Caisse de dépôt et placement du Québec

OCTOBER 2010

Economic and Financial Perspectives

Canadian Annual Derivatives Conference

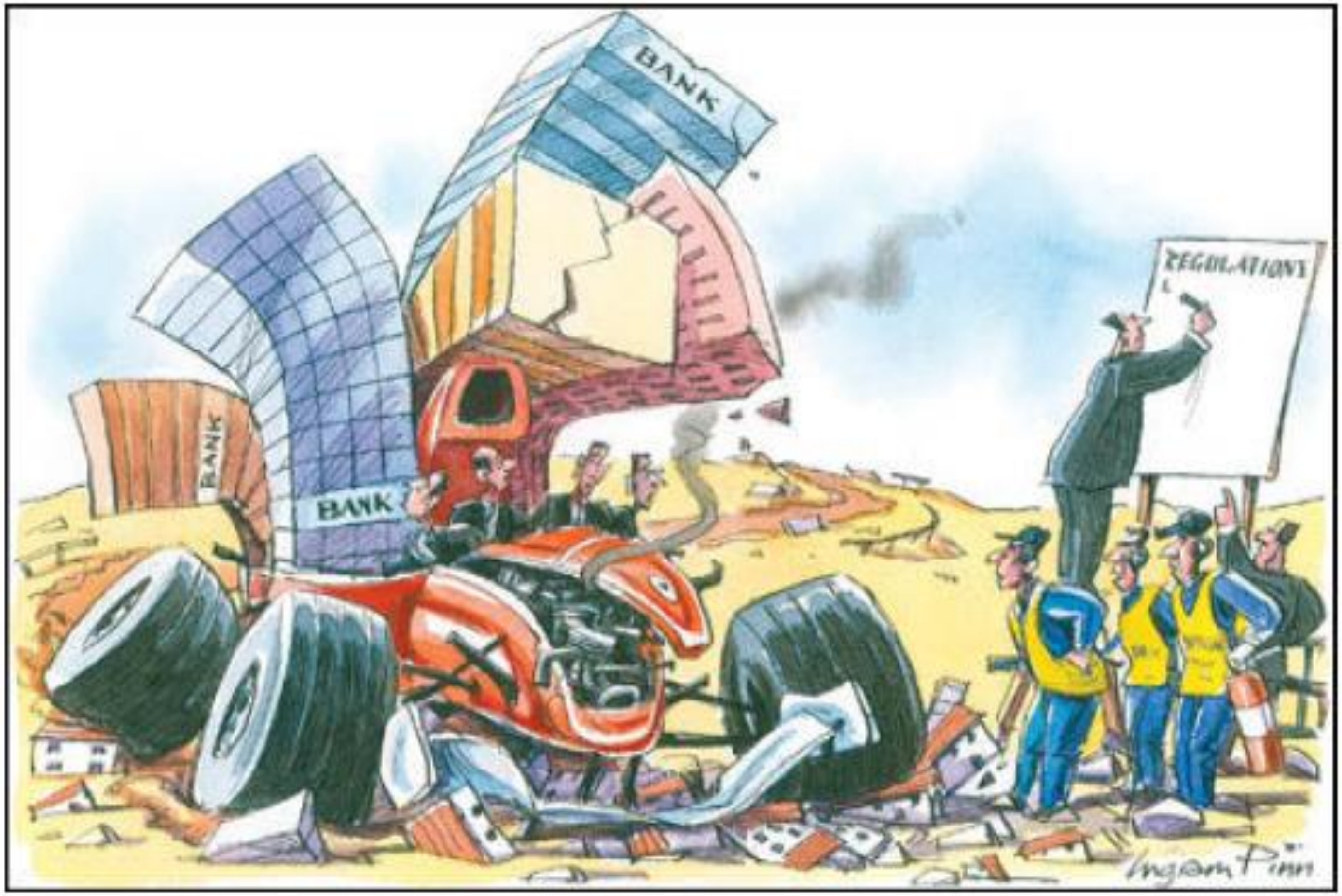
14. October 2010

Oliver Fratzscher, Executive Vice-President and Chief Economist

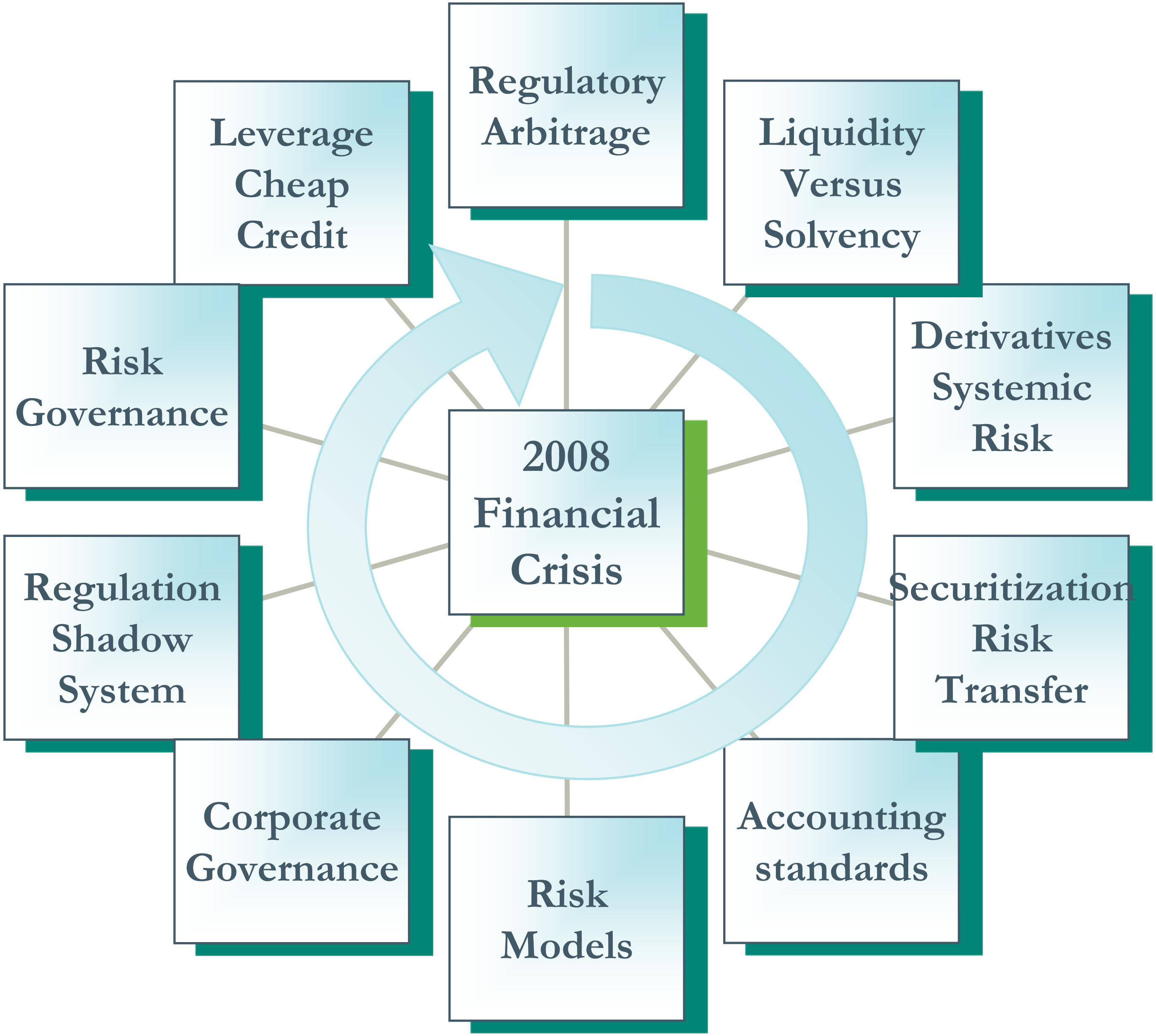
Overview

- Review of Financial Crisis and its main factors
- Role and Development of Derivative Markets
- Economic and Financial Outlook 2011

What Lessons ?



"Simply stated, the bright new financial system – for all its talented participants, for all its rich rewards – has failed the test of the market place." Paul Volcker, April 8 2008



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10. Roots of current crisis

- ✘ Has the current crisis been caused by <u>banks' reckless mortgage lending</u> ?

- ❖ US non-banks have been the epicenter
- ❖ IB leverage (30x-60x) has been incubator
- ❖ Fannie and Freddie have been catalysts
- ❖ Most credit spreads were at historic lows

- ➢ Trend to leaner private universal banks

9. Failure on risk governance

- ✗ Are financial crises inevitably linked to innovative financial systems ?

- ❖ Leading innovators have been least affected
- ❖ Independent risk management has paid off: CRO = co-pilot ≠ engineer ≠ FAA
- ❖ Risk must be owned at the top of the house: Heads we win ≠ Tails you loose

- ➢ Shareholders need focus on risk governance

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8. Regulation: risk-based capital

- Does pro-cyclical effect of Basel-2 exacerbate the current crisis ?

- Risk-based capital for banks and non-banks
- Pricing longer-term through-the-cycle needed
- Transformation risk has been underestimated
- Regulators have neglected liquidity risk

- Short-term funding must not be subsidized

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7. Governance and scapegoats

- Was the crisis triggered by executive pay, ratings failures, and underwriting fraud ?

- Valuations have been the weakest link of chain
- Five sigma events usually don't show in ratings
- Light regulation facilitated underwriting neglect
- Governance is most problematic in GSEs

- Promote competition and oversight over ratings
- Penalize illiquid opaque hard-to-value securities

6. Reliance on black-box models

- Has reliance on VAR models led to herding and provided false comfort for management ?

- Risk management is both art and science
- Innovators of VAR models had good judgement
- Scenario analysis and stress testing are critical
- Liquidity risk was based on flawed assumptions

- Risk management must have roots in institution

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5. Accounting gimmicks

- Has volatility been exacerbated by market-value accounting (MVA) ?

- Market prices can overshoot fundamental prices
- Market value complements cash flow models
- “hold-to-maturity” can become forbearance
- Gaps remain between GAAP and IASB

- Standard setting bodies need clear methodology and emphasize timely recognition of losses

4. Securitization as villain

- ✘ Has securitization better distributed risk across investors in the financial system?

- ❖ Short-dated funding of CDOs is not viable
- ❖ Misuse for maturity transformation and leverage
- ❖ US banks still retain high real estate exposure
- ❖ Qualification of investors has been questionable

- ➢ Don’t overreact – valid benefits of securitization

3. Derivatives and destruction

- Have derivatives insulated the system and <u>enhanced financial stability</u> ?

- Bear Stearns and AIG were too big to fail
- OTC credit derivatives created systemic risk
- Standardization and documentation critical
- Central clearing counterparty is best practice

- Exchanges can reduce CP and systemic risk

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2. Liquidity versus Solvency

- Is official liquidity support sufficient to contain the current financial crisis ?

- Liquidity can help to avoid overshooting
- Are insolvent institutions being propped-up?
- Valuation of bad assets: “devil in the details”
- Resolution of bad assets must commence

- How is collateral valued for liquidity support ?

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1. Regulatory arbitrage

- Has <u>“light regulation” of the shadow system</u> enhanced competitiveness and innovation ?

- Regulatory arbitrage has been most detrimental
- Weakness in insurance and investment banking
- Flaws in SIVs, off-balance, offshore structures
- Systemic risk outside the core system is opaque

- Trend to single regulator with global reach

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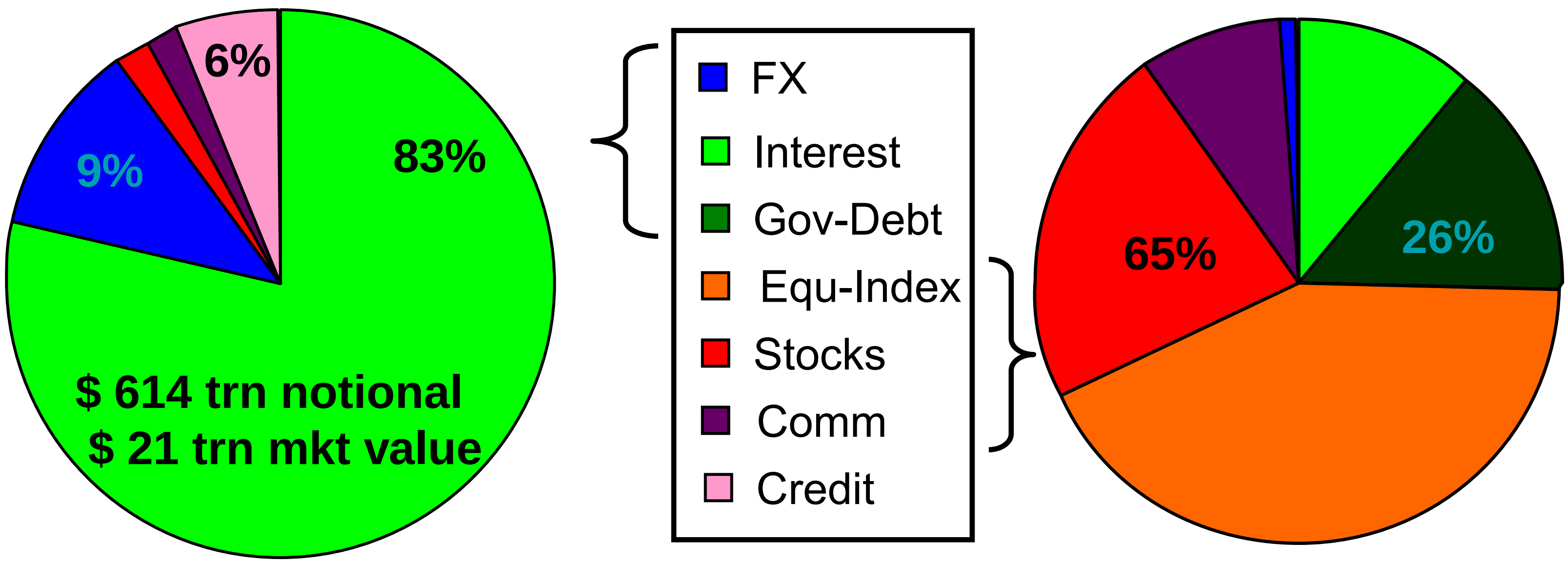
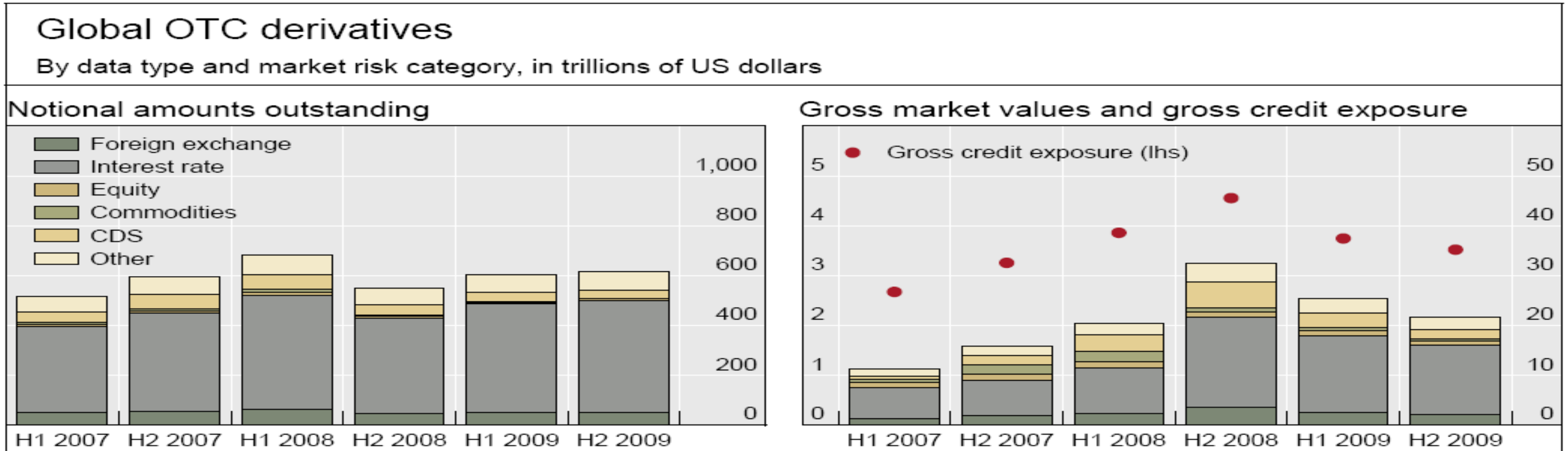
Global derivative markets

OTC Derivative Markets **Dec 2009** **Exchange-Traded Derivatives**





Rewards and risks of derivatives

- ✓ Market efficiency
- ✓ Risk sharing and transfer
- ✓ Low transaction costs
- ✓ Capital intermediation
- ✓ Liquidity enhancement
- ✓ Price discovery
- ✓ Cash market development
- ✓ Hedging tools
- ✓ Regulatory savings

- ✗ More leverage
- ✗ Less transparency
- ✗ Dubious accounting
- ✗ Regulatory arbitrage
- ✗ Hidden systemic risk
- ✗ Counter-party risk
- ✗ Tail-risk future exposure
- ✗ Weak capital requirements
- ✗ Zero-sum transfer tools

Building blocks for derivatives

Product Design

- Economic rationale for hedging needs
- Liquid cash market, long and short positions
- Market determined prices, interest/FX rates
- System stability, no moral hazard risks

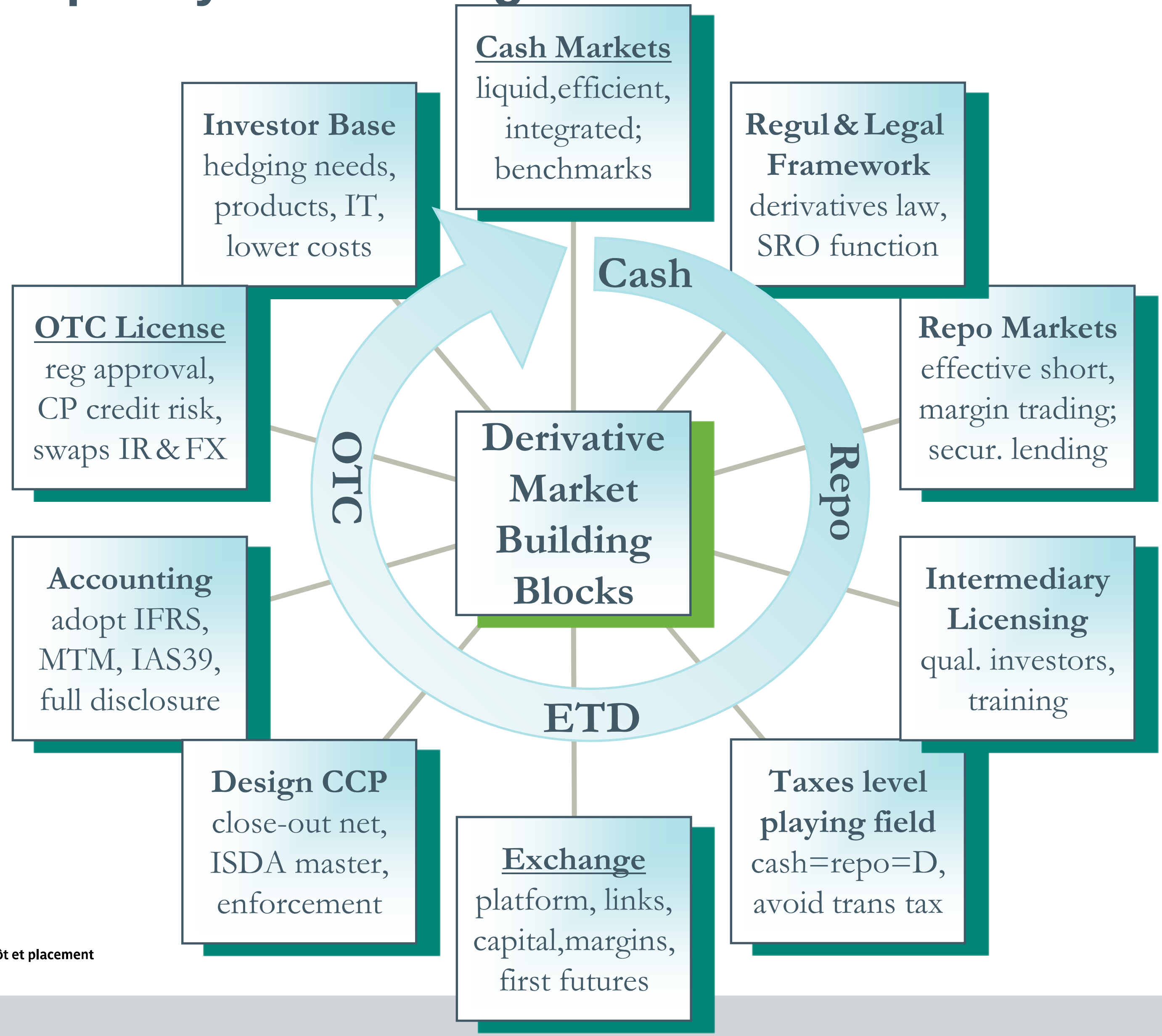
Regulation

- Lead regulator, capital rules, reporting standards
- Legal clarity: ISDA standards, enforceability
- Accounting rules, transparency, disclosure
- Level playing field, tax harmonized, integration

Infrastructure

- CCP, ISDA master, close-out netting
- Demut. exchanges, strong capital, margins
- SRO rules enforced with limits, monitoring
- Certified investors, code of conduct

Schematic development of D markets
cash liquidity+sound regulation+solid infrastructure



Thoughts on derivative markets

1. Derivatives can enhance financial intermediation and economic growth but require effective underlying cash markets and sound infrastructure
2. Modern exchanges with leading risk systems (CCP, dynamic margins, buffer) can enhance transparency, safety, and competitiveness of a financial system
3. Prudential supervision is critical for FX and credit derivatives which could undermine fixed prices, pegged FX regimes, and credit policies.

CDP Economic and Financial Outlook

	CDP – GROWTH FORECASTS				
	2009	2010	2011	2012	2013
World	**-0.7**	**4.3**	**4.0**	**4.1**	**4.2**
Emerging Markets	**2.5**	**6.4**	**6.0**	**6.1**	**6.3**
G7	**-3.5**	**2.5**	**2.2**	**2.3**	**2.6**
United States	-2.4	2.7	2.7	2.7	3.1
Canada	-2.5	3.1	2.5	3.2	3.4
Japan	-5.3	2.9	1.5	1.5	1.5
Euro Area	-4.1	1.5	1.6	1.7	1.9

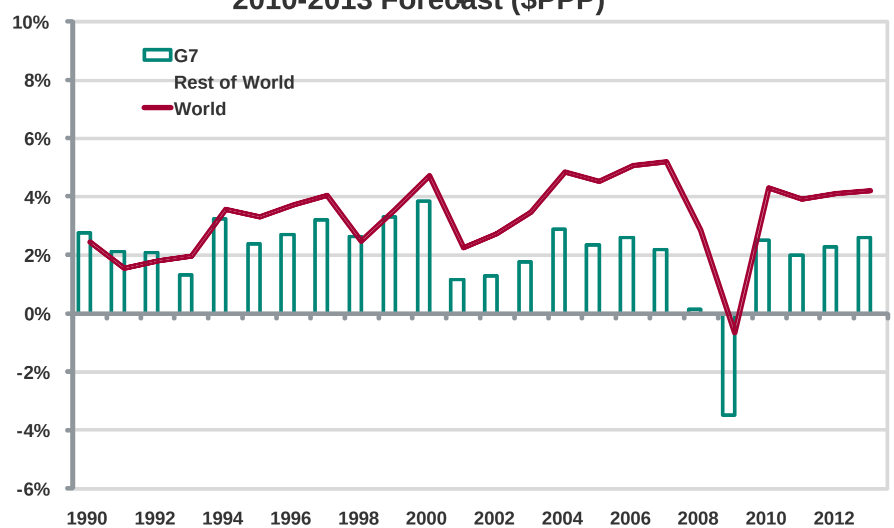
Source: CDP Economic analysis and asset allocation strategies

Global Economy

Two-speed recovery

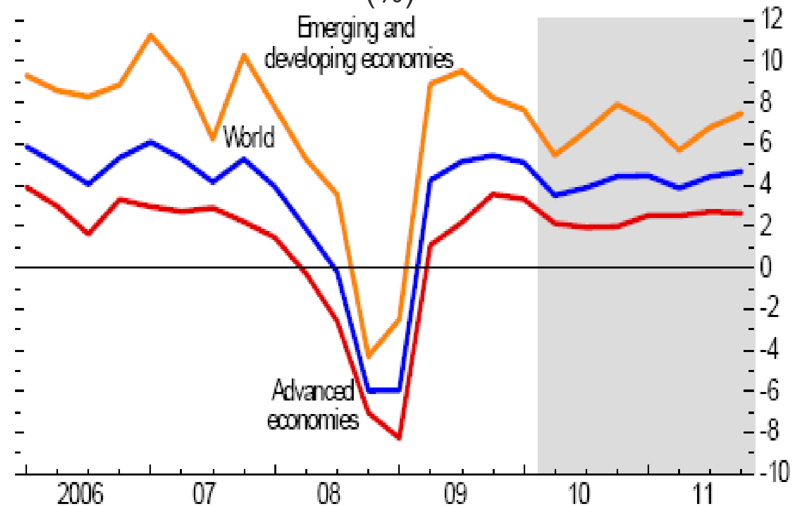
- Strong recovery in 2010 with 4% global growth, gap G7 versus EM
- Emerging markets: engines of the global economy: growth of over 6%
- Expansionary monetary and fiscal policies, QE2 likely by end of 2010
- Unsustainable public debt, high household debt, deleveraging to continue
- Tight credit conditions despite low interest rates and high profits
- Price stability, deflationary pressures, declining real estate sector

World GDP Growth & 2010-2013 Forecast ($PPP)



Source: Economic analysis and asset allocation strategies, Datastream

Global Growth
(%)



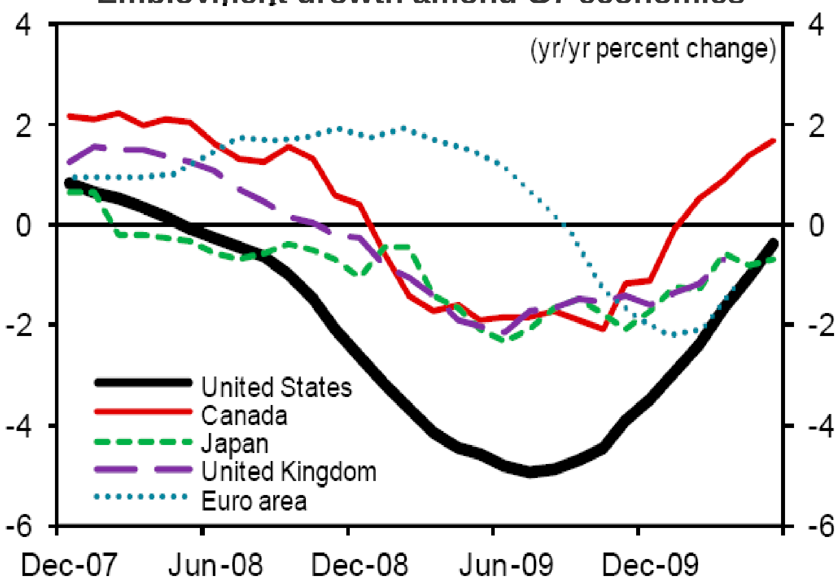
Source : IMF

Major Economies

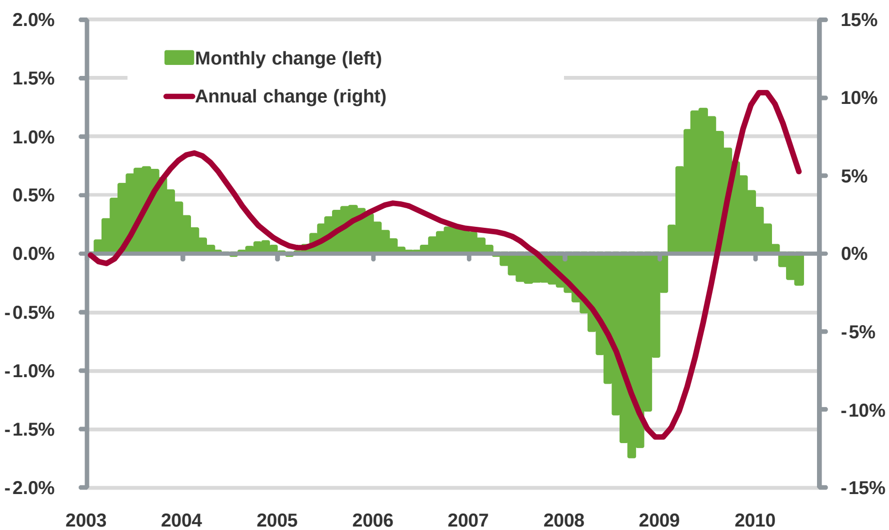
Jobless recovery and risk of contraction

- Canada is G7 champion for economic and employment growth
- U.S. lagging, unemployment rate nearly 10% vs. 8% in Canada
- Weak consumer demand, slowing investment, declining confidence
- OECD and PMI leading indicators point to risk of G7-contraction
- Risk of a new recession (probability higher in Europe?)
- Premature reduction in fiscal and monetary stimulus may increase the risk

Employment growth among G7 economies



OECD Composite Leading Indicators

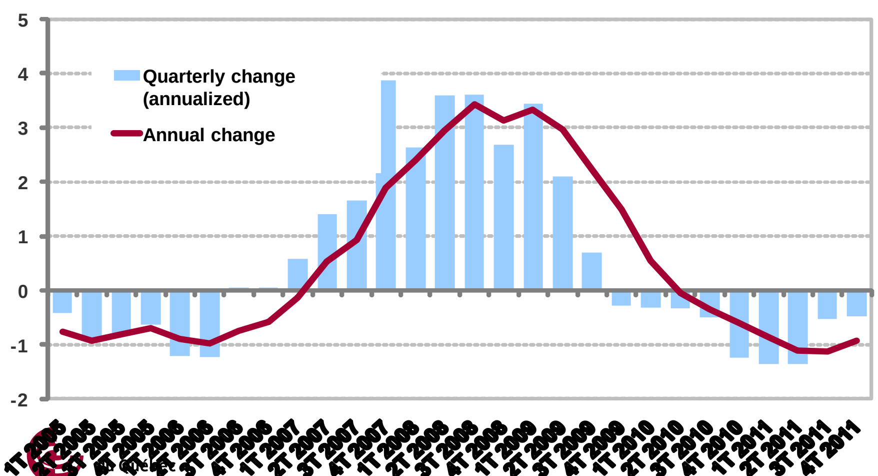


Source: Economic analysis and asset allocation strategies, Datastream

United States
Quantitative easing (QE2)

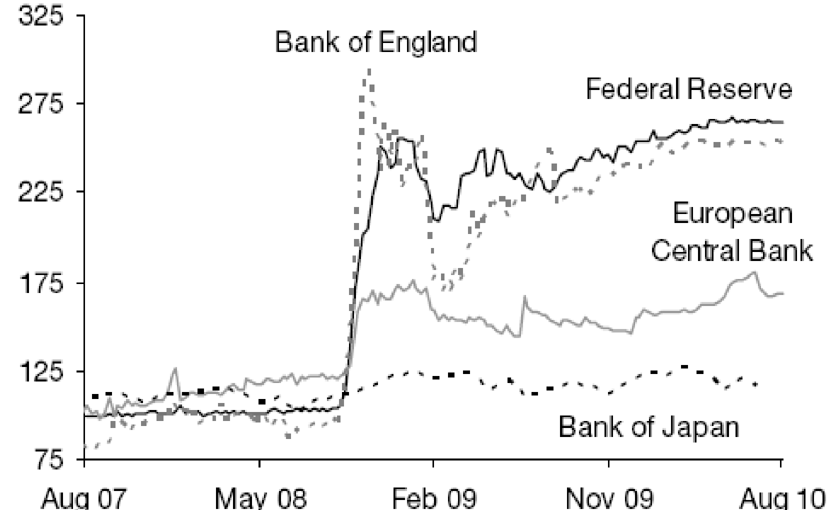
- Effects of fiscal stimulus fading: impact -1.5% of GDP in 2011
- Disinflation continuing with excess capacity: CPI around 1%
- FOMC opens the door to quantitative easing (QE2) in late 2010
- $1 trillion QE could lead to -30 bp rate reduction and +0.5% growth for 2011
- However largely anticipated, temporary impact, modest success, greater risk appetite
- Risk of delays in QE2 implementation (as the FOMC is divided) would create volatility

U.S. - Fiscal Policy Contribution to GDP Growth



Source: Economic analysis and asset allocation strategies , Datastream

Central Bank Balance Sheets - Total Assets
(Index, 06/2007 = 100)

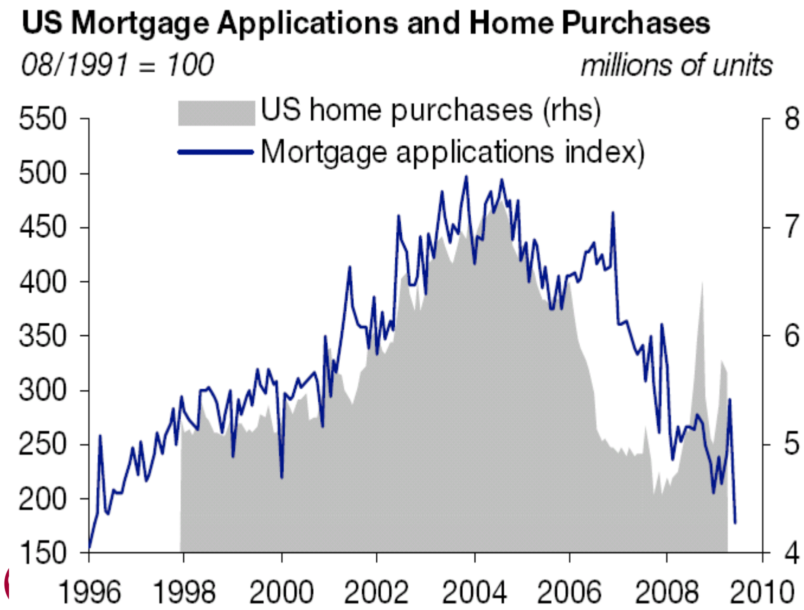


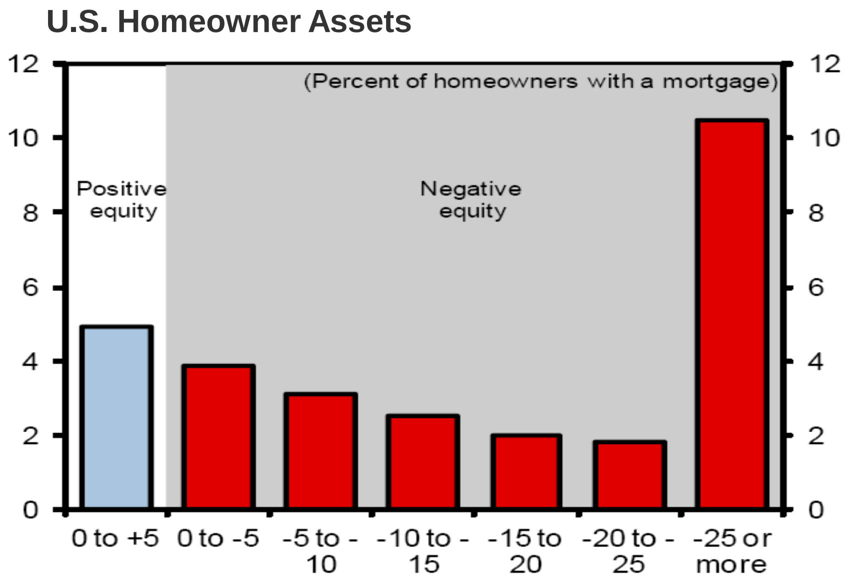
Source : IIF

United States

Real estate continues to stall

- Sales of existing homes and mortgage applications at their lowest since 1996
- Mortgage applications drop due to expiry of government incentives
- Home foreclosures = 5 million (2010) + 11 million (Negative Equity > 25%)
- Price decrease (?) and anticipated excess volumes
- Foregiveness of “negative equity” would translate into $600 billion writedown
- Fannie Mae and Freddie Mac are under pressure ($145 billion government support)





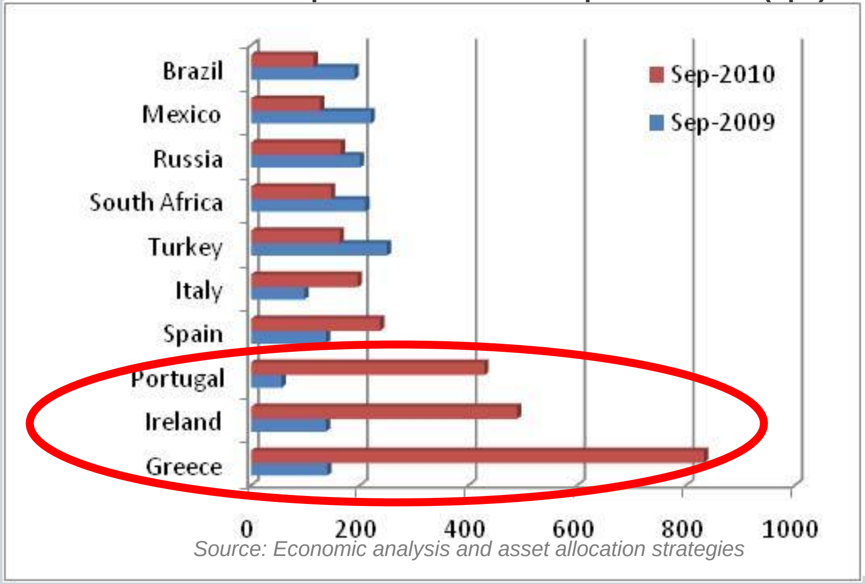
Source : IMF

Europe & The Euro

Periphery tension and tight credit conditions

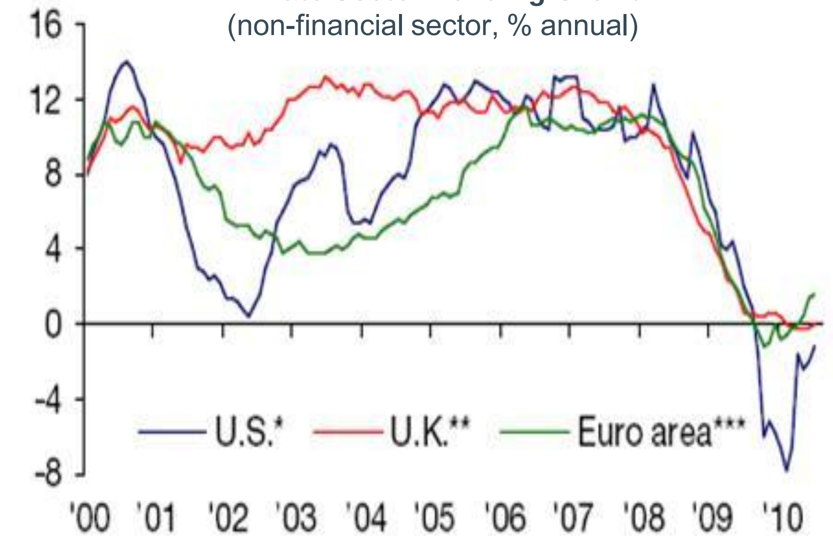
- Modest growth in 2011 with recession in periphery countries
- Support program for the Euro area very important (€ 750 billion)
- Institutional reforms to strengthen the Euro area (new stability pact)
- Further injections of capital into European banks (towards Basel-3)
- Strong euro and tight credit conditions do not support growth
- Unsustainable debt in Greece (CDS > 800 basis points)

Five-Year CDS Spreads - Current & September 2009 (bps)



Source: Economic analysis and asset allocation strategies

Private Sector Lending Growth
(non-financial sector, % annual)



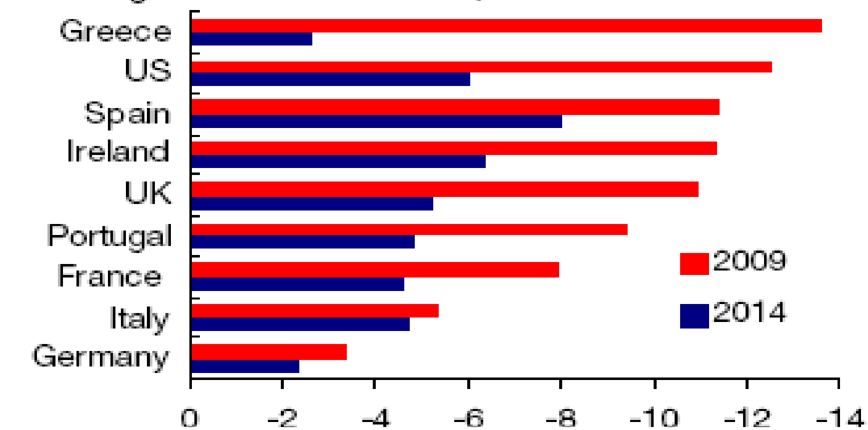
Source: IIF

Europe

Premature tightening could undermine growth

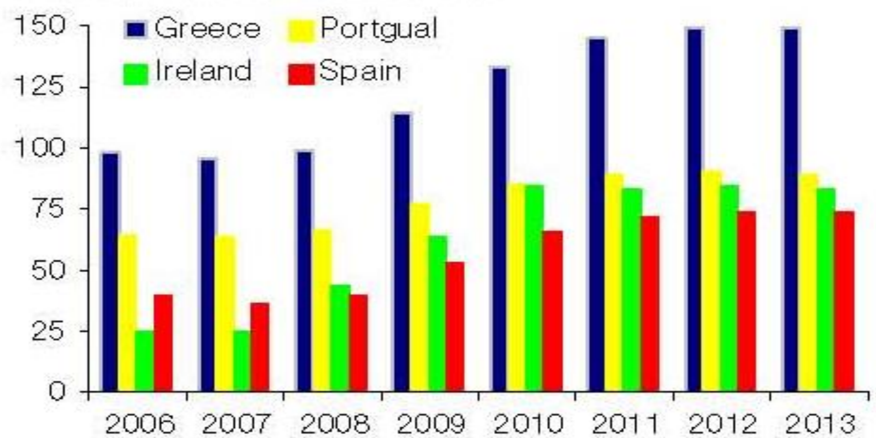
- Fiscal austerity measures will reduce growth in 2011
- Economic policy errors could lead to renewed recession
- Investment, productivity & structural reforms, weak Euro, lower savings may support growth
- IMF forecasts indicate fiscal deterioration until 2015 and problematic debt ratios
- Rating agencies may further downgrade periphery countries
- Undesirable resolution mechanisms: inflation or restructuring

Selected Mature Market Government Fiscal Deficits
General gov't financial balances, % GDP



Source: IIF (estimates)

Selected Euro Area Public Debt-to-GDP Ratios
General government debt, % GDP



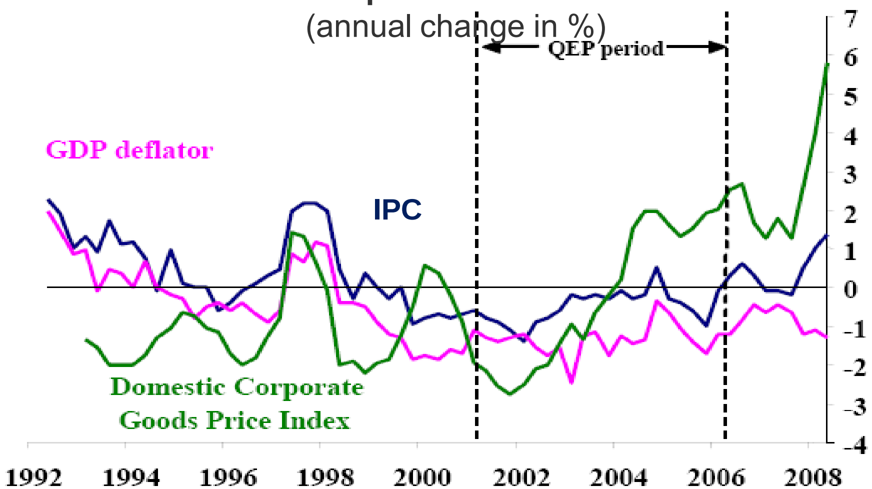
Source: IIF

Japan

Risk of deflation still present … after 15 years

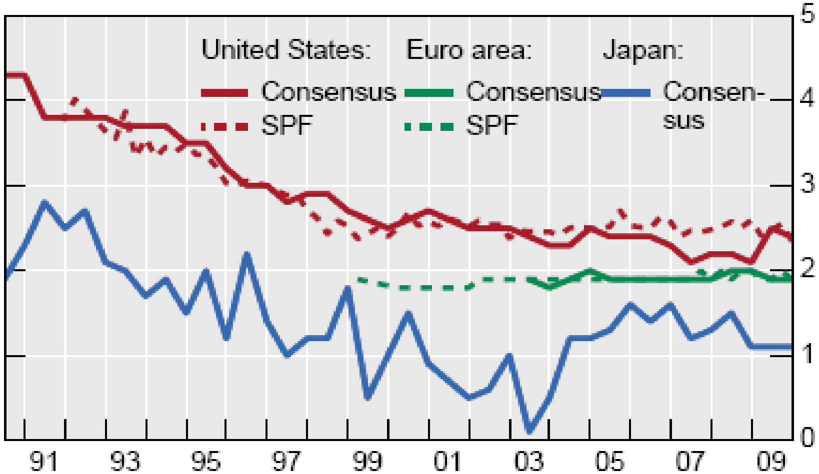
- The Japan experience: deflation is entrenched, the yen is not helping
- Surprise in the U.S.: Inflation below 1% despite QE
- Expectations of 10-year inflation below 2% for the U.S. and Canada
- Expectations of 1.5 % inflation for the Euro zone
- Faster monetary expansion in emerging markets, rising rates needed
- Impact of raw materials and stronger EM exchange rates on inflation
- Impact of financial asset valuations on inflation (vicious cycle)

Japan – Inflation
(annual change in %)



Source : Bank of England, 2009

Mid-term inflation expectations (10-year-ahead)[1]



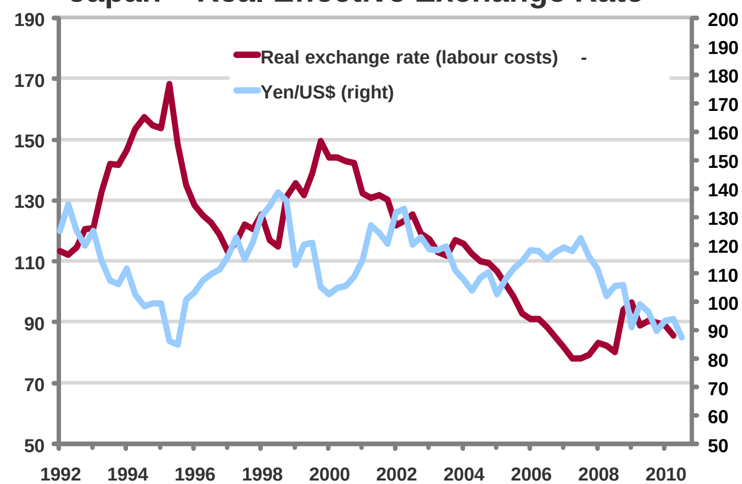
Source : OECD, 2009

Japan
Ineffective intervention to depreciate the yen

- On September 16, Japanese authorities intervened on the foreign exchange market to depreciate yen
  - Unilateral intervention totalled 2 trillion yen (US$24 billion)
- Immediate effects:
  - The surprise announcement caused the yen to depreciate by 3.3%, from 82.5 to 85.3
  - The Nikkei, composed of large export companies, rose by nearly 3% during the day
- Other interventions are expected since the current environment promotes an appreciation of the yen (such as quantitative easing in the U.S., risk aversion and deflation).

- The effectiveness of this intervention will be limited in the medium term, because:
  - the yen is a counter-cyclical currency
  - deflation leads to a depreciation of the real exchange rate
  - rate spreads with the U.S. and Europe are declining
  - historical analysis of Japanese interventions confirms inability to change the yen's basic trend
  - however, intervention is not sterilized this time.

Japan – Real Effective Exchange Rate



Source: Economic analysis and asset allocation strategies, Datastream

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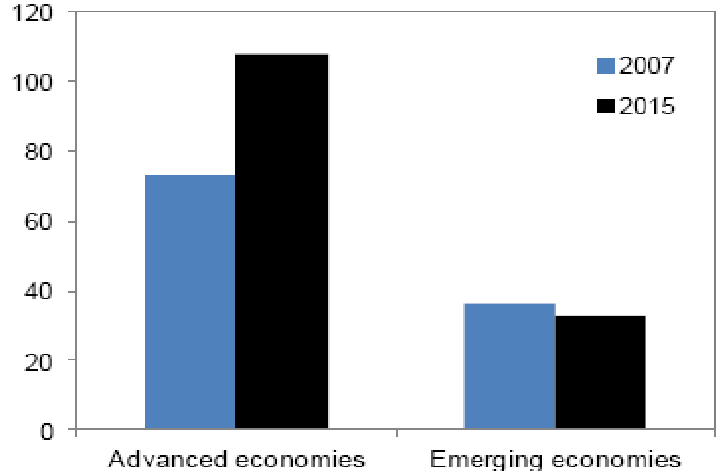
G7 Economies

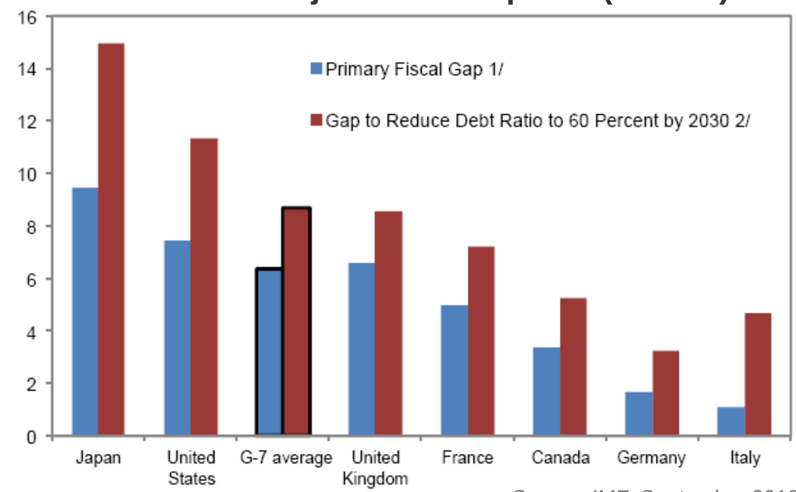
Very high sovereign and household debt

Net Sovereign Debt (% GDP)

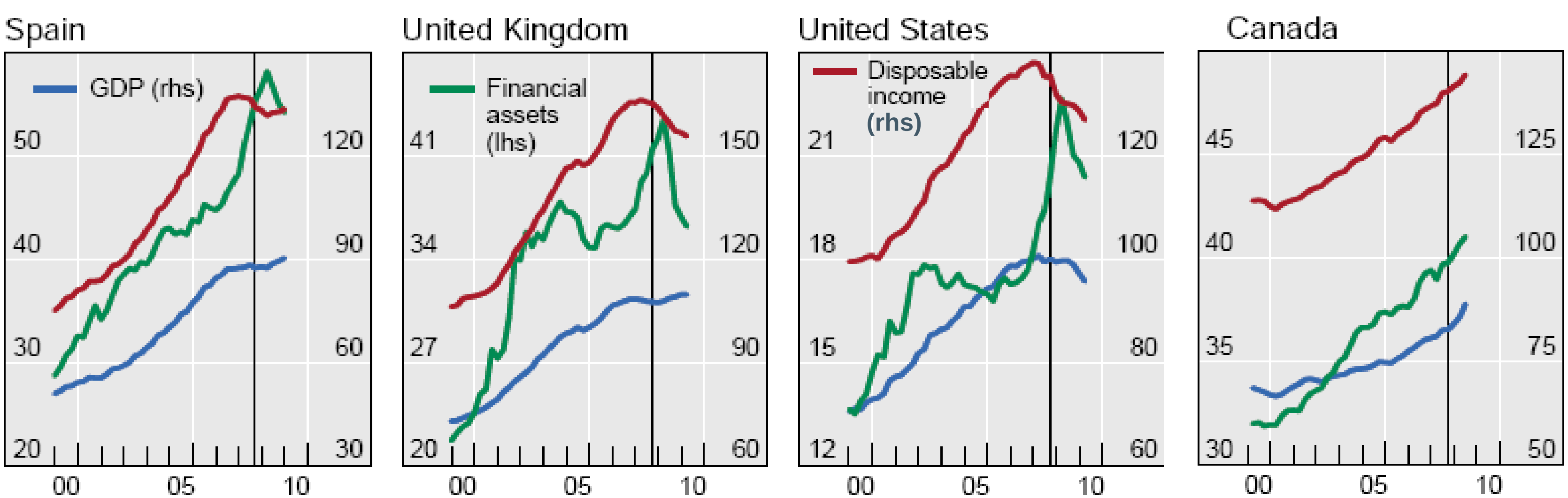


Source: IMF

Fiscal Adjustment Required (% GDP)



Source: IMF, September 2010



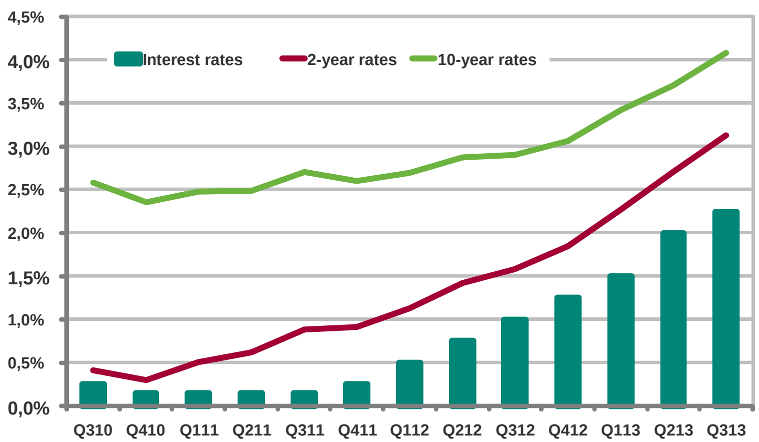
Household Debt (% GDP, % Financial Assets, % Income)

Source: OECD, 2010

Canada and United States

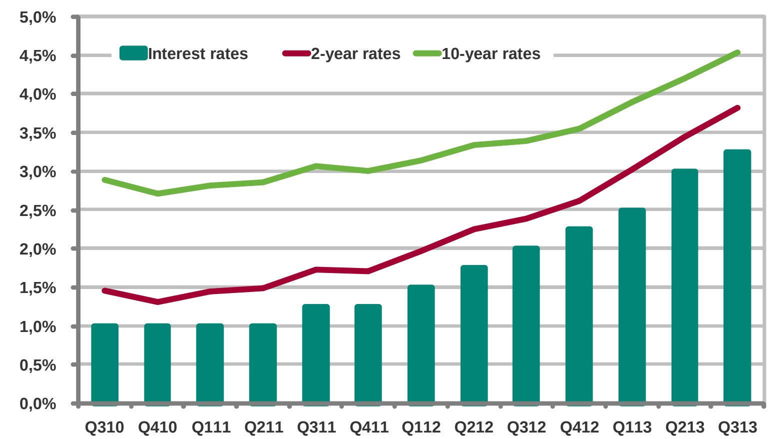
Forecasts for interest rates and equities

United States – Expected 2-Year & 10-Year Bond Yields



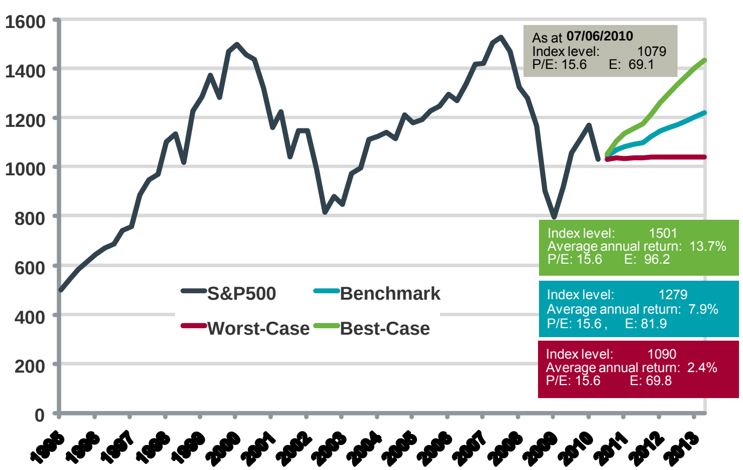
Source: Economic analysis and asset allocation strategies ,Global Insight

Canada – Expected 2-Year & 10-Year Bond Yields



Source: Economic analysis and asset allocation strategies ,Global Insight

S&P 500 – 3-Year Forecast Scenarios



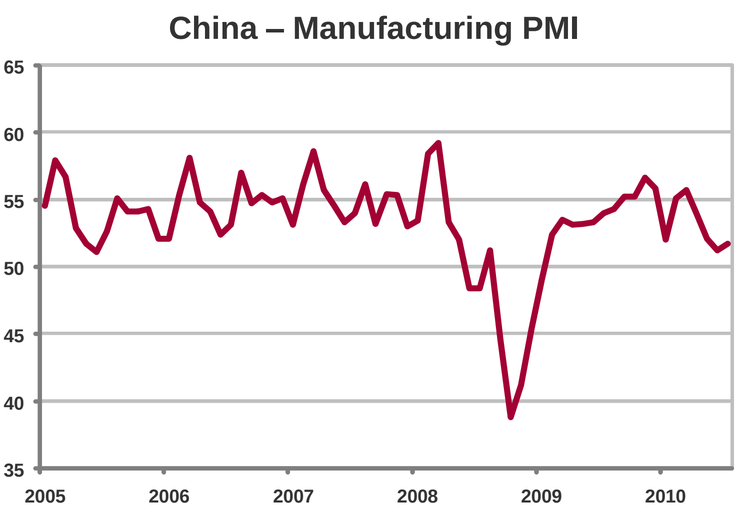
Source: Bloomberg, Economic analysis and asset allocation strategies ,

Correlation between Canadian bonds and equities (monthly yield of DEX and TSX performance

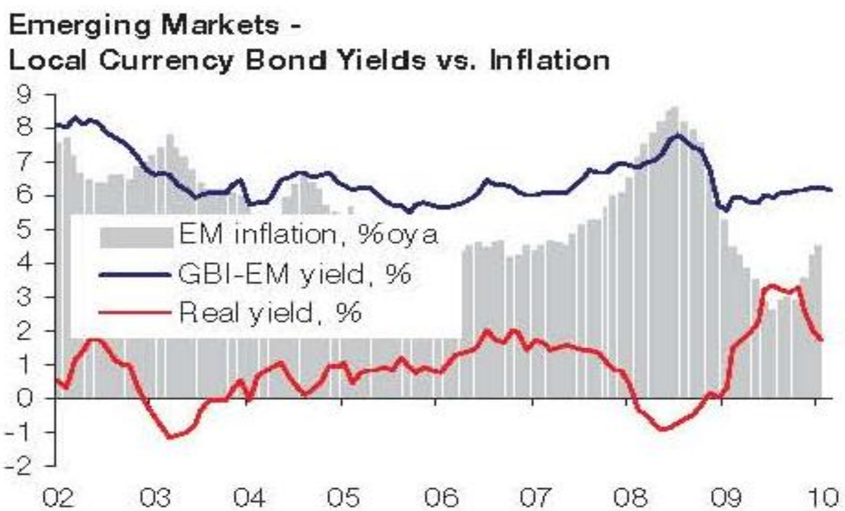
Source: Research and investment policy advice

Emerging Markets
On the verge of overheating

- **China:** Growth likely to moderate to 8%, fast credit growth of 30%, real estate sector slowdown, administrative controls, wage increases
- **India:** Nearly 10% inflation and 15% industrial growth suggest more rate hikes
- **Brazil:** Elections could lead to fiscal slippage and infrastructure program, massive new Petrobas issuance, possible Real intervention, 10% bond returns
- **Emerging Markets:** Attractive real interest rates, 6.8% local currency yield (GEMX index) while interest rates may rise to contain inflation of around 5%.



Source: Bloomberg, Economic analysis and asset allocation strategies

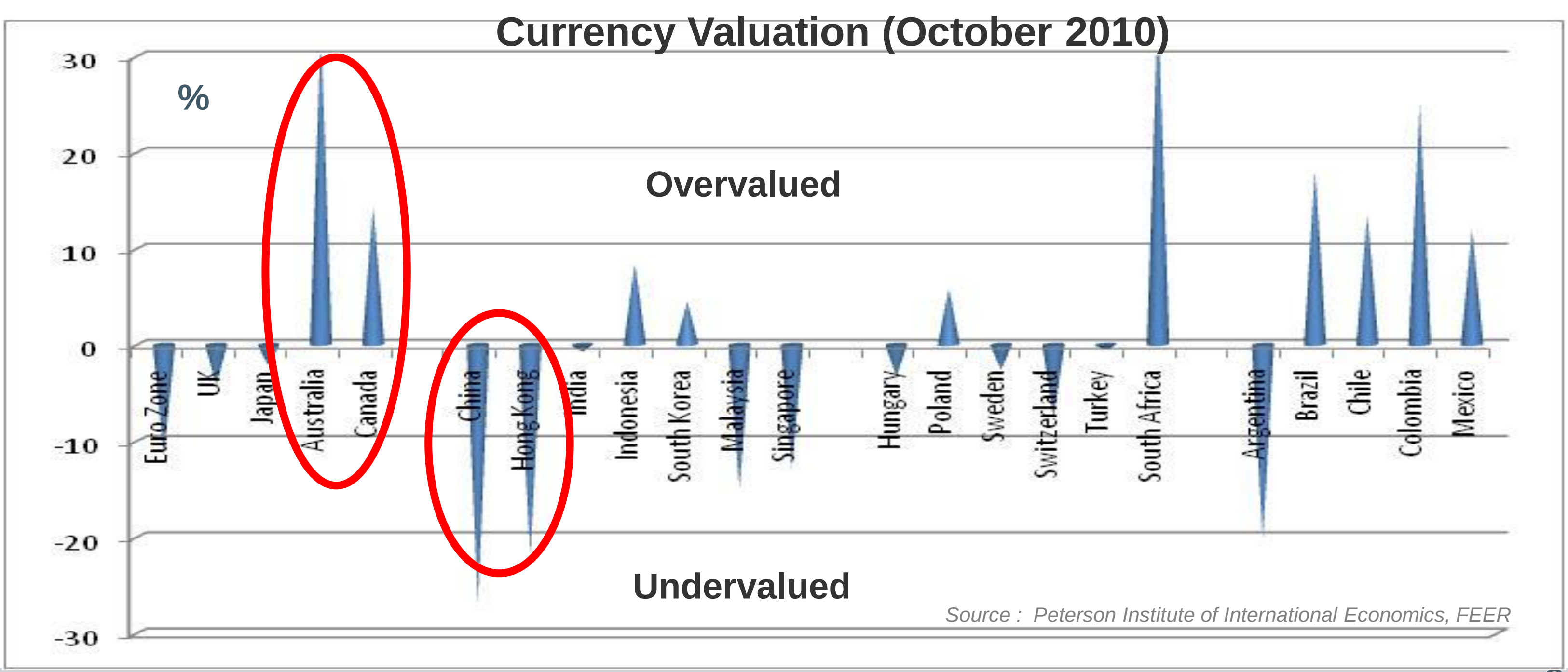


Source : IIF

Exchange rate

The future of emerging markets

- Global imbalances require further revaluation of emerging market currencies
- Fundamental models indicate undervaluation of several emerging countries
- Renminbi appreciation (3% in 2010) appears insufficient to avoid U.S. protectionism
- "Carry" strategies support Australia, Canada, Brazil and South Africa (+20%)
- Structural factors indicate a significant undervaluation of Asian currencies (-20%)



CDP Outlook 2011-2013

Benchmark Scenario

	GDP (% GROWTH)					CONSENSUS*	
	2009	2010	2011	2012	2013	2010	2011
World ($PPP)	**-0.7**	**4.3**	**4.0**	**4.1**	**4.2**	**3.7**	**3.1**
G7	**-3.5**	**2.5**	**2.2**	**2.3**	**2.6**		
BIC	**7.2**	**8.7**	**7.6**	**7.7**	**8.0**		
United States	-2.4	2.7	2.7	2.7	3.1	2.7	2.4
Canada	-2.5	3.1	2.5	3.2	3.4	3.1	2.5
Japan	-5.3	2.9	1.5	1.5	1.5	3.0	1.3
Euro Area	-4.1	1.5	1.6	1.7	1.9	1.6	1.4
Germany	-4.9	3.0	1.7	1.8	1.9	3.2	1.9
United Kingdom	-4.9	1.4	1.9	2.3	2.6	1.5	2.1
China	9.1	9.5	8.0	8.2	8.6	9.9	9.0
India	7.7	8.1	8.2	8.0	7.9	8.3	8.3
Brazil	-0.2	6.1	4.8	5.0	5.1		

Sources: Economic analysis and asset allocation strategies, IMF, Global Insight, Consensus Forecasts

	INFLATION (%)					CONSENSUS	
	2009	2010	2011	2012	2013	2010	2011
World ($PPP)	**2.4**	**3.3**	**3.2**	**3.3**	**3.1**	**2.6**	**2,5**
G7	**-0.1**	**1.2**	**0.7**	**1.5**	**1.7**		
BIC	**3.1**	**5.5**	**4.9**	**4.5**	**3.8**		
United States	-0.3	1.5	0.9	1.8	2.0	1.6	1.4
Canada	0.3	1.4	1.8	1.9	2.0	1.7	2.1
Japan	-1.4	-1.0	-1.3	-0.4	0.0	-0.9	-0.3
Euro Area	0.2	1.1	1.5	1.7	1.9	1.5	1.6
Germany	0.3	0.8	1.1	1.4,	1.5	1.1	1.4
United Kingdom	2.2	3.0	1.8	1.9	2.5	3.1	2.6
China	-0.7	3.0	4.2	3.8	3.2	3.0	3.1
India	10.9	11.3	6.7	6.0	5.0	9.5	6.8
Brazil	4.9	5.2	4.6	4.3	4.0		

Sources: Economic analysis and asset allocation strategies, IMF, Global Insight, Consensus Forecasts

THANK YOU

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DANGER OPPORTUNITY

MANAGING RISK

Caisse de dépôt et placement du Québec

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