External deficits



Source: USgovernmentspending.com, Fiscal commission, CBO and DB Global Market Research, OECD, Haver Analytics

The threat of inflation and deflation

- In 2010, market participants' and governments' outlooks included fears of both inflation and deflation
- Historically, equity markets perform better during periods of price stability than in times of either inflation or deflation

Economic environment as measured by CPI inflation	Dow Jones Industrials Average Index average monthly return Jan 1915 – Dec 2009
Deflation: Less than -2.5%	-0.03%
Stability: Between -2.5% and +5.0%	0.87%
Inflation: Above 5.0%	0.05%

Need agile, tactical strategies

- Including uncorrelated sources of return in portfolios can help defend against either outcome

Source: Thomson Reuters and Wadhwani Asset Management

Is this a significant macro-opportunity?

- Based on a three-stage Dividend Discount Model (DDM)

As at 29 April 2011	Post-1985 Equity Risk Premium average	Short-term IBES growth forecast (real)	Long-term growth forecast (real)	S&P 500 implied value	S&P 500 actual value	% undervalued
Using 3yr CPI moving average	2.44%	9.2%	2.0%	3,447	1,364	60%
Using Michigan Survey 5yr inflation expectations	2.43%	7.5%	2.0%	3,184	1,364	57%

Warning – This is a mechanical calculation for illustrative purposes only

1. TIPS yield as of 29 Apr 2011 (0.76%) used to proxy real interest rate
2. Dividend yield as at 29 Apr 2011 (1.90%) used
3. Short-term growth assumed constant for 4 years, followed by a 8 year transition period to long-term growth rate of 2%

Source: Thomson Reuters and Wadhwani Asset Management

Do we have a medium-term opportunity?
Equity Risk Premium – sensitivity analysis

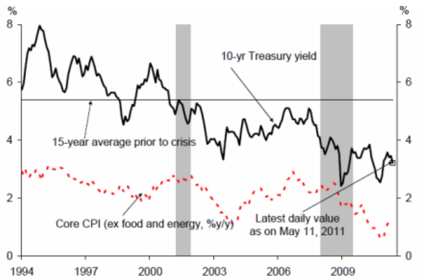
- Based on a three-stage Dividend Discount Model (DDM)

As at 29 April 2011 Scenario	S&P 500 level	ERP_{LT}	g_{LR}	g_{IBES}	r(=TIPS)
Fair value=true	3447	2.44	2.00	9.15	0.76
Current value=true	1364	4.27	2.00	9.15	0.76
Current value=true	1364	2.44	-0.11	9.15	0.76
Current value=true	1364	2.44	2.00	-2.88	0.76
Current value=true	1364	2.44	2.00	9.15	2.59

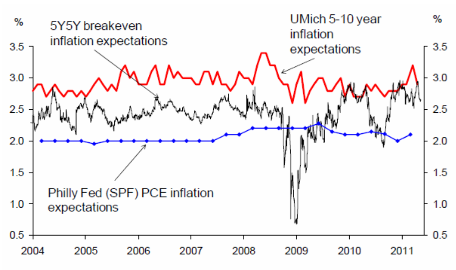
Source: Thomson Reuters and Wadhwani Asset Management

Bonds at risk?

10yr Treasury yield running way below historical average



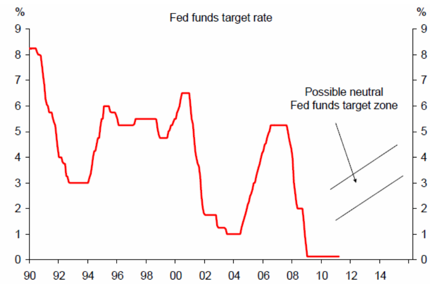
Long-term inflation expectations



Source: U.Mich, Bloomberg Finance LP, Phil Fed, FRB, BLS, Haver Analytics, DB Global Markets Research

Bonds at risk?

Fed funds target rate



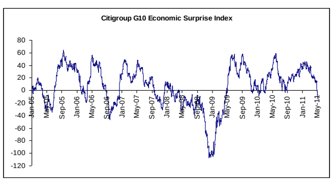
The catalyst for a bad market sell-off could be indications that the Fed was set to tighten

Source: FRB, Haver Analytics, DB Global Markets Research

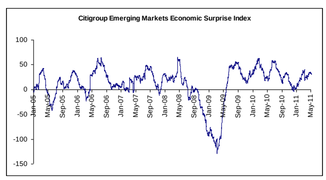
Economic 'surprises'

News has been surprising to the downside in the G10

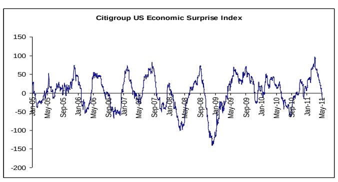
Citigroup G10 Economic Surprise Index



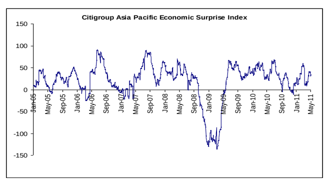
Citigroup Emerging Markets Economic Surprise Index



Citigroup US Economic Surprise Index



Citigroup Asia Pacific Economic Surprise Index

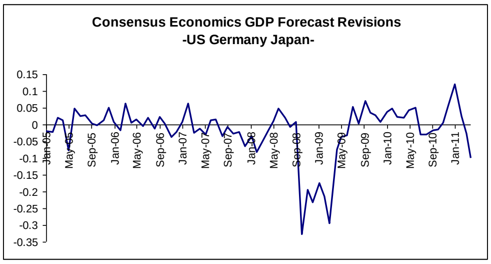


Source: Bloomberg & Citigroup

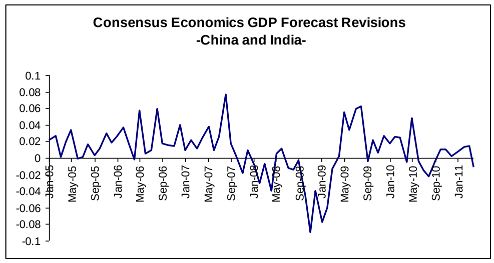
Consensus forecast revisions – GDP

Analysts are revising forecasts down

US, Germany and Japan



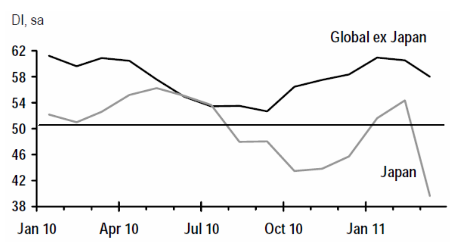
China and India



Source: Consensus Economics, Thomson Reuters

Risk that production slows?

Manufacturing PMI new orders index

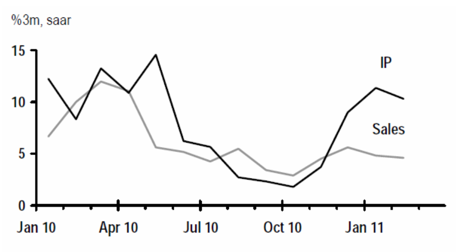


Fall in new orders in Japan may signal greater disruption to global production chains?

Source: JP Morgan Global Data Watch, Economic Research, April 21, 2011

Risk that production slows? (inventory risks)

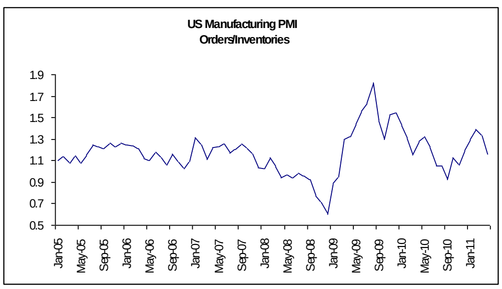
Global final goods expenditures and IP

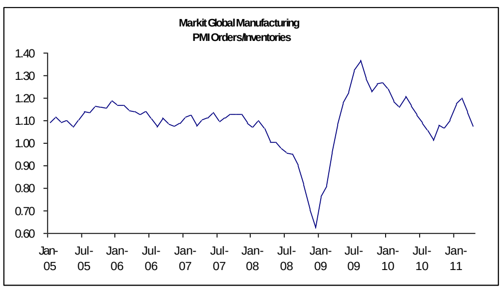


High IP growth relative to sales growth might presage a slowing because of unintended inventory accumulation

Source: JP Morgan Global Data Watch, Economic Research, April 21, 2011

Inventory risk





The New Orders-to-inventories ratio is falling again

One reason growth should bounce back

- Stock adjustment in spending on durable goods is likely to contribute to the recovery.
- In the US, private demand for durables and structures is normally 25% of GDP- but is currently around 20 percent.
- Therefore, we would expect catch-up demand to underpin GDP growth in the coming years.

Oil prices, growth and inflation

Impact of oil price shocks on GDP growth and inflation for the year ahead

	Mild oil shock Oil prices average USD110/brl		Severe oil shock Oil prices reach USD150/brl	
	GDP %	**Inflation %**	**GDP %**	**Inflation %**
US	-0.4	0.5	-1.8	2.6
Euro Area	-0.5	0.4	-2.3	1.8
Japan	-0.3	0.3	-1.5	1.5
Asia ex Japan	-0.8	0.7	-4.0	3.5
World	-0.4		-2.0	

Source: DB Global Markets Research

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