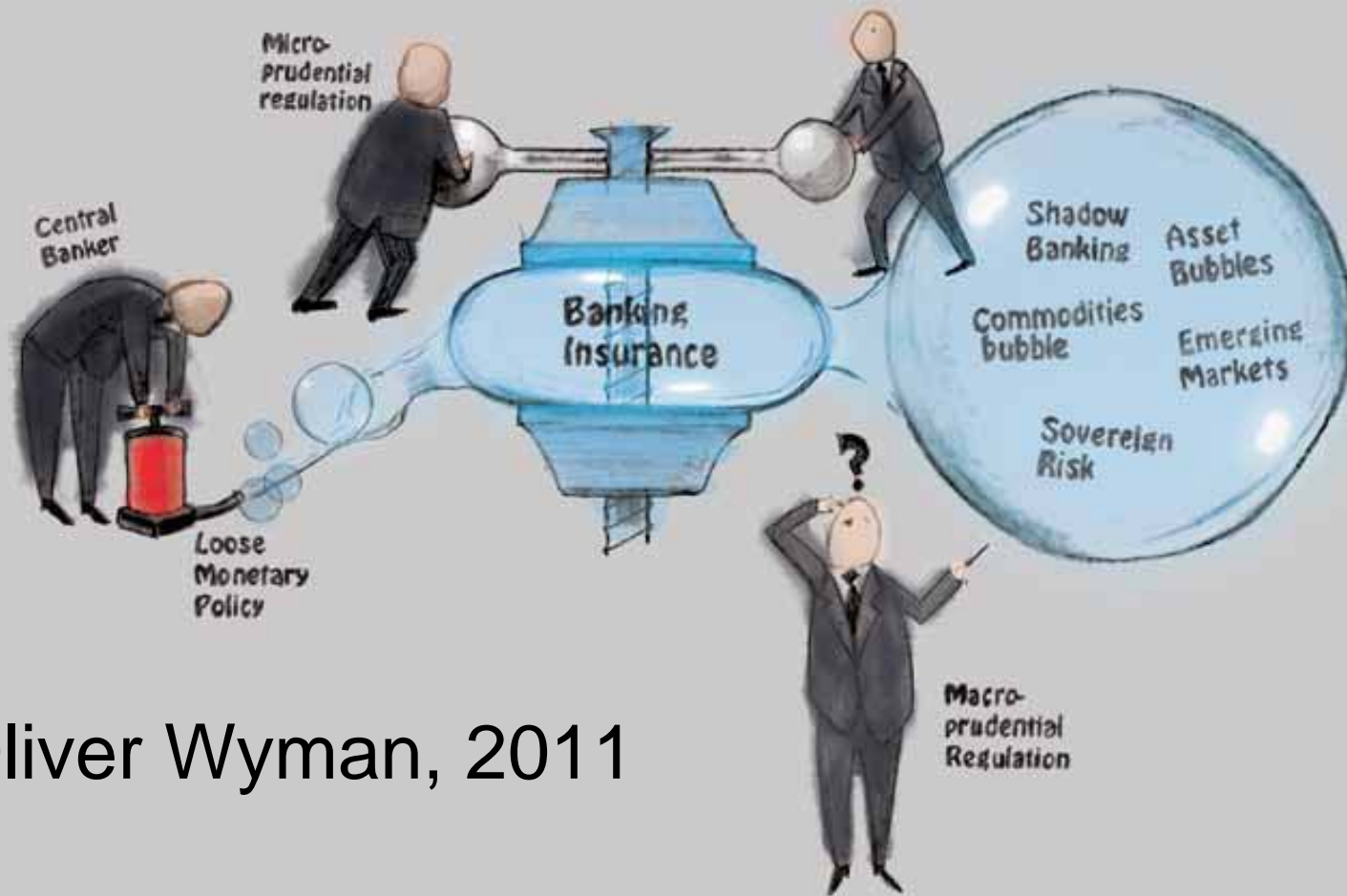


The Financial Crisis of 2015: *An Avoidable History*



Oliver Wyman, 2011

Introduction

- Aim of the report: to encourage readers to think about the future financial system using several scenarios rather than basing decisions on a single predicted course of events
- 2 main sections:
 - How plausible is this 2015 crisis scenario?
 - Three main drivers:
 - The resurgence of shadow banking
 - The formation of emerging asset bubbles
 - Sovereign debt restructuring in developed market
 - What can financial institutions and regulators learn from our pessimistic scenario?
- In a study of emerging markets crisis for the IMF in 1999, Graciela Kaminski observed:

Crises tended to be “preceded by an explosion of international lending to emerging markets at very low real interest rates” and that the crisis later erupted “as the industrialized countries engaged in extremely tight monetary policies.” The sudden “switch to contractionary monetary policy provoked a sharp rise in real interest rates, profound recessions in industrial countries, and plummeting commodity prices.”

The Resurgence of Shadow Banking

- Shadow banking: credit intermediation, maturity transformation, and liquidity transformation that takes place outside of the deposit-taking institutions that have access to central bank liquidity and whose depositors receive government guarantees (or deposit insurance)
 - Driven by “regulatory arbitrage,” or the desire to hide leverage outside of the official banking sector to avoid regulatory capital requirements
 - In the past crisis, these off-balance sheet activities were forced into the light as government support for money market funds could not allow this section to fail
 - Response: increase shadow banking regulation
 - Ultimate problem: how is the regulation possible when there is a “nearly endless supply of nooks and crannies to hide in”
- As regulation on banks increases, risk will be squeezed out of the transparent and manageable banking system into shadow banking
- The interconnectedness between the two will increase as the new rules create a greater incentive for regulatory arbitrage
- Solution: loosen the “regulatory vice” on the banks

Shadow Banking Graphs

Since the 1980s, shadow banking has grown even more rapidly than the official banking sector

Exhibit 1: Shadow Bank Liabilities vs. Traditional Bank Liabilities (US\$ TN)

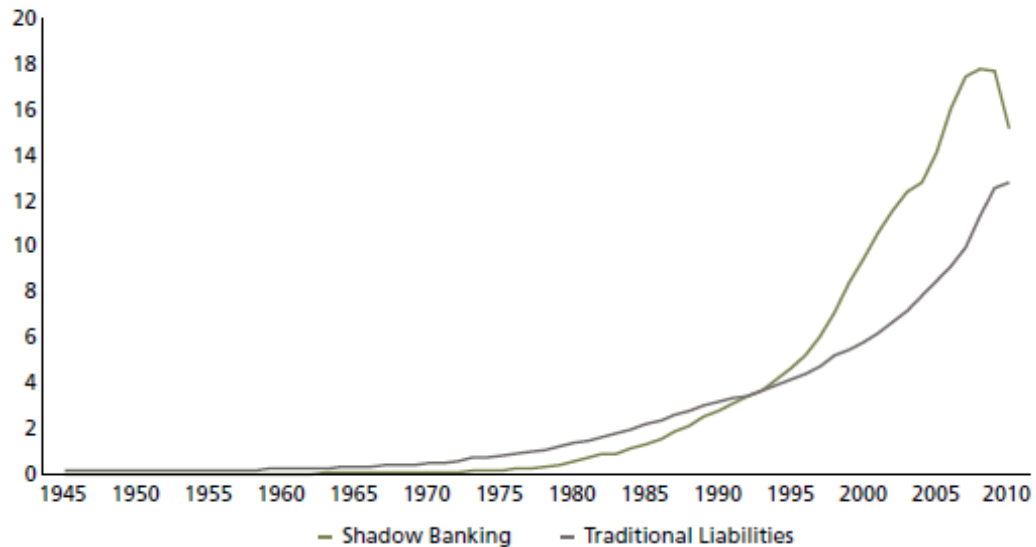
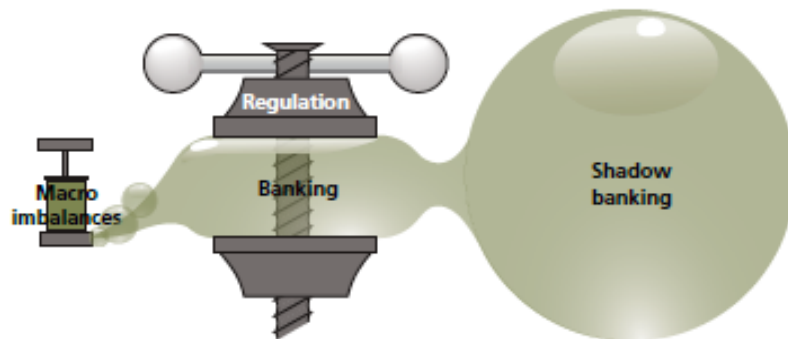


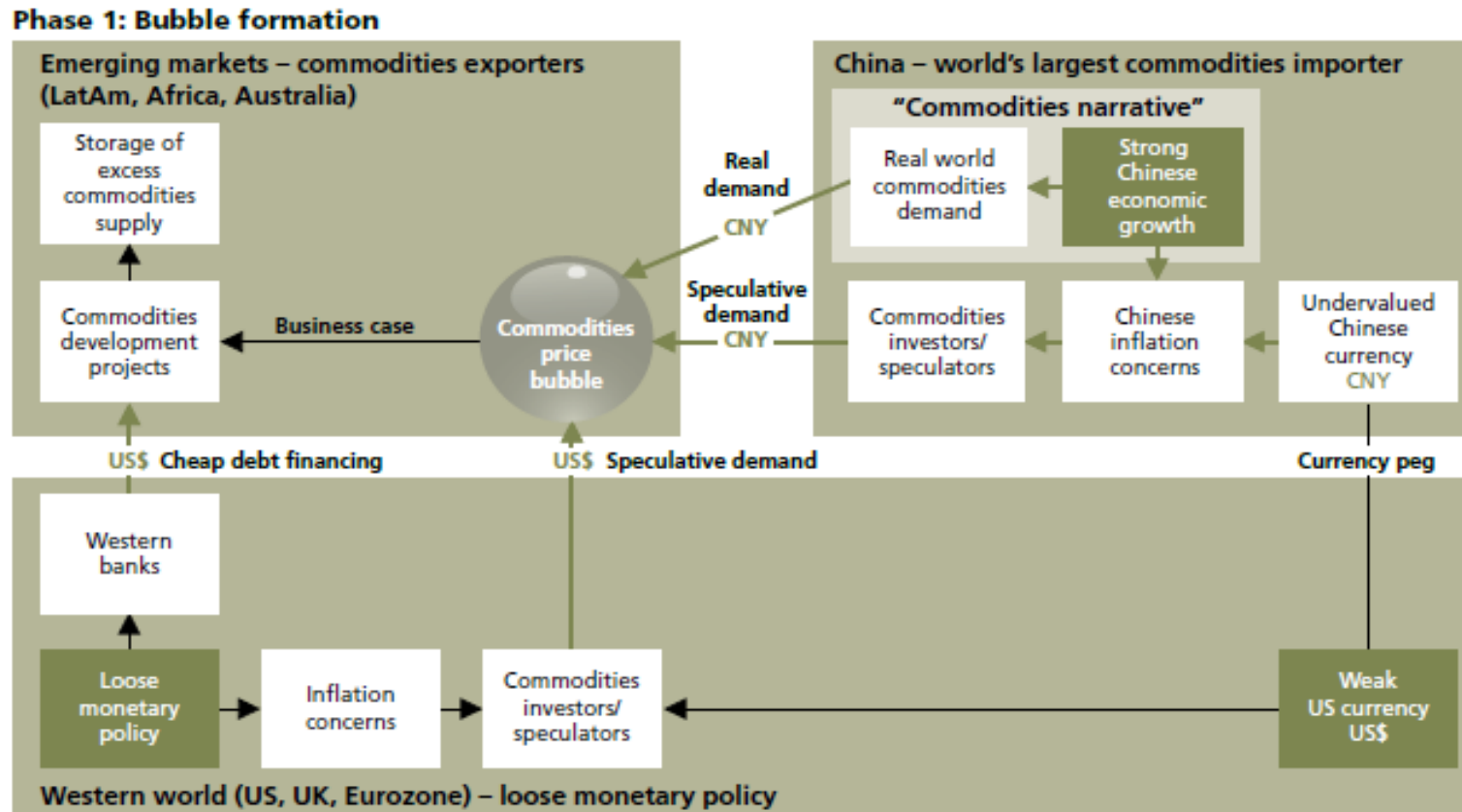
Exhibit 2: The regulatory squeeze on banking



Source (above): Flow of Funds Account of the United States as of 2010:Q1 (FRB) and FRBNY. Reprinted in Wyman, Oliver. *The Financial Crisis: An Avoidable History*, 2011.

Source (left): Wyman, Oliver. *The Financial Crisis: An Avoidable History*, 2011.

Emerging Market Access Bubbles- Phase 1



Source: *Currency and Banking Crises: The Early Warnings of Distress*, Graciela Kaminsky, IMF Institute 1999. Reprinted in Wyman, Oliver. *The Financial Crisis of 2015: An Avoidable History*, 2011.

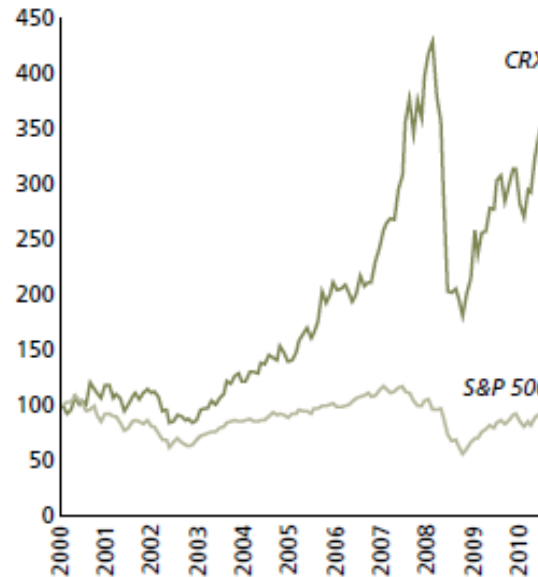
The Commodities Rush

- Increasing commodities prices are creating inflationary pressure in China, which is exacerbated by China holding its currency artificially low by pegging it the US Dollar
- The “commodities rush” is demonstrated here, which shows the asset allocations of European and Asian investors
- A recent investor survey by Barclays also found that 76% of investors predicted an even bigger inflow into commodities in 2011

Exhibit 4: The Commodities Rush

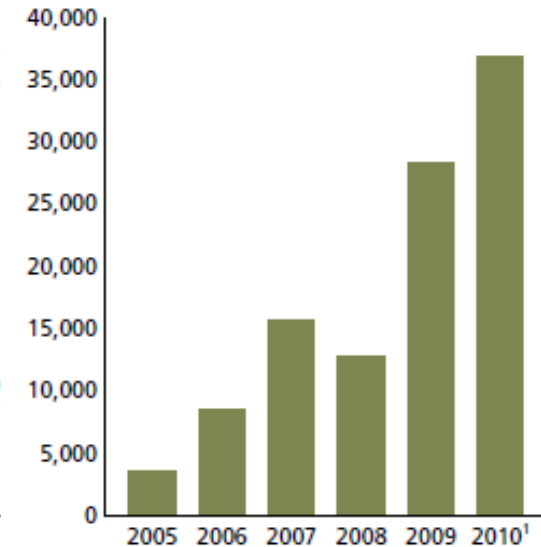
CRX index vs. S&P 500 (Market value of equity of commodity-related companies)

Index: 2005-05-31 = 100



European and Asian mutual fund investments in commodities

€MM

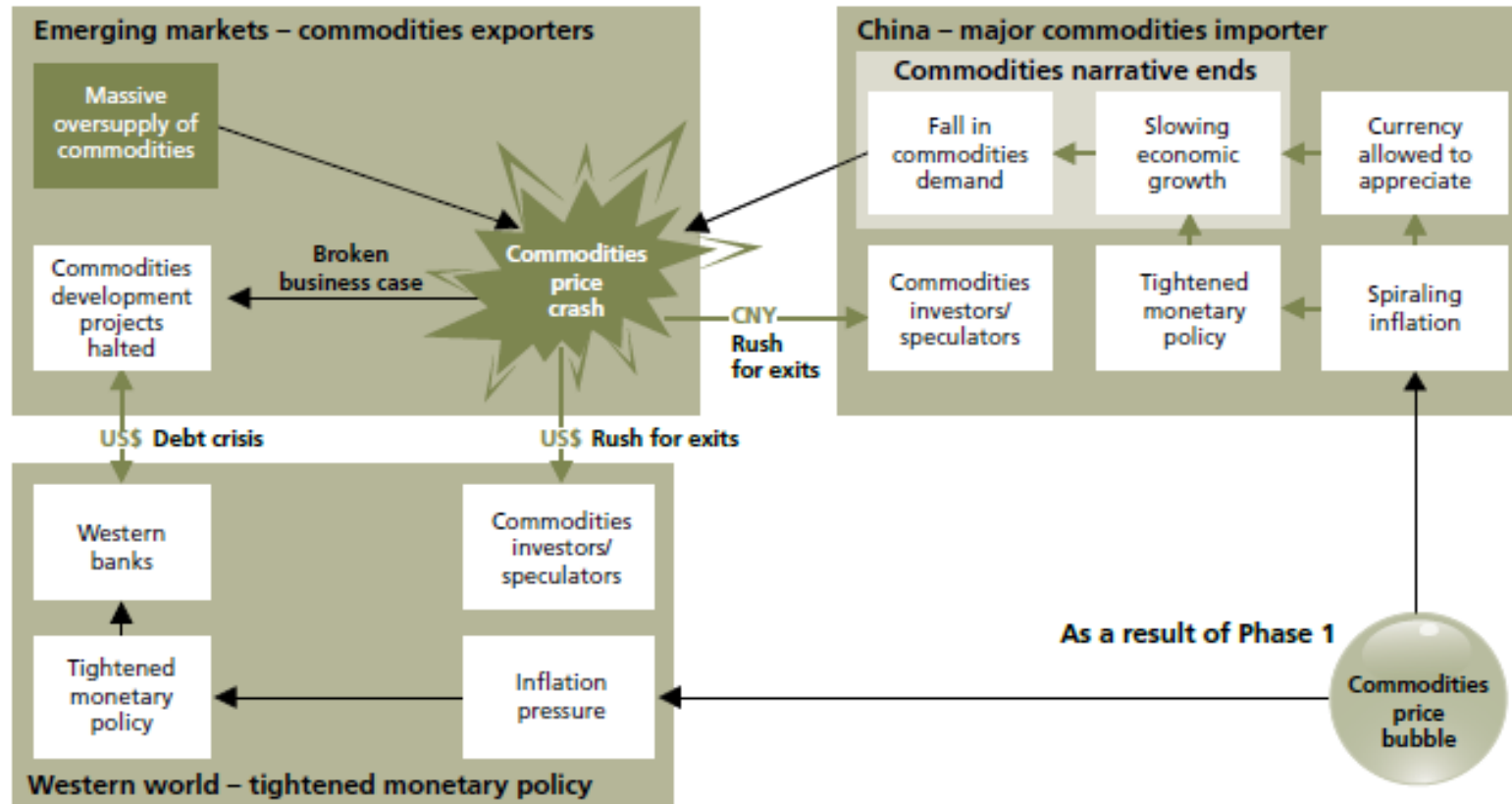


1. Based on Q3 data

Source: Bloomberg, FERI, Oliver Wyman analysis. Reprinted in Wyman, Oliver. *The Financial Crisis of 2015: An Avoidable History*, 2011.

Emerging Market Access Bubbles- Phase 2

Phase 2: Bubble bursts – commodities price crash

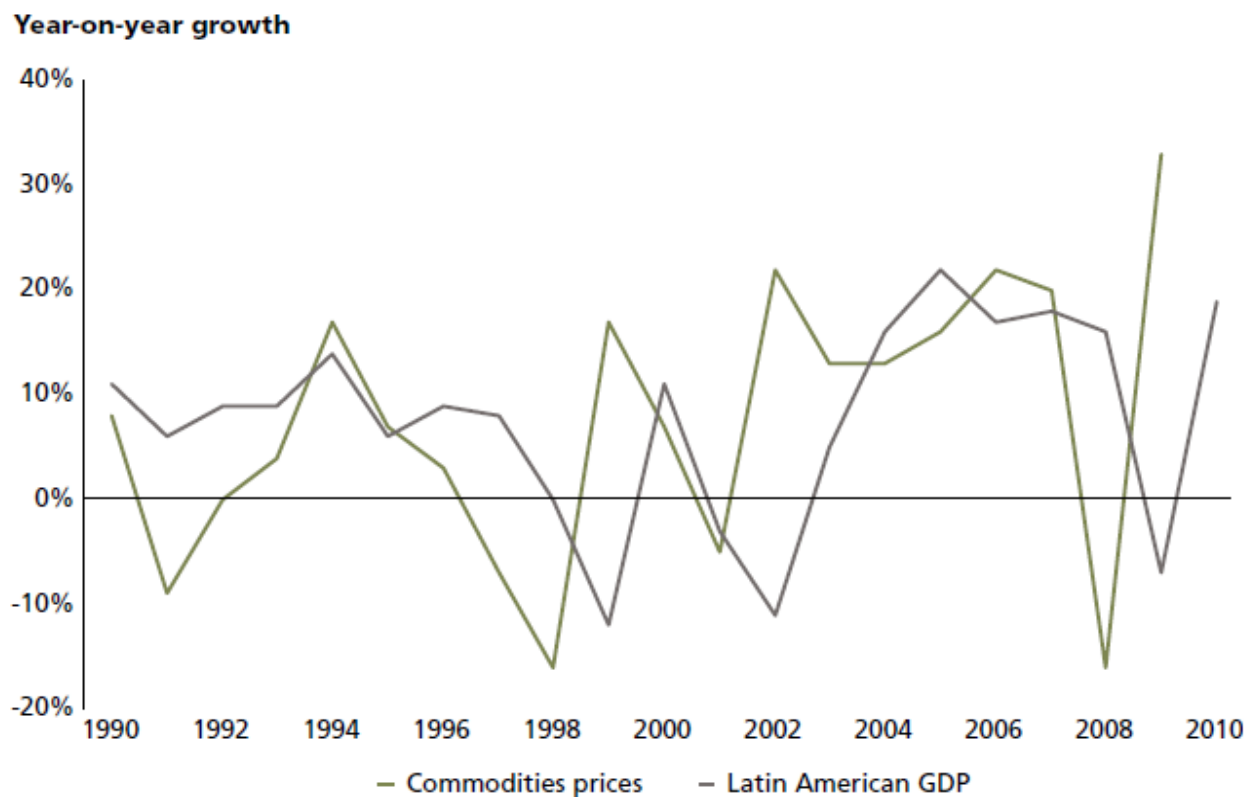


Source: *Currency and Banking Crises: The Early Warnings of Distress*, Graciela Kaminsky, IMF Institute 1999. Reprinted in Wyman, Oliver. *The Financial Crisis of 2015: An Avoidable History*, 2011.

How Big Could the Losses Be?

Commodities prices are correlated with the broader economic growth of economies that are big commodities producers. The chart below demonstrates this for Latin America.

Exhibit 6: Correlation between commodities prices and Latin American GDP

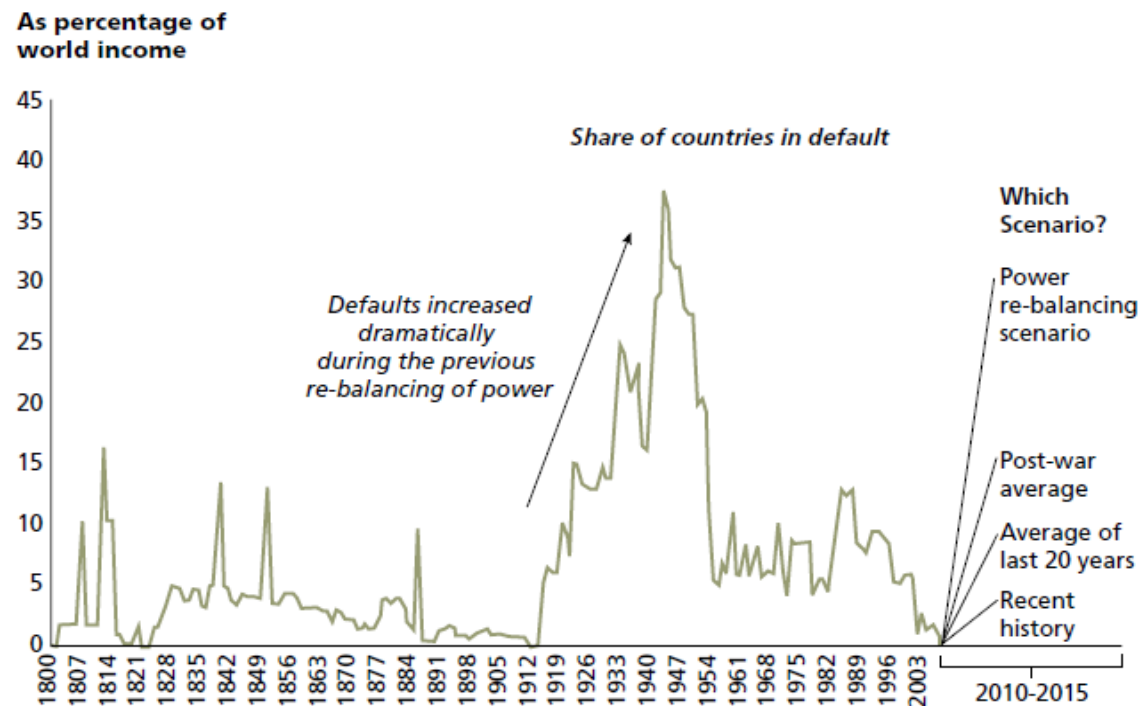


Source: IMF commodities price and GDP data; Oliver Wyman analysis. Reprinted in Wyman, Oliver. *The Financial Crisis of 2015: An Avoidable History*, 2011.

Sovereign Debt Crisis

- Western sovereigns do not have the debt servicing capacity to absorb another recession, leading to their debt restructuring
- The graph shows that while sovereign defaults in recent history have been contained to a few small countries, the longer term history of sovereign debts is very different

Exhibit 7: Historical sovereign default/restructuring events



Source: Reinhart, Carmen M and Rogoff, Kenneth S; *This Time is Different: Eight Centuries of Financial Folly*. ©2009 Princeton University Press. Reprinted by permission of Princeton University; Oliver Wyman analysis. Reprinted in Wyman, Oliver. *The Financial Crisis of 2015: An Avoidable History*, 2011.

4 Scenarios for the Potential Evolution of Sovereign Debt

Scenario severity (sovereigns in default or restructuring as a percentage of world GDP)	Example scenario¹
Benign case Recent history continues 1-2%	Default events limited to very minor economies such as Iceland
Base case Average from last 20 years 3-4%	Defaults limited to smaller Eurozone economies (e.g. Ireland, Greece and Portugal) and the occasional emerging market sovereign
Bad case Return to post-war average 8-10%	Some of the bigger names in the Eurozone caught in the contagion. China's slowing economy causes instability and sovereign problems in the Asia Pacific region
Worst case Global power re-balancing 20% +	Doubts about the ability of the world's most indebted economies (US, UK, Japan and Eurozone) to service their debt causes a global sovereign debt crisis

1. The countries named in our examples are intended merely to give examples of the types of countries that might get caught if default rates rise to the levels specified in our four scenarios. In reality, if default rates rise to, say, 10%, the exact list of countries that would make up that 10% is difficult to predict; the reader should not attach too much weight to the names used in our example.

Source: Wyman, Oliver. *The Financial Crisis: An Avoidable History*, 2011.

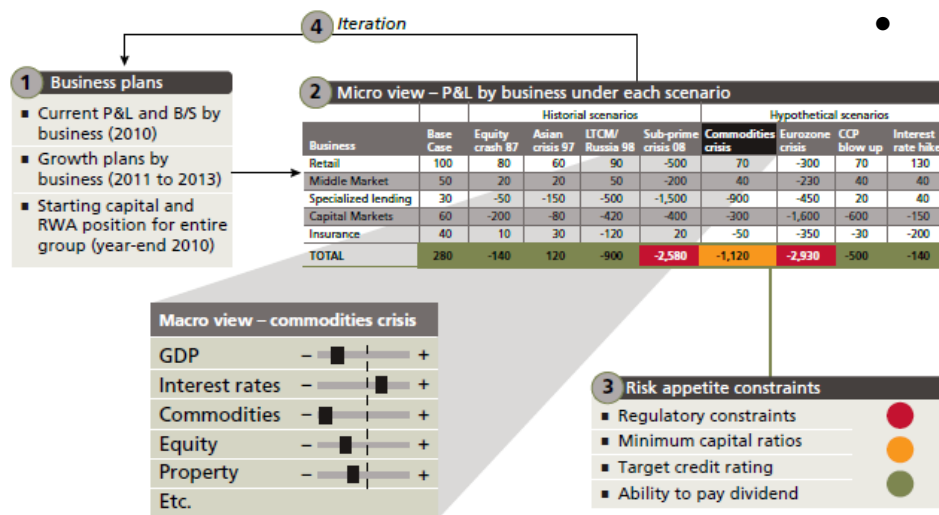
What can be learned from this scenario?

Ideas for regulators

- Prepare for the crisis
- Do not force risk out of sight
- Focus on scenario analysis and stress testing
- Follow the money
- Remove subsidies

Ideas for Financial Institutions

- Let the risk capabilities shape your strategy
- Plan with scenarios
- Diversify in a new way
- Lead rather than follow
- Follow the money
- Be patient
- Accept that the world has changed



An example of scenario-based planning framework

Source: *The Financial Crisis of 2015: An Avoidable History*. Oliver Wyman, 2011.