



Time bomb?

The future of Financial Services



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Executive Summary

Why you should read this report

Financial services have become a major component of western society. The key question for financial services professionals as well as their customers is: is this a bubble? Is it sustainable? What will the industry look like in 10, 20, 40 years time?

This report paints four scenarios which are built on the best forecasts we have for 2050 – in terms of population, the use of technology, etc – and additionally explore the imponderables – how will society organise itself, and the role of financial services within these worlds.

The aim is to bring out the implicit assumptions that guide the decisions of industries and organisations. These are difficult to recognise, since in times of smooth growth they are clearly successful. But in turbulent times, as financial services have faced since 2008, it is important to recognise these assumptions in order to see if a characteristic that has added competitive advantage in the past continues to do so as markets change? Scenarios provide a non-threatening framework for this discussion.

Senior managers spend much of their time on current, internal issues. One study of the Fortune 500 companies found that senior managers only spend on average 2-3% of their time collectively discussing strategic issues. Organisations that regularly use scenarios believe that they support decision making six months earlier than the competition, so making best use of this scarce time.

Using scenarios allows people to recognise the future world built into their plan and explore the implications of other possible—or probable—worlds.

So, you should read this report

- If you work in financial services
- If you are affected by financial services through banks or insurance
- If you are interested in thinking about our future.

How to use this report

The report can be read as a narrative.



After the Introduction, Chapter 2 outlines the global forces which will affect the next decades and beyond. Chapter 3 is a description of some of the implications of these global drivers for 2030 and 2050.

In Chapter 4 we develop four global scenarios, which explore the questions:

Will the Washington consensus¹ survive to 2050? What could cause it to break? And if it does, what will replace the international organisations and the values of the Washington consensus?

In Chapter 5, we describe the thinking behind the terminology which will be used in Chapter 6 to describe financial services to 2050, in each of the scenarios.

We end with, in Chapter 7, capturing some of the ideas from the study which challenged our current models, ranging from the purpose of financial services in 2050 to the forces underpinning the location of financial services hubs.

Alternatively, the reader can skip to Chapter 7, “What has surprised us” and use the signposts in that chapter to go to the sections which seem interesting.

Or the report can be used as back up to workshops designed to, for instance,

- compare an organisation’s world view with each scenario, to bring out the **implicit assumptions**. Then, by looking for early indicators of each scenario, in their competitive environment, the organisation is better prepared for changes in markets, competition and customer behaviour.
- test an organisation’s existing strategies against the four scenarios – though they are written as for 2050, change happens quickly once it starts. The purpose is to look for **options which are robust** in all scenarios; and to set up a watch for the early indicators which would flag a particular scenario, with its opportunities and threats. A sample agenda for a short workshop to do this is outlined in Chapter 1.7.

To aid in this, we provide a briefing pack on the Z/Yen web site (L3Fworkshop.ppt)

¹ <http://www.cid.harvard.edu/cidtrade/issues/washington.html> for a discussion of this: we use Washington consensus to mean the collection of policies identified by (Rodrik, 2001) which include for instance financial codes and standards, and social safety nets.



1. Introduction

1.1 The Long Finance Foundation

Long Finance was established in 2007 by a group of motivated individuals including Professor Michael Mainelli, and is supported by Z/Yen Group and Gresham College. The initiative aims to improve society's understanding and use of finance over the long term. Long Finance runs four programmes (London Accord, Financial Centre Futures, Meta-Commerce and Eternal Coin) as well as hosting and promoting a series of lectures, discussion events and research publications. The initiative began with a question – “when would we know our financial system is working?” – and seeks to challenge a financial system that revolves around short-term thinking and practices. Issues tackled so far include the future of mortgages, the history and future of coinage, a systems view of the credit crunch, and the nature of financial services clusters. Long Finance is online at www.longfinance.net.

Scenarios are mental models of possible futures. The Long Finance Forum of Futurists (L3F) has formulated scenarios for the future of financial services to create a shared language and context for exploring the many ideas about the future of finance.

1.2 Other work on the future of financial services

The financial crisis since 2008 has spurred a number of studies of the future of financial services. Two in particular have reflected the stresses of the financial crisis starting in 2006.

The World Economic Forum produced a report in 2008, developing scenarios for financial services to 2020. These explored the effect of two uncertainties – the pace of the shift of geo-economic power to the emerging world, and the degree of international co-ordination on financial policy. The report (WEF, 2008) sees four possible worlds in 2020:

- Financial regionalism, in which three major blocs are created
- Re-engineered western-centrism, a homogeneous world
- Fragmented protectionism, with a race to the bottom dynamic
- Rebalanced multilateralism, in which international co-ordination works even though the balance of power shifts rapidly.

McKinsey published “What’s next for global banks” in 2010, looking at the impact of the crisis of 2008 on global banks in western and emerging markets. They argue that crisis has considerably ratcheted up economic volatility, putting an end to the period some have dubbed “The Great Moderation.” To mitigate these longer-term structural changes, they suggest that banks should take steps such as reconfiguring and empowering regulatory strategy, placing big bets on the fastest-growing areas, and rethinking liquidity to treat it like other scarce resources that the corporate center manages, (McKinsey, 2010).



We also had the benefit of the output from a stimulating discussion on the future of financial services at SIBOS in Amsterdam in 2010. This highlighted the changing nature of trust and value in the 100 year timeframe.

We felt that taking a look further ahead than 2020 would allow us to anticipate that the shift of geo-political power – dominating both the studies above – would have taken place. The question of whether military power in its current form is important, and where it is held, is more difficult to assess. And by explicitly considering the world order that provides a context for financial services beyond the current horizon, we could start to explore paradigm changes.

1.3 Choosing a timescale

We have chosen 40 years, to 2050, as our timescale. This takes us beyond the timescale in which pure extrapolation from the present is likely to provide insights, and allows us to explore a number of potential economic, social and technological challenges and discontinuities. These discontinuities mean that individuals will have choices about their life that have never before been dreamed of, and so opening up potentially new paradigms for the economy and society.

The main differences in working with a long term horizon rather than the typical five or ten years are:

- the need to think about cycles of activity – human and environmental – and their interaction over time
- the importance of making a timeline for the development of scenarios explicit in order for the long term scenarios to have credibility
- the need to look at underlying cultural factors and how they might change over two generations
- the need to look backwards for twice as long as forwards to scope the extent of potential changes, in our case to 1930
- the possibility that many of our political and economic assumptions based on today are no longer valid: there may be a paradigm shift.

1.4 Looking 40 years ahead

Forecasting

Forecasting is the process of making statements about events whose actual outcomes (typically) have not yet been observed, <http://en.wikipedia.org/wiki/Forecasting>

Technology and demographics are two areas where forecasting is important. Technology availability in the market place up to ten years ahead is forecast from knowledge of developments in the laboratories; while demographics up to 50 years ahead are derived

from knowledge of birth rates, medical advances and death rates.

While the type of technology capability which will be available in the market place can usually be forecast about ten years ahead, it is worth remembering that adoption of technology often takes paths surprising to the technologist – as in the take up of text messaging. And the next technology generations of ICT and biotechnologies will be subject to consumer demands and pressures, unlike previous post-war generations which were largely part of “big science”. And now that people are so mobile, with migration of large numbers of people taking place across national borders, demographic forecasts are much more uncertain in any specific geography, even if forecastable on a global scale.

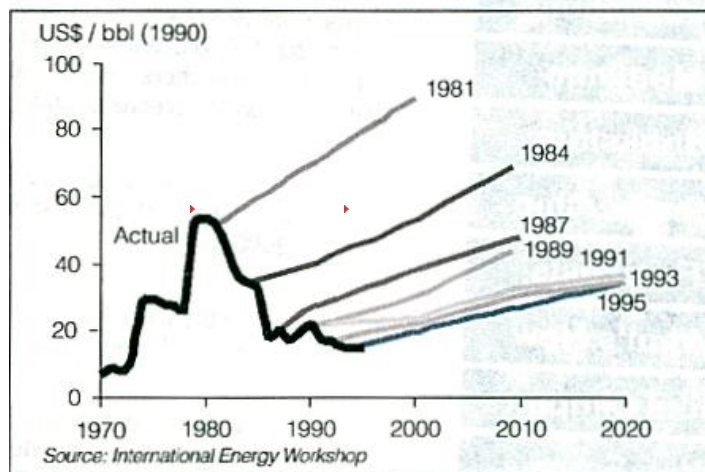
So even in these previously forecastable domains, the degree of uncertainty is growing.

Do the same guidelines apply to forecasting in other domains? While an iterative process of expert consultation such as Delphi (Rowe, 1999) is mostly used for scientific forecasting, could it give good results in the social sciences? Does consulting a wide range of experts provide good forecasts?

Experts in oil prices



Robust decisions in uncertain times



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Figure 1.1 Oil industry experts

A classic example illustrating the effect of recent history on forecasts comes from the oil industry. A Panel of Experts forecasted the oil price every three years. The dark line in Figure 1.1 shows the actual price, the grey lines the forecast price. The experts tended to

forecast “more of the same” and did not anticipate new trends emerging.

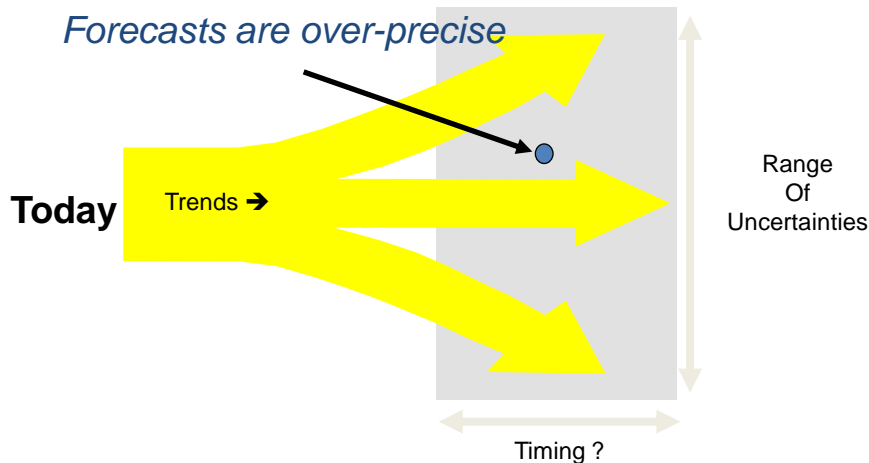
The ability to anticipate high-impact, hard-to-predict, and rare events beyond the realm of normal expectations (Black Swans as in Taleb, 2007) is rare, though it is often found in science fiction (see below). The ability to anticipate these extreme outliers is more frequent than the ability of organisations to prioritise their planning: for instance – how much planning should an organisation do for the possibility (foreseen in a movie) of a plane crashing into the World Trade Centre in New York?

So, while forecasting is important because it is the basis of much of modern society, the danger is in knowing when it is right to forecast – and expect the results to be accurate – and when forecasts cannot be relied on. And, even when forecasts need to be made – because budgets must be set, plant built and people recruited – it is worth remembering that a forecast is a point in a sea of possibility – see Figure 1.2 below.

Forecasts



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Figure 1.2 A forecast is a single point in a sea of uncertainty

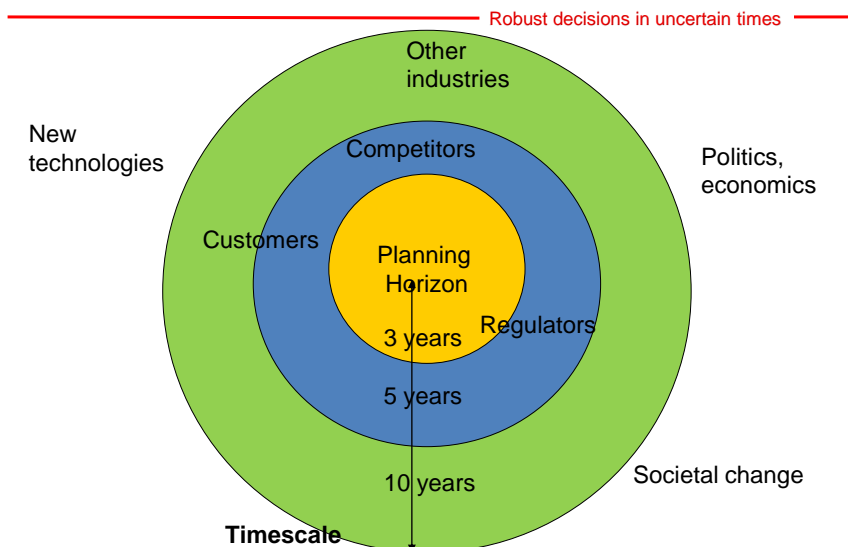
Tools for long term forecasting

If we need to get beyond Delphi type forecasts and extrapolation of current trends to get a view of the longer term future, what tools are there to help? The essential concern in long term forecasting is to identify and examine implicit assumptions about “how things are”.

These may change over a generation or two: long term forecasting needs to explore possible paradigm changes. As we look further into the future, we need to pay more attention to indirect drivers as they have more time to act and to have their indirect effect. How to approach this?

A review of the accuracy of outcomes of long term predictions – to 20 years - was undertaken after 25 years of Japanese Foresight projects using Delphi. What they found was that accuracy was better when a wider range of subject experts were included in the process. So for instance, if the subject was the future of surface chemistry, the best result came from consulting surface chemists, together with chemists from other branches, **plus** chemical engineers, physicists, biologists, economists, and mathematicians, (Martin, 1989). The reason for this is that changes in a domain come from breakthroughs or discoveries in neighbouring domains and these are often not visible to people in the core domain.

Changes from outside ----



1

Figure 1.3 Change comes from outside the domain

An article in Long Range Planning, (Ringland et al., 1999), looked at what examples from history, science fiction, some major forecasts in the public domain, and studies of the take-up of technology as different types of longer term forecast could teach us. As a result the authors identified some implicit assumptions that need to be made explicit and examined in long term forecasts.

The first set of assumptions is about the behaviour of people. Maslow's basic framework of a hierarchy of needs (Maslow, 1943), starting with meeting our basic needs for food, clothing and shelter, and moving on to needs for self expression and self actualisation, should warn us that people widen the range of choices which they perceive once food and shelter needs are met. Their behaviour becomes increasingly difficult to forecast. This can cause paradigm shifts and shocks to occur overnight – such as the fall of the Berlin Wall or the Arab Spring.

Second, there is the major political and military paradigm shift, caused by the comparative retreat of governments. Many western governments are trying to withdraw from the approach they took in the post war period. Partly it is because the ability to control their environment decreases, as finance moves around the globe more easily, large movements of guest workers and immigrants continue, and technology makes the international transfer of ideas faster and more copious. At the same time, demographic and employment pressures in western countries reduce governments' ability to fulfill its post-war role.

The effect of this paradigm shift is very deep-seated – many forecasts make implicit assumptions that the role of nation states and their government will be significant.

This is linked to the third assumption, that of “progress”. For centuries, western intellectual thought embraced the idea of continual progress towards greater scientific certainty and a more perfect state of being, and people have expected increase in their standard of living. Recent experience in the west has disillusioned many, and preoccupations with worries about issues such as pollution, the nuclear threat, and ethnic conflict have challenged our assumptions about the nature of progress. This loss of optimism is more marked, perhaps, in Europe than in the United States; while many in the BRIC and middle income developing countries are seeing significant rises in their standard of living.

The Three Horizons Framework

In order to avoid being constrained by our assumptions, we used a framework called “Three Horizons”. This analyses drivers of change under three horizons (Curry, 2011) as illustrated in Figure 1.4 below.

- **Horizon One** – Important drivers of the world *today*. They affect the operating environment today and give rise to the sources of profit and other objectives. These drivers may well be less important in the future. Horizon One drivers are likely to be well understood.
- **Horizon Two** – Drivers that are causing the operating environment to change. They may not affect the world today, but they are clear drivers with a predictable outcome which will affect the forecastable future. Horizon Two drivers are likely to be the most important for medium-term strategies.

- **Horizon Three** – Drivers that are early indicators of change: harbingers of trends to come. Horizon Three drivers may become important in the long-term futures and will be used to address the longer term.

Clearly, drivers related to attitudes may have a curve over several decades, while technology related drivers may be shorter term. But whatever the timescale, the framework brings out the effect of current drivers, and potential sources of change.

Three Horizons



Robust decisions in uncertain times

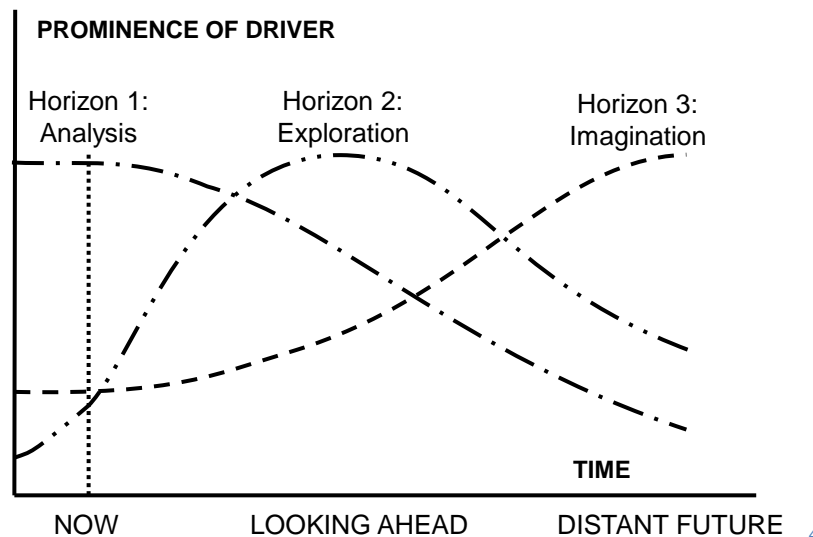


Figure 1.4 Three Horizons to classify drivers of the future

Scenarios and forecasts

Scenarios are different from forecasts. They explore possible answers to the questions which cannot be answered about the future. These questions typically relate to the shape of society, shaped as it is by “events, my dear boy”² and by people. Scenarios are stories, mental models, about how the future might be. They need to be coherent – so that people can “see” them and think about the implications. Their purpose is to create a mental model of a possible future so that people can relate to it, see the implications for their

² When asked what represented the greatest challenge for a statesman, UK ex-Prime Minister Harold Macmillan replied: 'Events, my dear boy, events'.

concerns, and provide a context for discussion about desirable and undesirable features of the future, and so help in planning. So in Figure 1.2, the forecast is the dot, and the arrows explore possible different scenarios.

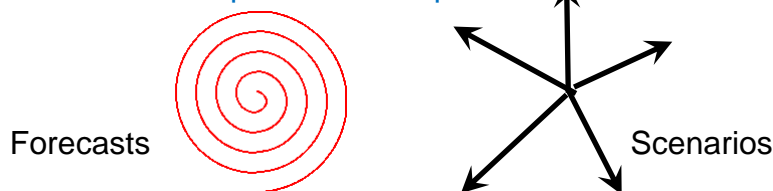
Scenarios are however stories, and in the same way that a work of fiction is created from the author's vision and experience, scenarios will ultimately reflect the experience of the creators. In creating scenarios, the contributors often include people who have studied the future and the trends driving change, as well as people who are aware of the current position. Our scenarios have been built by and tested by a number of groups of people spanning futurist and financial services perspectives. They have all however had a western viewpoint. We would welcome particularly input and critique from people outside western economies.

Scenarios and forecasts



Robust decisions in uncertain times

- Forecasts focus on “the right” answer and a partial “right” is often viewed as wrong
- Scenarios are
 - “an internally consistent view of what the future might be”,
 - “not a forecast but one possible future outcome”
- Scenarios explore different possible futures



Source: Professor Michael Porter, “Competitive Advantage.”, (Free Press, 1985)

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Figure 1.5 Scenarios and forecasts

1.5 Methodology

The scenarios have been developed with a core group of people – the Long Finance Forum of Futurists – with the aid of contributions from a number of volunteers from the financial services and futurists worlds. The members of the Forum and the volunteers are listed in the Acknowledgements.

The Forum first met in April 2010, to scope the task: what are financial services and what was the appropriate timescale for scenarios that would explore real uncertainty and also be helpful to people with “day jobs” in financial services?

Having decided on 2050, 40 years ahead, we started by considering 1930, 80 years back, a ratio postulated by the Ethnographic Futures Framework (Textor, 1995) to scope long term future change. So we considered the asset classes that were dealt with by financial services in 1930, and hence the extent of the changes that we might anticipate by 2050.

The Forum held a third meeting, in June 2010, led by Martin Duckworth of SAMI, to identify the major drivers of change to 2050. The fourth meeting of the Forum developed the outline of the scenarios, and these were further enriched at a Workshop of SAMI people led by Dr Wendy Schultz, using the Three Horizons Framework.



Figure 1.6 Working in the Guildhall Crypt

The scenarios for the global environment to 2050 were then tested at an open meeting in the London Guildhall in September 2010, by members of the wider Long Finance Foundation network, and Richard Walsh led a workshop of The-Net-Work, an insurance industry grouping, in November 2010. A second open meeting was hosted by Gresham

College in February 2011, and this started to articulate the implications for financial services in more detail.

The resulting scenarios were exposed in draft form to wider comment and as a result a number of extra aspects have been added to this report:

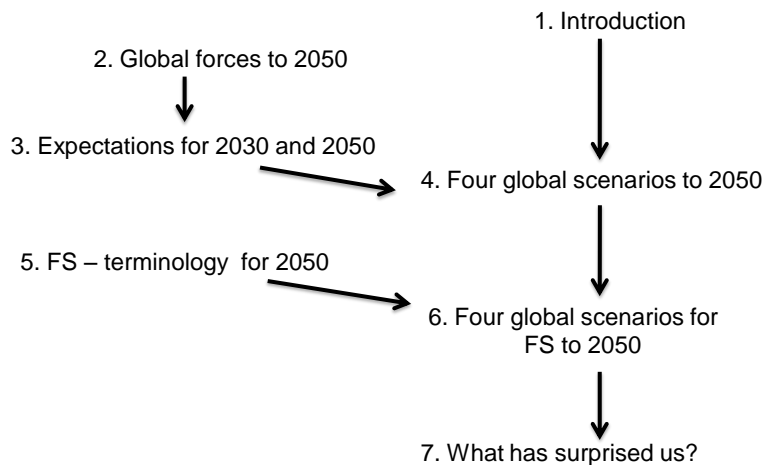
- more discussion of the short and medium term and the paths out of the financial crises (Chapter 2)
- discussion of three archetype socio-economic models (Chapter 3)
- more description of financial services in 2050 under each scenario, including the ecology of the financial services system and the location of centres and the valuation of assets (Chapter 6)
- a more extensive discussion of “what has surprised us”, in Chapter 7.

1.6 Layout of this report

Layout of this report



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Figure 1.7 Layout of this report

In Chapter 2, we introduce the global forces which will affect the next decades and beyond. Chapter 3 is a description of the implications of these global drivers for 2030 and 2050.

In Chapter 4 we develop four global scenarios, which explore the questions:



Will the Washington consensus³ survive to 2050? What could cause it to break? And if it does, what will replace the international organisations and the values of the Washington consensus?

In Chapter 5, we outline some of the thinking behind the terminology which will be used in chapter 6 to describe financial services to 2050, in each of the scenarios.

We end with, in Chapter 7, capturing some of the ideas from the study which challenged our current models, ranging from the purpose of financial services in 2050 to the forces underpinning the location of financial services hubs.

1.7 Using the scenarios

Scenarios are not meant to be read in isolation. They are meant to be used.

Industries and organisations always have a set of implicit assumptions that guide their decision making. These are difficult to change, even if the external business environment is changing. For instance, will a characteristic that has added competitive advantage in the past continue to do so as markets change? Using scenarios allows people to recognise the future world built into their plan and explore the implications of other possible—or probable—worlds.

Success is a robust set of scenarios that allow the group or organisation to see new possibilities, the “ah-ha!’s”.

Applications of scenarios

- Hold workshops to create scenarios offsite to signal “different,” with two-day residential formats to allow optimum reflection and absorption time, and a diverse set of participants.
- Use existing sets of scenarios for stimulating debate, developing resilient strategies, testing business plans against possible futures, and trying to anticipate futures.
- For a single capital project, try back-of-the-envelope calculations to capture the essential differences in the viability of alternatives against a set of scenarios.
- To communicate with line managers in an organisation, or with the public in debate, use early indicators—events that should be seen in the next year or so specific to one scenario.

³ <http://www.cid.harvard.edu/cidtrade/issues/washington.html> for a discussion of this: we use Washington consensus to mean the collection of policies identified by (Rodrik, 2001) which include for instance financial codes and standards, and social safety nets.

A typical workshop using these scenarios

These scenarios have been tested with a number of groups, using an agenda oriented around the second of these applications, designed to fit into a half day (3 hours):

- Introduction, aim of the session, e.g. one of the applications above 15 minutes
- Briefing on scenarios (use the ppt deck on the zyen web site) 15 minutes
- One syndicate top work with each scenario
- Working in syndicates: Newspaper headline relevant to the organisation for this scenario in 2050, and winners and losers, (understand the scenario) 15 Minutes
- Share Headlines and winners/losers 15 minutes
- Working in syndicates: what else do I need to know about the scenario for my job or organisation (expanding the description of the scenario) 15 minutes
- Share expansions of scenarios 30 minutes
- Working in syndicates: what should the organisation do now if this scenario is developing? (exploring opportunities and threats) 15 minutes
- Share findings on opportunities and threats to the organisation 30 minutes
- Discuss “robust” actions, i.e. what the organisation should do no matter which scenario is developing 15 minutes
- Wrap up: discuss which scenario(s) is good for the organisation? Not good? What are the early indicators? 15 minutes

2. Global forces to 2050⁴

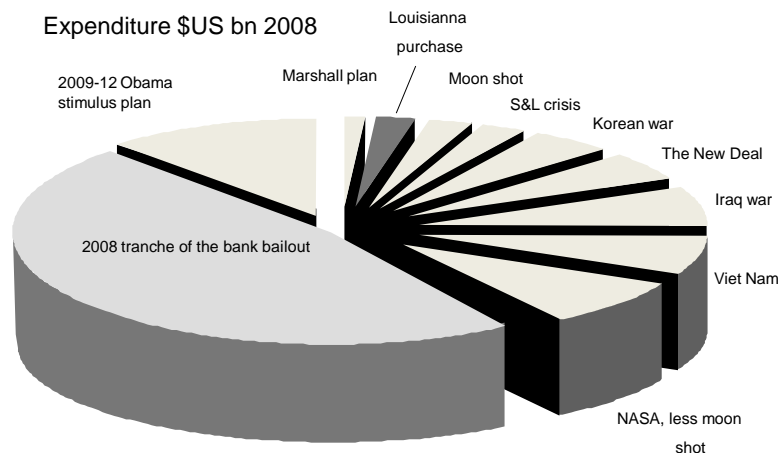
In this chapter, we introduce five global forces which will affect the next decades and beyond. The first is the ongoing effects of the financial crisis of 2008 and 2011. The second is the increase in global population, centred on industrialising countries, which will lead to shifts in economic power: the value systems of the new economic powers are likely to be different from those of the OECD countries. Science and technology will have a potent power. And the pressure of population increases and expectations of changes in lifestyle – diet, transport, urban life – will lead to competition for resources and pressure on the environment. All of this is set against a background of military and civil insecurity, particularly in the poorer nations.

2.1 The ongoing effects of the financial crisis of 2008 to?

One of the major influences on the next decades is the financial crisis of 2008 and its aftershocks.

The size of the bank bailout

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5

Figure 2.1 The scale of the US bank bailout

⁴ This Chapter is based on a discussion in *Beyond Crisis*, Gill Ringland, Oliver Sparrow and Patricia Lustig, John Wiley 2010.



The sequence of events is well known, and described in more detail, (Ringland et al, 2010) and (Tett, 2009):

- consumer debts in the west grew, financed (in the case of the US) by investment from China
- a number of financial vehicles proved to be more risky than advertised, and collapsed, taking with them a number of global financial institutions
- the debt was essentially transferred to governments through bank bailouts (see Figure 2.1), adding to rising government debt from social payments
- western governments are now (in 2011) cutting services and consumers are trying to pay down debts because of concerns over jobs and stagflation.

How might different countries develop in the short to medium term?

The short term

In the short term, the financial crisis and countries exposure and reactions to it will dominate the global picture. As we saw above, there are in fact two strands to the financial crises that affect the environment for organisations in the short term. The first one revolves around bank liquidity and the overhang of the bank bailout. The second is the issue of consumer debt, the way in which it gets repaid and the potential for large scale defaults.

Two dimensions of uncertainty

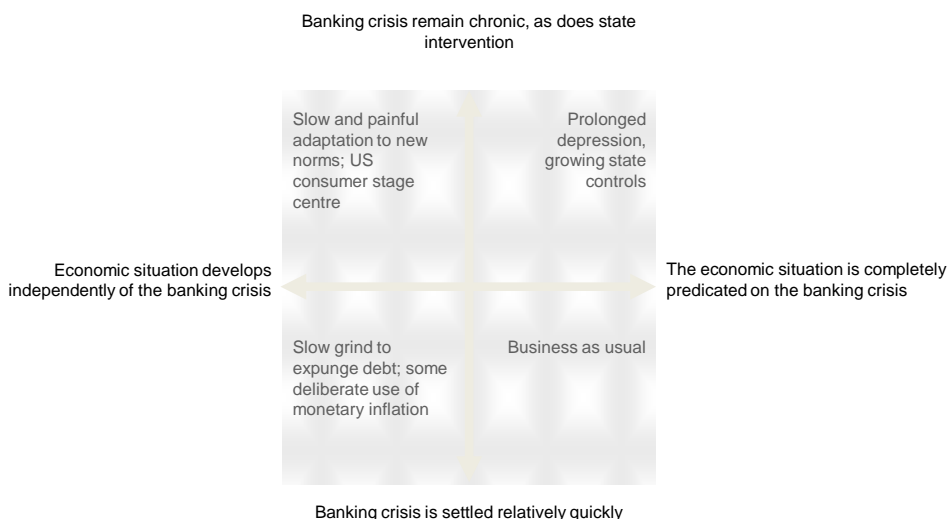
If we consider the effect of these two separately, a two dimensional Figure (2.2) helps us to see the future more clearly.



Resolving the crisis



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Figure 2.2 How might the financial crisis be resolved?

On the horizontal axis, we show the possibility that the banking crisis is central to future events or merely a part (though an important one) of them: consumer debt, as we have seen, is very important in some (OECD) nations, less so in others, for instance in Asia. The vertical axis explores how quickly the banking aspect of the crisis is resolved. Once again, this is likely to be dependent on factors which are different according to country, region or type of government approach. Figure 2.3 below populates the same matrix as in Figure 2.2 with some representative countries based on the current position and anticipated trends.

Recent data in the summer of 2011 reinforces the picture in Figure 2.3. While the world economy is growing at about 4%, the western economies are struggling to stay in positive territory, (Emmott, 2011). And analysis (Sparrow, 2011) suggests that the eurozone will see 5 years before growth resumes unless two conditions are met. One is that the US transitions back into growth. The second is that the Eurozone undertakes sharp realignment to relieve internal stresses.

Different rates of recovery ?

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Figure 2.3 What could happen in different regions?

Is there a way out? Could a new technology, or a vibrant economy, act as a centre of growth? Futurists often speculate about the effect of new technologies, and we outline a few such in the section below. And, of course, yes: but there is no obvious replacement for the US consumer, with their credit cards, as the motor of growth in terms of sheer size of purchasing power. Economic conditions will probably be sombre, and turbulent, in the short term.

The medium term

Figure 2.3 suggested that not every country was likely to be affected in the same way, or for the same period. As we look further ahead, so we see that this re-division of the world's power becomes more accentuated.

Over the past two decades, the world has been undergoing accelerating, deep, socio-political and economic change. Yet these deep changes have been masked by a superficial social and economic consensus: a rational, market-oriented, democratic, secular-humanist view of the balances to be struck between the individual and the collective, of the processes of dispute settlement and of the nature of international relations. We refer to this as the Washington consensus. It is a view that assumes a natural order, with the older industrial powers setting the rules. We will come back to

examining the viability of this assumption in the section below on “Values of the emerging middle class”.

2.2 Demographics

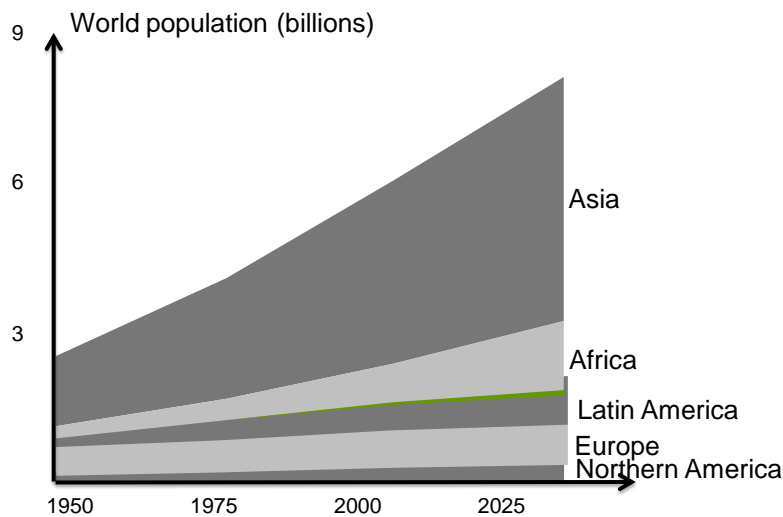
The second factor that will affect the next decades is the sheer number of people on the planet: where they are, their education levels, and the ageing profile.

Figure 2.4 shows the past and projected population numbers. The world will become increasingly Asian, and the Asian middle class is expected to outnumber the entire population of the former industrial world.

World population



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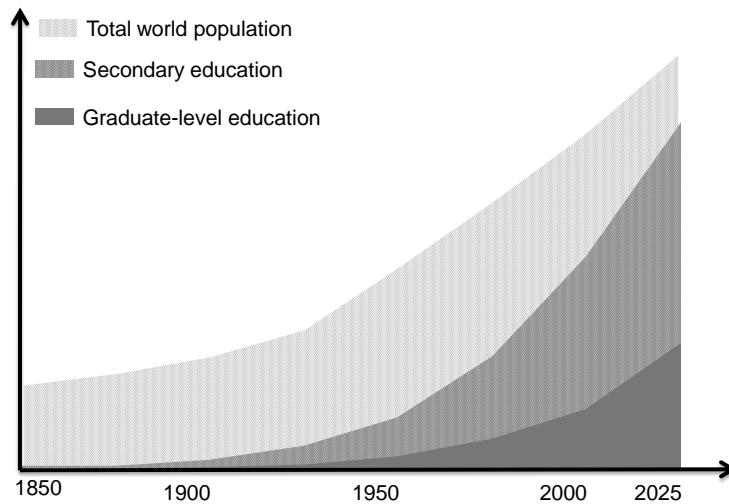
Figure 2.4 Population numbers

Figure 2.5 shows the proportion of the population who have or are expected to have received various levels of education. The current Chinese and Indian "honours student" population currently exceeds the OECD population.

Education levels



Robust decisions in uncertain times



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Figure 2.5 Education levels

In order to assess the impact of the changing demographic profile, we use dependency ratios, which measure the proportion of economically active individuals to those who, through age or infirmity, require support from others. Industrial world dependency ratios in the 1960s were typically around 15% of the population. Most welfare systems were designed with such proportions in mind, and with life spans that ended quickly after retirement. Bismarck, in fact, set the retirement age in Germany at 70 (when he was 74) (<http://www.ssa.gov/history/ottob.html>). The equivalent dependency numbers for 2030 have an average of 35% of the population dependent, with some nations such as Italy and Japan estimated to have numbers up to ten percent higher (OECD, 2007).

The OECD estimates that the typical industrial society was spending ten percent of gross product on age-related support in 2000. The estimates for 2020 are double that. The old industrial world will, therefore, carry a heavy burden, as will China, which is facing the consequences of the one child policy. However, having huge numbers of unemployed youths may make Africa's (or India's) future turbulent, and they may suffer disproportionately from food shortages.

Figure 2.6 below shows the ratio of people under sixteen divided by the number who are over 45. Europe can be seen to have a particular problem of age, with less than .5 persons under 16 years for every one over 45. Africa has three, and 40% percent of Africa's

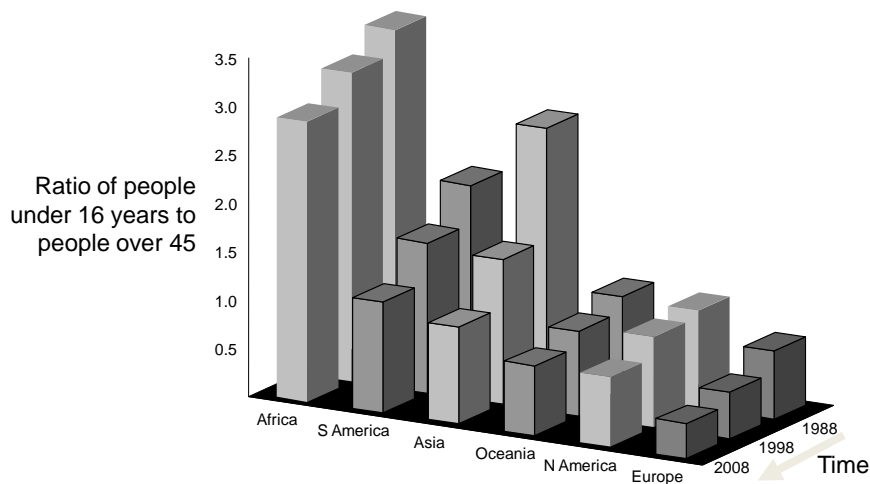
population is under fifteen years old, and the number is expected to grow, (World Bank, 2008).

Poverty remains a dominant issue. The World Bank believes that 80% of the World lived on less than ten dollars a day in 2005, and around a billion on about one dollar per day (Collier, 2008).

Demographics



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Figure 2.6 Age ratios

Economic development and social interactions

Demographics will cause deep changes in the competitive structure of the world's economies. Added to this is the effect of economic development.

It took Britain about 60 years to double its output during the industrial revolution. It took China seven years to do the same during the 1990s, because it could look to existing models and technologies to help it quickly move forward (dti, 2007).

However not all developing countries with favourable demographics have been able to do this. Africa was once far richer per capita than Asia, and in the 1950s Asia was regarded as the least developed of the major regions. African countries have since seen their income per capita decline in real terms. By contrast, Asia has grown a great deal, and in



some cases such as Singapore and Hong Kong, has surpassed incomes per capita in some parts of the old rich world.

Studies of this process by the World Bank (www.worldbank.org/reference) have since been confirmed by others. In essence, 80% of the observed difference is explainable as being due to three factors:

- physical location and resources (5%),
- distinctions in the quality of education (15%) and
- differences in the effectiveness of government, which explains 60% of the difference between countries and is by far the largest factor.

Long run development comes down to the effectiveness of the state in enabling economic and social life through, for example, education, health, mobility and access to information, law and property rights.

Today, the managers and policy makers of industrialising countries have a clear benchmark against which to set progress, and clear indications of the stages of development that each region will encounter. They can and do plan for this. Their commerce accesses the best that the world has to offer, both in terms of resource and management talent. The upshot is that there will be a veritable army of low waged, highly skilled people based in rapidly modernising nations at the same time as the current industrial base faces an aging population and workforce.

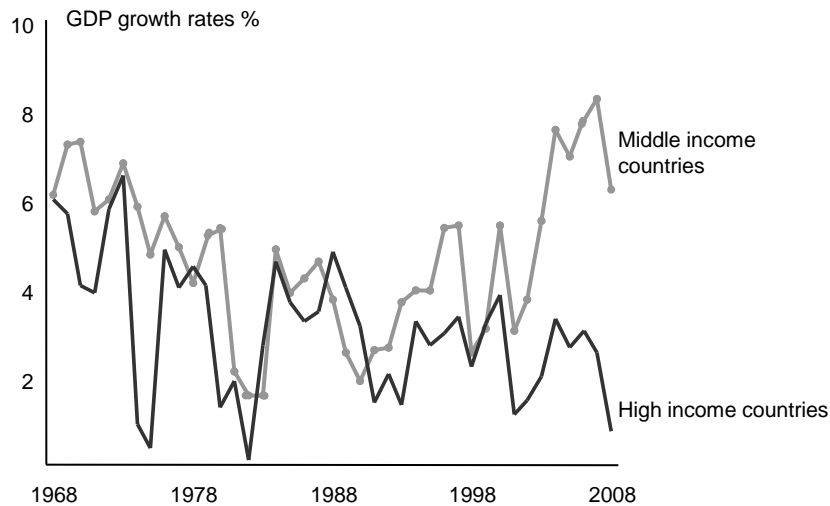
Figure 2.7 shows economic growth rates for the old industrial and newly industrialising countries. The average growth rate in the high income countries shows decline since the 1960s, from 6% to 2%. The middle income countries showed similar trends to the end of the 1980s, and then moved to high growth, (World Bank, 2008b). Political change in the former Communist world had a major role to play in this, as it did in India and Indonesia. Growth in the poor nations (omitted for clarity) closely parallels that of the middle income countries. Six billion people are beginning to leave poverty behind. The OECD countries have started to recognise this, as is suggested by the establishment of the G20 grouping.

Western societies are now wrestling with the implications of this. There is a tendency to see the industrialising world as essentially poor copies of themselves, or else as being helpful in the supply of cheap manufactures. Everyone in these countries is supposed to want to become just like the west. The ethical basis of western societies is assumed to be replicated as and when these societies attain equivalent purchasing power.

GDP growth rates



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Figure 2.7 GDP growth rates since 1968

But it is far from the truth that developing countries aspire to a western model. The emerging global middle classes have very different value systems from those of the old west.

2.3 Values of the emerging global middle class

This the third factor that will affect the world to 2050, the likely move away from a world dominated by western values. These focus, to over-simplify, on what you think and why you think it. In traditional societies, wealthy people are supposed to display their wealth and to make charitable and communal acts, and in doing so they gain status and community approval. To fail to do this is to be seen as mean, socially inadequate and odd.

Tracking cultural differences

We can track these differences with real-world measurements. These have been conducted using the framework in the Table 2.1 below to compare the attitudes of traditionalist and wealthy, industrial societies to five basic moral dimensions of society.

Table 2.1 Five moral dimensions of society

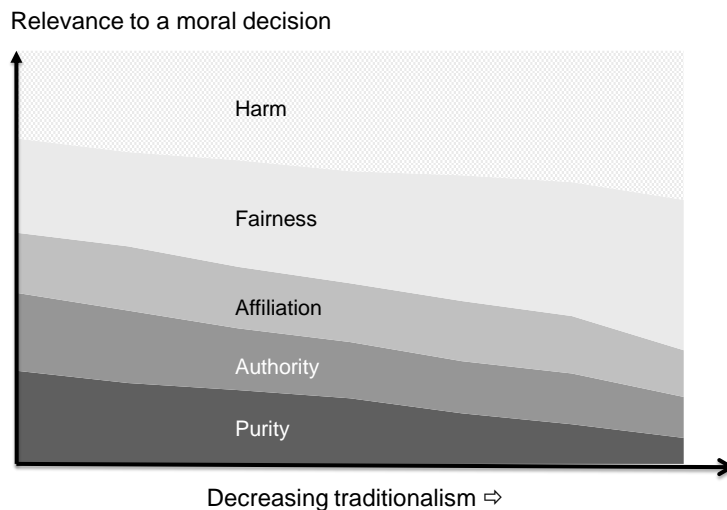
	Traditionalist societies	Wealthy, industrial societies
Harm	Harm avoided and benefits sought but in a more atomic, less systems-related manner.	Risk-benefit and the avoidance of harm are central to policy making.
Fairness	Principal of equality is not strongly recognised.	Individuals have equal rights; equality before the law.
Affiliation	Unquestioning adherence to and mutual support from ethnic, caste or other group members.	Nepotism regarded as an evil and the ability of a clique to monopolise advantage or privilege is actively assailed.
Authority	Innate respect for authority, even when it is known to be mistaken.	Authority is granted by formal institutions or by objective knowledge or clearly-displayed rational use of learning
Purity	Reflects a deep belief that some situations, groups of people, behaviours and foods are innately more or less pure than others.	Whilst moral disapproval around concrete issues is permitted, society does not sanction public expressions of disgust about the innate characteristics of groups.

Figure 2.8 shows outcomes from the new disciplines of experimental economics. Experimental economics explores peoples' behaviour in situations where economics makes predictions. The figure is based on the five dominant dimensions of choices being made about social matters (Haidt, 2007). It shows that, the more traditional a society is, the less that for instance "purity" is relevant to a moral decision.

Five dimensions of choice



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Figure 2.8 The five dimensions of choice.

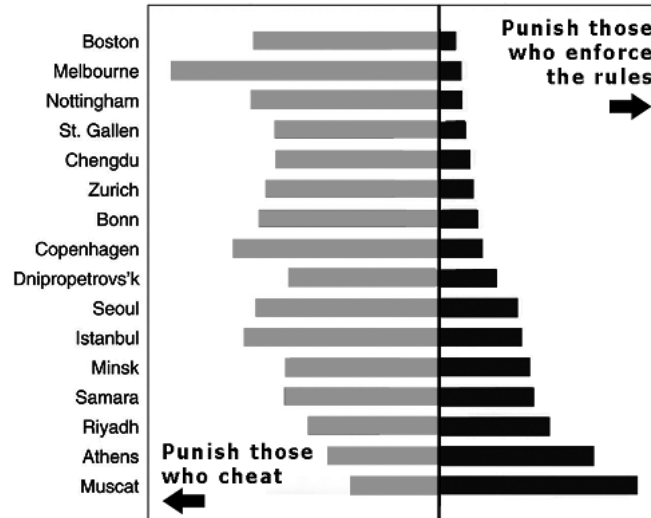
Neural economics identifies what happens to the brains of people who are making decisions, and it is able to identify specific common locations in the brain which light up when choices are being made that are heavily laden with a particular kind of issue.

Figure 2.9, (Carruthers, 2007), shows the results of experiments in neural economics. The chart shows the outcome of one experiment consisting of a set of carefully-designed 'games' that are played for money. Participants have the opportunity to cheat, to be detected cheating and to punish other players. It shows the relative tendency to punish those detected cheating, and those who detect cheat (the 'police'). The policemen commit a crime against affiliation and purity, shaming the group. They remind people of how they, too, have struggled to grab what they can when it is available. Most people in industrial societies do not much feel these emotions, and applaud policing of this sort; but other nations – traditionalist rather than monetarily poor – do not feel this way. It will be interesting to see whether the ongoing survival of financial services organisations that have “got away” with cheating starts to change Western attitudes.

Attitude to “police”



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Figure 2.9 The attitude to “police”

Implications for attitudes to governance

What are the implications of this? There will be very large numbers of new middle class, who do not share the values of the developed world. They will not live and are not expected to live by the west’s (Washington) consensus. This erosion will be gradual, but the power shifts will greatly affect the implicit agenda of the old industrial powers.

The past fifteen years has masked the degree to which power shifts have already occurred and the inadequacy of the industrial model that grew up in the 1990s. Historians will probably measure the decline of the dominance of the old powers and the old world model from the financial bubble and its breaking. What lies ahead has yet to form itself clearly.

2.4 Communications, science and technology

The fourth source of change over the next decades relates to science and technology. Advances in the biological sciences will continue to extend life and increase agricultural yields; and may contribute significantly to energy supply within our timeframe.

The effect of advances which extend human life and capability are very difficult to predict. Susan Greenfield (Greenfield, 2003) suggests that safely harnessing the technologies of genetics, nanotechnology and robotics will be made more complex

because they will not require large facilities or raw materials: accidents and abuses will be within the reach of individuals and small groups. In our discussions below we make two assumptions about the effect of these in our timescale:

- these powers are used benignly
- market mechanisms are still needed for the exchange of goods and services.

Within our timescale, organisations of all types will continue to be exposed to the direct and indirect effects of the explosion in information technology. IBM suggests that the amount of stored digital information doubles every eleven minutes (IBM, 2009). Clearly much of this is CCTV footage and other ephemera; however other estimates relating to this explosion of information are more useful.

For instance, scientific knowledge is thought to double every two to five years in many disciplines, (ACE, 2009). This has direct connection to the generation of wealth. Edwards, (Edwards, 1996) reviewed estimates of how investment into knowledge converts into economic performance. The results were discount rates that clustered around 25%. The US think tank Funding First, (Funding First, 2000), estimated that half of all the improvements in the standard of living enjoyed by US citizens over the previous 50 years was due to investment in the understanding of human health and in public health measures.

Technology exploitation tends to occur first in cities. It requires many types of infrastructure if it is to be effective: not just adjacent technologies, but law, designers, accountants, transport systems. For example, Scherngell et al. (Scherngell, 2007), estimate that knowledge has a predictable and extremely local effect on efficiency growth. A 1% increase in knowledge in a region would add 2% to its economy over a ten year period. The biennial doubling of scientific knowledge has staggering implications for growth if the necessary "social" infrastructure is in place. We will come back to the nature of financial services clusters in Chapter 5.3.

2.5 Systemic challenges

So far we have discussed the financial crisis, the pressure of demographics, the rising power of countries and regions with different value systems from those assumed by western industrialised countries, and the effect of technology. Here we briefly cover two systemic challenges which will face the world in the next decades.

Resources

One of the effects of technology plus the population pressures is that the world is going to be increasingly coupled together.



This generates systems – such as financial systems, but also crime, terror and other less welcome structures – which are pan-national if not global. We will return to the ecology of financial systems in Chapter 5.

At the same time, natural systems that have functioned well for centuries without attention are now being impacted by human activity. As the economy heads towards three times its current size, we will hit a number of resource limits. These range from land clearance to pollutant emissions, depleting the sea of fish and dumping in it tens of thousands of chemicals not found there naturally.

There are many useful reports and studies examining the future demand and supply of energy (Shell, 2011, IEA, 2010) and water (Preston, 2008), concern over carbon emissions (Davis, 2010) and the need to consider environmental degradation in determining economic development (Stiglitz, 2008). Figure 3.2 in the next chapter represents graphically the threat to many of the environmental ecosystems that sustain life.

By 2050, one of the major uses of financial systems will be to manage ecological, environmental and energy resources.

Cities

For thousands of years, people lived in the countryside. Slowly people started to aggregate into villages, then towns and cities. Then, in 2008, the number of people living in cities was over half of the world's population (UN, 2008). By 2050, when the global population is expected to be nine billion, urban dwellers will exceed six billion. Most of these will be in smaller cities, but projections based on UN forecasts for 2025 suggest there could be 500 million people living in 20 mega-agglomerations with populations over 20 million by 2050, (UN, 2007) and <http://www.skyscrapercity.com>.

Currently, vast cities in the poor nations are seen as centres for the epidemic diseases arising from poverty, where crime and ideologically-inspired violence are fuelled by poor governance. Furthermore, many cities are near the sea or in river valleys subject to flooding, with the consequent exposure to extreme weather events - and despite this, suffering water shortages, (WWF, 2011). But there is also evidence that concentrating people in one place increases economic activity, return on infrastructure investment and social vitality: if the population of a city is doubled, there is an average 15% increase in the wages and the patents produced compared with two cities of the original size. There is also an inverted effect in terms of infrastructure – if the population of a city doubles, it needs 15% less physical infrastructure than two cities (Bettencourt, 2011).

The importance of clusters – requiring cities to support them – was discussed above. Cities however have another side effect, which is changing society. When people move to



cities, women tend to be educated. And this leads to smaller families. This is one of the factors leading us to think that the global population may not rise above nine billion.



3. Some expectations for 2030 and 2050

In this chapter, we go from the general discussion of forecasting and trends to our expectations for the world in 2030 and 2050. First however we introduce some terminology for three types of society which we will be using later to describe 2030 and 2050.

3.1 Three types of society or “narrative”

In describing the world in 2030 and 2050, it is useful to be able to capture the characteristics of different types of societies in order to anticipate their evolution paths. One such description was first introduced by Oliver Sparrow in his “Scenarios 2040”, (Sparrow, 2010).

The three types of society he describes differ in the capacity of their institutions to cope with complexity and to support industry with physical infrastructure and the supply of an educated work force.

We have seen that knowledge will increase very significantly as we progress towards 2050, and found that the use of knowledge is localised, in clusters.

Capable clusters of people sharing knowledge form in predictable ways, and have equally predictable properties, which we term the **Post-Globalisation** style. Each cluster is extremely tightly focused, geographically, socially and by topic. Developments in information technology will emphasise the expert, tightly focused networks that operate with a high degree of trust, exclusivity and focus: we call this 'collective intelligence'.

Anyone who is involved in a collectively intelligent network will find their individual capabilities creatively subsumed into the collective. Appliances – which may reach great levels of sophistication – provide continual contextual advice, coaching and connectivity to others who are working on the same project. These same technologies, applied to civil society, essentially eliminate crime, provide children with safe adventure and endless factual and social education, stimulate innovation and largely replace conventional politics with something very different.

While this is in some sense the “Official Future” for western societies, some parts of the world may not - within our timescale, or at all - become Post-Globalisation societies. These may well be trapped into trying to employ efficiency gains to live with declining resources, high resource costs, environmental degradation and a volatile and potentially violent world.

This state is **Consumer-lite**, in which rigidly controlled societies walk a tight rope to no very clear destination. These societies are particularly exposed to what we have called "systems issues", the consequence of having nine billion people ever-more closely



connected together, settling in enormous conurbations that lack the most basic services, and of the declining supplies of cheap resources and the limits of pollution sinks.

The third potential type of society is **Poor-Populist**. The "Populism" element describes a tendency to reject the mechanisms of modernisation – such as institutional change, secular rationalisms, etc – and a focus on either geographical or ethnic nationalism or religious fundamentalism (Kepel, 2000). It tends to define itself by what it is not, erecting barriers and often feeling persecuted.

The "Poor" element is much more heterogeneous, but enthusiastically seeking material well-being, health, self- and family advancement; and also access to the developed world and its glamour. In adversity, there is a tendency for the Populist element to extend its reach, and in periods of tranquility, the Poor element to expand.

3.2 The World in 2030⁵

Predicting the future is fraught: there is always a tension between the evolution of existing trends and “a trend is a trend until it bends”⁶. We therefore present the attempts below to anticipate global political developments to 2030 and 2050 with some humility.

The world to 2030 will be dominated by the recovery or otherwise of the western economies from the financial crisis, demographics, technology, growth of the non-Western economies, and the three global systemic challenges:

- Energy – as renewables remain expensive and carbon fuels are depleted
- Economy – the need to build a global economy with a new global balance
- Environment – the ability to sustain the global population.

The BRIC countries and the west

The ‘emerging’ BRIC economies are already close to final emergence, and in the course of the next two decades will move from growth to consolidation, particularly as each faces significant internal political, economic and social challenges. Outright fragmentation is unlikely, but devolution of some power from the government of nation states will be necessary to maintain overall control.

Fiscal austerity will dominate government policy in the west for at least a decade with a number of consequences:

- the public sector will shrink in terms of both the number of state-funded jobs and the provision of public services;

⁵ This section and The World in 2050 were contributed by Dr Malcolm Cooper of ARC.

⁶ Ged Davies, then Head of Scenario Planning, Shell, 1997

- this will inevitably result in a widening of the gap between middle-earners and the poor;
- each nation's success in meeting the demands of debt reduction and stimulating growth will ultimately depend upon its ability to re-direct resources and people into the private sector; and
- the gap between inherently sound economies (Germany, Norway etc) and inherently weak ones (Greece, Portugal etc) will widen. This polarization is likely to work against the formation of regional economic partnerships such as the EU, which may only survive in its original form as a free-trade zone. The survival of the single European currency appears a near impossibility with its current membership and regulatory structure.

Across Europe and the BRIC countries, the existing trend towards political and economic devolution will accelerate. Given the demanding global economic conditions, it is highly unlikely that this will lead to outright political autonomy. A more realistic scenario would be an increasingly formalized system of federal government with integrated regional and city political entities with their own policy and economic powers such as already exists in the USA and Germany.

Developing countries

Parts of the developing world will consolidate the gains made over the last decade; underpinning political institutions with economic gains realized from increasingly well managed natural resource export industries. Once again, however, there will be a process of polarization, with resource-poor states becoming increasingly chaotic to the point of joining the list of failed states. Most of these are in Africa, in a band of roughly 20 degrees of latitude north of the Equator. Africa however is the region of greatest potential, due to its rich resources and rapidly expanding population.

The greatest politico-military threats will remain the two existing rogue nations of North Korea and Iran, and a structurally unstable Pakistan – all of which have, or are attempting to develop, a nuclear weapons capability. International terrorism will continue to increase.

The overwhelming economic imperative will be the competition for the world's basic natural resources, of which water is easily the most important. The global supply of fresh water is effectively finite, and roughly 70% of it is already being used for agriculture. Attempts to achieve greater efficiencies to feed a growing population will be hindered by the fact that water availability is regional and geographically unbalanced.

Meeting the challenges of expectations

Computing power is essentially infinite but software does not yet replicate the brain for most tasks. There is ongoing innovation around food supply as more middle class consumers demand meat and fish in their diet, a tonne of meat requiring about ten times more water to produce than a tonne of wheat. Progress on renewable energy supplies is sporadic and energy prices have risen steadily.

Financial markets

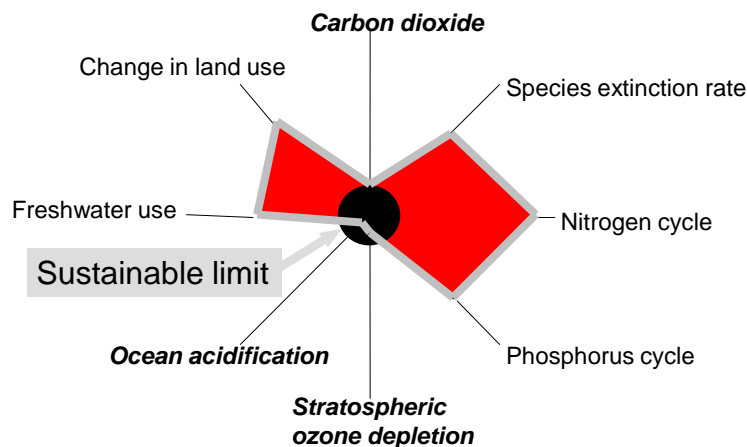
The greatest challenge facing both policy-makers and the financial services industry will be devising mechanisms to facilitate the development of liquid markets for valuing, trading and protecting biodiversity and ecosystem services (including water, forests, flora and fauna), (Rockstrom, 2009).

Environmental pressures



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The logarithm of the ratio of the current situation to the probable long term sustainable limit: ***these have been breached already***



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Figure 3.1 Environmental pressures

Figure 3.1 above charts the ratio of the current situation of eight environmental markers to the limits thought to be those beyond which the system collapses. So change in land use is a relatively health system. The figure highlights the three aspects of the environment where we are already beyond sustainable limits: carbon dioxide, ocean acidification and stratospheric ozone depletion.

3.3 The World in 2050

The BRIC Countries and the west

At a global level, the greatest uncertainty is whether any of the BRIC countries exercises the capability to project military power anywhere in the world – a position of which the USA is likely to have been the sole occupant over much of this time. The answer to this will be determined primarily by the ability of the BRIC countries to re-configure their respective governmental systems to meet the public accountability demands of an increasingly wealthy population, and the extent to which power is exercised by conventional versus cyber means. In this regard, pseudo-democratic Russia, and autocratic China will be in the most difficult positions: the world's two greatest revolutions were triggered by the frustrations of a growing and increasingly wealthy middle class.

The stronger western economies should generally be reaping the benefits of debt reduction and more limited responsibility for the provision of services to the public. This, combined with ongoing technological advances could produce a second 'industrial revolution in the west', in which advanced manufacturing techniques and robotics compensate for what had hitherto been a crippling labour cost disadvantage. Their societal archetype would be **Post-Globalisation**.

The weaker western economies will struggle to compete, but providing regional political institutions such as the EU have weathered the more difficult earlier decades in at least some form, they should be supported by their stronger neighbours. However their destination is most likely **Consumer-Lite**.

The biggest risk to harmony is likely to be demographic growth, as the stronger economies will seek to defend increasingly stringent restrictions on inward migration. Full devolution to federal forms of government should be complete in those stronger western economies which do not already have the system in place. Brazil and India should also be able to strengthen existing federal government institutions provided they are not de-railed by internal conflicts stimulated by friction with less robust neighbouring states. In weaker economies there is a real chance that devolution will lead to outright political fragmentation.

The critical determinate will be economic. Catalonia or the Basque Country in Spain, or the Milan-Turin-Genoa triangle in Italy will be more likely to seek independence if they believe they will enjoy greater growth and prosperity by breaking free from the poorer southern halves of their respective countries (both of which house a national capital which is not itself a particular strong economic hub).

Non-developed countries

The division of the current developing world into developed and non-developed countries will be more or less complete. This process, however, will increase the risk of war, as the stronger countries seek to assert regional dominance, and the weaker capitalize on residual ethnic differences to fight back. Regional defence compacts will be the norm.

North Korea, Iran, and Pakistan will remain areas of uncertainty, although it seems likely that China will neutralize the first if it is not itself destabilized. The critical interaction will still be that between Iran and Pakistan, and will depend upon whether Iran develops as a regional power expanding its growing influence over its western neighbours, and whether Pakistan is stabilized with external assistance from the global superpowers. The tension between Poor and Populist will dominate governance in these countries.

Meeting the challenges of expectations

Innovation in biotech has successfully produced extended life spans for the wealthy, and reduced medical costs for chronic diseases. The global population is expected to reach nine billion, with three billion “middle class”. Renewable energy sources and the necessary new delivery infrastructure are starting to form significant sources of supply.

The nature of work and employment, the work-retirement divide and the social contract of the individual with the nation state will all be different. Work will be increasingly done in or near the person’s house, as telepresence and 3D printing reduce the need to commute for many jobs. But people like to travel for leisure, putting enormous strains on heritage sites and unique areas. Real-time language translation systems and the dominance of “Chinglish”⁷ reduce obstacles, but energy supply is limited and costs are high. As the number of people looking to move to wealthy areas increases, the definition of “citizen” becomes more difficult and the ability of states to collect tax from its citizens and residents is constrained. So there will be a trend towards taxation by transaction (like sales tax in the US) rather than trying to tax on income.

Financial markets

Global financial markets will now be to a large extent driven by environmental and natural issues. Liquid, internationally regulated markets should now be in place to facilitate trading and risk management, but their success will depend upon far higher degrees of collaboration between governments and private investors than has ever been the case before. Money in notes and coins is thought by many to disappear for all except rural barter, but historians think this is less likely.

⁷ “Chinglish” and “Indenglish” are terms used to describe two of the very different directions in which spoken English is evolving as an international language.

4. Four global scenarios to 2050

In Chapter 2 we discussed some of the forces on the world order over the next decades, and in chapter 3 we have drawn a word picture of what we can forecast for 2030 and 2050. In summary, our scenarios take into account the effect of the financial crisis which started in 2006, and assume that by 2050:

- The global population will grow to nine billion and get older, with most of the additional people in Africa and Asia. This will cause major shifts of economic power, causing turbulence as political shifts follow.
- The new centres of power may not share the value systems of the west, or the Washington consensus.
- Technology (info, cogno, bio, nano) will continue to introduce changes in personal capacity and lifestyles, while ICT will underpin much of society as well as commerce.
- Ecological, energy and environmental limits will be tested or breached as the percentage of the population living in cities approaches 70% and the new middle class eats meat, uses cars, refrigerators and electronic goods, and travels for pleasure.

4.1 Scenario questions

Scenarios combine what we can anticipate for 2050 with an exploration of uncertainties.

There are many uncertainties, but the bundle of possible answers to “*will the Washington consensus break down under the major shifts of the centres of economic power and if so how?*” will affect financial services in a number of ways. Factors which describe the Washington consensus include:

- Is the society democratic or not? A democratic society is more likely to provide and respect a legal framework. Africa and Latin America are likely to move towards the Washington consensus, but the situation in China is less clear.
- Do western values predominate in international and regulatory bodies? And what is the relation of financial services to the nation state?

Within the Washington consensus there are mechanisms – albeit imperfect - to address what we referred to as “systems issues” in Chapter 2. If the Washington consensus breaks down, the world is likely – in our timeframe to 2050 – to be more fragmented. The fragments or clusters could be organized in a number of ways.

We have proposed two possible ways – as a network of global cities, with city states to replace many functions of the nation state; or connections, and therefore markets, could be global and thus largely virtual, replacing geography with other organising structures such as affinity groups. We can see from the discussion in Chapter 2 that there may be tensions between western culture and the cultures of the emerging middle class in

industrializing countries: and we know that there has been a diaspora of workers at all levels from developing countries to the west – with for instance nearly three million NRI (Non resident Indians) in the US alone: could these form groupings strong enough to balance the demands of the nation state?

Our scenarios combine these two aspects of the global society – the persistence or otherwise of the Washington consensus and the organizing principle of geography or virtuality to ask

- Will our economy and society be similar to now,
 - i.e. the Washington consensus, or
 - Will there be a new paradigm?
- Particularly in relation to financial services, does geography matter?
 - Will city states replace many functions of the nation state, or
 - Will markets be global and so largely virtual, replacing geography with other organising structures such as affinity groups?

As with all scenarios, the answers to the questions may be “both”. We do not expect that the world will be as we describe. The purpose of exploring worlds in which the answers are “either – or” are to draw out the differing characteristics and support the early recognition of potential change.

Scenarios for 2050

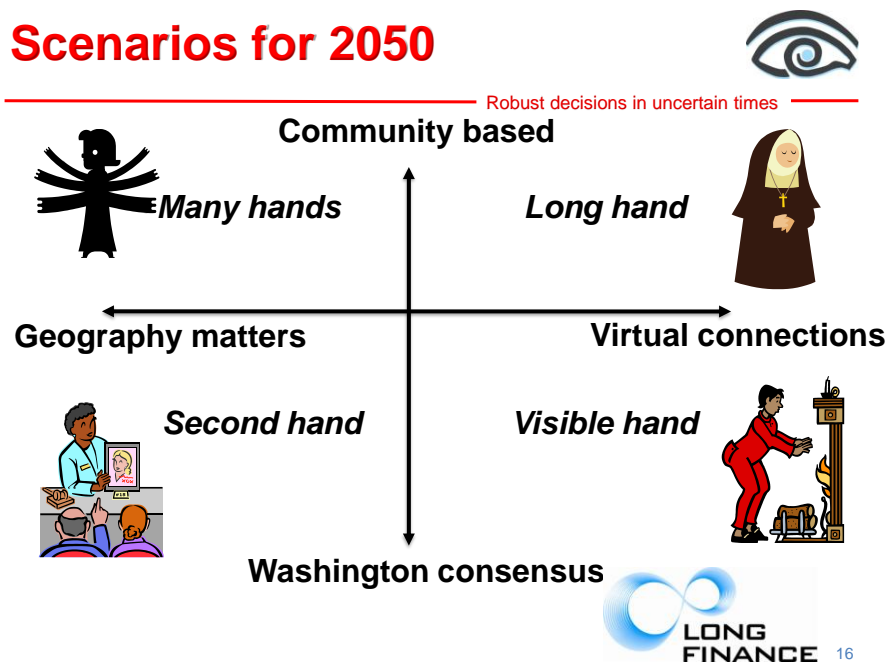


Figure 4.1 Four scenarios

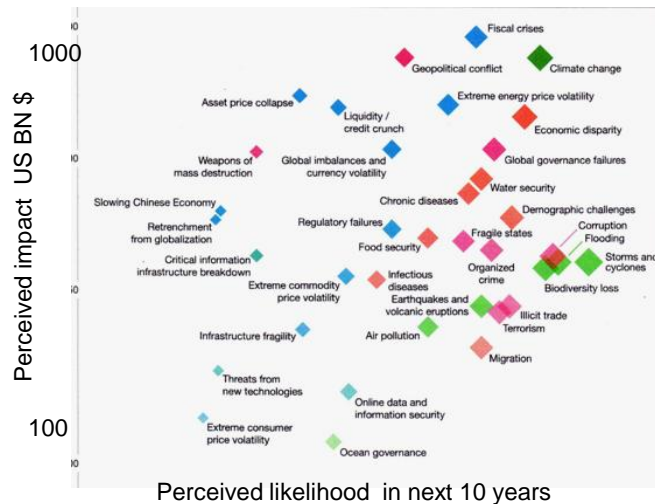
Our two questions lead us to four scenarios which provide a framework for thinking about the context, role and shape of financial services in the future, see Figure 4.1 above.

In describing the evolution of the scenarios, we take into account the current financial crisis in the western economies. We assume that this will weaken but not necessarily be the death knell of the Washington consensus. In the narrative, for simplicity, we introduce a hypothetical “event” in about 2030. This severe weather or natural event, with ensuing food shortages does – in two of the scenarios – cause the collapse in the current world order – the Washington consensus. The recent events in Japan have highlighted the ease with which even a G7 country can be destabilised. But clearly there could be a number of other causes, as in Figure 4.2 (WEF, 2011). Meanwhile the current “second wave” financial crisis (writing in 2011) could accelerate this.

WEF Global Risks 2011



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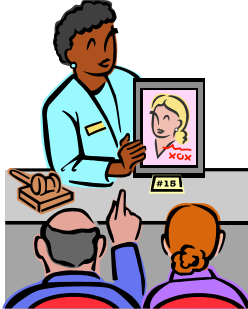
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Figure 4.2 Global risks

Imagining the world beyond the Washington consensus was challenging as so much of our infrastructure – physical and governance – is based on western values and management. Clearly not all of this infrastructure will break at the same time, but financial pressures in the US may hasten the demise of many international and multi-national institutions which implement the international dimensions of the consensus.

4.2 Second Hand



Second Hand is a world in which democracy is still valued, western values and institutions are still part of the global business environment, capitalism is still the dominant paradigm, as part of the Washington consensus. It is a world in which geography – in the form of the nation state – still matters, though with weaker powers than today. It is a “muddle through” scenario, in which international structures decay as they do not reflect the relative wealth of the BRIC countries and other industrialising nations such as Turkey.

The world will have evolved due to population and resource pressures. New nano bio and cogno technological capability will have underpinned increasing populations, and may also have started to address resource pressures. Food technology has managed to feed the population, and technological approaches to deal with ecological, environmental and energy concerns have been quite successful, as solar-rich regions augment oil-rich regions as sources of energy. The potential for human enhancement is such that many individuals make this a priority.

The cost of defence and border controls has led to these becoming regional concerns. Cyber attacks are common place. Nation states have reduced capability to provide services for their citizens, leading to lack of a safety net and severe inequalities in health and education.

Immigration is essential to help regions with ageing populations – China, Japan, Europe, US - cope with this. Africa, India and Latin America have young populations but the successful of these economies will need all their people – though they may travel for gap years or to get extra language skills.

The net result is two billion people living in a Post-Globalisation society, five billion in Consumer-Lite, and two in Poor-Populist societies.

What could cause this scenario?

This scenario would be a result of the current mechanisms adapting and evolving to avoid crises. This scenario can only develop if the earth manages to provide food and water for



the nine billion people, without there being major shortages. It also depends on the rise of individualism and the increased mobility of people and corporations globally to seek better economic conditions.

What could prevent this scenario?

We have speculated earlier on potential sources of global crises that could cause the breakdown of the Washington consensus and hence preclude this scenario.

Early indicators – in the short term

Washington consensus

The US and Europe lose economic strength and struggle to maintain military strength. This leads to global volatility as a power vacuum develops and starts to alter the terms of trade towards bilateral agreements. Large corporates play an important part in supporting the Washington consensus, with the possibility of new currencies such “Google dubloons”.

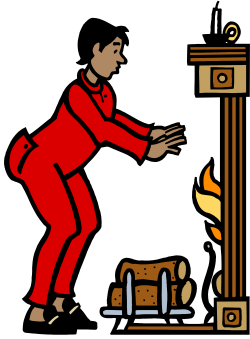
Nation states

States are finding it difficult to provide pensions and health care, leaving provision to individuals and (decreasingly) employers. There is a shift of responsibilities from the State towards (willing) parts of society - 'Big Society' philosophy. States are competing to attract corporates and financial services firms, investors “nation-hop”. Investors are offered government bonds at high rates of interest to compensate for perceived risk. Traders move to areas of low personal taxation.

Sources of crisis and successes

The western economies are struggling with debt and a series of financial crises, while savings from China and sovereign wealth funds support the global economy. We start to see headlines about food technology breakthroughs which will feed more people without more land. Growth areas among asset classes are land based - e.g. mining and agriculture.

4.3 Visible Hand



Visible Hand is a world in which the current political, social and economic regimes are still recognisable as the Washington consensus. It will have evolved after the financial and fiscal crises, responding to population and resource pressures, and taking advantage of new technological capability. The world is more educated and well fed but at the expense of “rugged individualism”, with a pervasive global culture. This pervasive culture leads to extreme volatility and break down into a **Long Hand** or **Many Hands** world by 2050.

Regional super states grow in power at the expense of nation states as a result of the need for better coordinated international regulation and taxation. Security expenditure is focused on conventional defence, while cyber attacks are rampant. Affinity groups grow in importance for the common person, covering financial, physical and emotional security. Wealth becomes more evenly distributed within affinity groups, although some groups live better than others. Education is globally available and there is a shift to taxation on consumption/sales.

There are breakthroughs in food production which means that supply keeps pace with demand for food as the world population grows to nine billion people. Healthcare, education and insurance are driven by private sector solutions. People are less concerned about their personal wealth as they identify with their affinity group that makes them feel safe and secure.

This scenario could develop if the world is able to deal with the ecological, energy and environmental needs of the nine billion people through a combination of technological advances and changing behaviours and lifestyle ambition in the old and new middle class. Global financial volatility means that large numbers of people in the west see decreases in their standard of living over the decades to 2030, and states struggle to provide a safety net.



Corporations grow very large as result of relatively open global markets and global penetration of ICT, and integrate vertically with weak intervention from government, analogous to Russia post democratisation. The efficiency of these dominant corporates is not very high and job mobility between them low. There will also be a mass of very small companies serving local markets and local needs, with many self employed, with little regulation. These peoples' savings (for pensions) will seek secure investments.

This scenario has primarily Consumer-Lite and Poor-Populist societies.

What could cause this scenario?

This scenario would follow from the western economies recovering strongly from the financial crises and avoiding further crises from any cause.

What could prevent this scenario?

If the western economies struggle to recover from the financial crisis this scenario would not be viable. This scenario is thought to be unstable due to the large numbers of people suffering decreasing living standards, the influence of dominant and less adaptable corporates, short termism and the volatility within a homogeneous global culture.

Early indicators – in the short term

Washington consensus

The Washington consensus is strengthened though the resolution of the financial crises. Large corporate emerge stronger and play an important role in an international consensus.

Nation states

States place citizens' benefits and education as priority over other expenditure. This requires innovative approaches such as the emergence of lifetime "package of benefits". States have an increasing role as regulator. The empowerment of middle classes in middle income and developing counties challenges nation states' legitimacy.

Sources of crisis and successes

The financial crisis does not cripple the western economies. A food crisis is avoided through food technology breakthroughs which will feed more people without more land.

4.4 Long Hand



In the *Long Hand* scenario, the financial crisis in the early years of the century was followed by a fiscal crisis in many western countries. This overloaded states' budgets and caused a retrenchment in state expenditure and consumer spending power and overall consumption. As a result, virtual connections based on affinity groups – ethnic, religious – and spanning geographies become the main global organising structures.

The path to this is various resource crunches (water, oil, metals, phosphate) and environmental concerns (carbon emissions, pollution) which combine to push prices up and reduce the consumption of physical goods, especially for poor people, with a crisis in the 2030's related to lack of food following a year of extreme weather.

But the perceived life experience of most people (the “feel good factor”) was not adversely affected. They discovered they could enjoy rich and fulfilling lives with very little physical consumption by using the entertainment and social capabilities of the web 3.0. By 2030, many people had their main social interactions through work and social networking (often the same institutions), with other people who shared the same interests, language and ideological or religious perspectives. Affiliation to these cyber groups became more important than loyalty based on geography or nationality.

These communities had a heightened dependence on virtual infrastructure. New global governance mechanisms arose, based around a loose network of affiliate groups with differing organising principles but common need to tackle global concerns – ecological, environmental or related to energy.

However this loose grouping proved an unstable source of governance, and society broke down; near-famine conditions reigned for some years. In the ensuing chaos, people's lifelines were their affiliate groups, where people turned for help. This experience reinforced the attitude that such affiliate groups were the only dependable source of



security and welfare for their members, and they rapidly became the mainstay of the new paradigm of “who you trust”.

In this scenario, the role of national or regional governments is to enforce geographically based property rights through defence against physical or cyber attack; and to keep law and order.

In this society, more people – maybe as many as three billion would live in a Post-Globalisation economy, with less in a Consumer-Lite society.

What could cause this scenario?

This scenario could follow a breakdown in world order after a crisis – possibly a food crisis or the ongoing effect of the financial crisis, e.g. failing of the euro. What would cause the new world order to resemble *Long Hand* vs. *Many Hands*, i.e. a set of communities with virtual links (as well as geographic) vs. a set of communities with geographic links (as well as virtual)? We speculated that the prominence of cyber-crime attacks could influence towards *Many Hands*, with its emphasis on physical presence, whereas military and civil insecurity could be a marker for *Long Hand* with trust within a community.

What could prevent this scenario from happening?

The evolution of the Washington consensus towards more diversity in order to decrease volatility and handle potential crises could prevent this happening.

Early indicators – in the short term

Nation states

States increasingly are unable to finance state benefits, with decreasing tax returns from individuals, and so they try switching to taxes on transactions. There is a shift of responsibilities from the State towards (willing) parts of society. Affinity groups across national boundaries have increasing role in providing pensions and security.

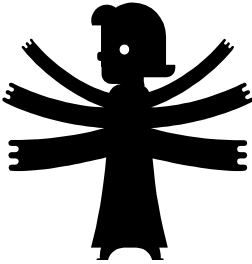
New financial services and asset classes

Watch for rise of alternative currencies such as Google dubloons. There could also be increased bartering, and the rise of Sharia financial services. Oil revenues and sovereign wealth funds put their money into insurance companies and infrastructure.

Sources of crises

Failing of the euro would be an early indicator of the breakdown of the Washington consensus.

4.5 Many Hands



The *Many Hands* scenario sees a world which has declared globalisation to have failed, democracy to be too unwieldy, and western value systems inadequate. The concept of the nation state as provider has disappeared. In its place, a multitude of city states have emerged, in some cases replacing completely a failed state, in others co-existing (occasionally awkwardly) with a state whose role and authority are often substantially reduced. Mobility across states and between cities is the norm. The city state communities have very different strengths and weaknesses, wealth and brand.

One of the main drivers has been the progressive failure of globalisation to deliver its promised advantages and benefits beyond a restricted circle of countries. The desire of countries to protect their economies in a time of protracted difficulties and resource scarcity saw a growth in trade barriers and protectionist measures. At the same time, the widespread crisis of confidence and trust – towards the state and its institutions, but also towards the private sector – fuelled malcontent and secessionist aspirations.

The extreme weather events in the 2030's plunged the world in a heightened state of insecurity from which it is still to emerge in 2050. Supply chains were re-thought, and credit was re-aligned to available resources. Cities on flood plains (river, sea) with over two billion of the world's population between them were the worst affected. Food supplies and potable water were severely disrupted. The global population fell by a billion people in the 30s due to food scarcity, epidemics and wars although it appears by 2050 once more to be on a growth path

City states represent fortresses where individuals seek protection and order. It is very much an 80/20 world with high inequalities, both within cities and amongst them. Cities with strong brands and economic viability are able to pick and choose their inhabitants, leading to positive feedback and wealth reinforcement. Control of immigration and wars for resources mean that successful cities have armies consisting of robots; unsuccessful cities have armies of disenfranchised youth, while some city states have failed and disappeared. 70% of the world's population live in city-states, and the top 50 city states



worldwide form the C50 replacing the G20. 25 of the C50 are in Asia and 10 in Africa (Clinton Global Initiative, 2011).

Cities have not assumed all of the 'old' state responsibilities, particularly welfare and financial protection (although they do collaborate with whatever survives of the State to provide for security and defence against physical and cyber attacks).

Individuals protect their personal identity, credit ratings and parking spaces at all costs. There has been a collapse of traditional monetary/cash systems. Social networking has empowered the middle classes in particular, and two types of information are recognised – that which is readily available, and that which is commercially protected – so intelligence gathering is a key source of competitive advantage for corporations. For the latter, the ability to maintain trust and reputation are fundamental. The bonds and commercial papers (or equivalent) of some of the few 'global' corporations are also used as international currency

This scenario has more people in a Consumer-Lite society, maybe five billion, and less in a Poor-Populist society.

What could cause this scenario to happen?

If there is a global break-down through a crisis – food shortages, or financial, or war – the shape of the rebuilt world order could revert to being dominated by city states.

What could prevent it?

This scenario follows a crisis, so measures to prevent a crisis could prevent it. In the case of a crisis, rebuilding around affinity rather than geographical communities would mitigate this scenario if not replace it.

Early indicators – in the short term

Nation states

States cannot finance state benefits from decreasing tax returns from mobile individuals and corporates, so switch to property taxes. Property prices outside cities are depressed as property taxes are added to the high cost of transport. Resentment of subsidies to poorer regions by the majority city dwellers leads to states reducing fiscal transfer from city to country regions, to focus on city transport and infrastructure. Empowerment of middle classes is a global phenomenon.

Rollback of ICT

ICT companies stepping back from integration/open systems, failing of the cloud due to security issues. Social media as integration mechanism for lawlessness causes reversal in public attitudes.

**Failure of the euro**

The failure of the euro, preceded by bond defaults in weaker countries, signals the end of the Washington consensus of international cooperation. The growing importance of fundamental resources leads to trading/investing in land based assets, and insurance based on gold and commodities.

5. Financial Services – terminology in 2050

In this chapter we outline the terminology which we will use for describing financial services in 2050 in Chapter 6. We start by thinking about asset classes in 1930, and those which could become more valuable by 2050. We review the evidence and indicators for short termism, and the role and location of financial services centres. We finally consider the actors in the financial service system, and briefly the characteristics of the financial services ecosystem.

5.1 Asset classes

One of the first meetings of the L3F brainstormed headings to describe financial services and asset classes in 1930 which would also help us in describing 2010 and 2050. The algorithm “look back twice as far as you would like to look forward” was first proposed by Robert Textor as part of the Ethnographic Future Framework (Textor, 1995). We thought that four headings would be broad enough to do this for 1930:

- Land and investments in commodities similarly restricted to a greater or lesser extent by global constraints
- Energy and utilities, with a value related to demand from individuals and commerce
- Cash – for which we took the value of gold as a measure
- Intellectual added value (brains) which in 1930 were the new chemical and automotive industries.

We explored the value of a portfolio as it might have been set up by an expert in each of Shanghai, Berlin, New York City and London. This helped our thinking about the range and valuation of these asset classes. It also came up with some interesting insights – property prices (as measured by the UK government) represented the best investment globally over this length of time.

By 2050, other possible sources of scarcity rent and hence asset value could include, for example:

- intellectual property and skills as embedded in capability networks (see the discussion of the Post-Globalisation style in Chapter 3)
- market share and brand; "inertia" rents from infrastructure or past investment
- scarce resources (water, biodiversity, energy, minerals -----)
- clean air (via emissions trading or citizenship rights)
- reproduction permits, as in China now
- citizenship of desirable countries or cities.

So, to the four headings for 2030 we would add for 2050:

- Land and related commodities – land still an asset: to 2030 land used to grow food is a scarce commodity, though after that new techniques using less or no land will become widespread. There is a major new emphasis on scarce raw materials, such as water, trace minerals; and on biodiversity.
- Energy and utilities – an increasingly important asset class, and now extended to other forms of market share and inertia rents such as infrastructure;
- Cash – gold and silver are maintaining and increasing their value in a time of volatility
- Intellectual added value – now very much more significant as intellectual property and skills, capability networks, are facilitated by ICT.

A fifth asset class for 2050 is emerging as a possible category: assets representing the ability to shelter from population pressures, such as citizenship residence permits, environmental or reproduction permits, clean air; or those connected with biodiversity and other measures of sustainability.

5.2 The short long

There is evidence that, over the last decade, investment decisions in the US and the UK have become more short term. This is defined as investors discounting future cash flows over and above the risk-free rate (Haldane, 2011). One example is a PWC study of FTSE 350 executives, faced with a hypothetical choice for personal investment. Most of them chose a low return option sooner (£250,000 tomorrow) rather than a high return later (£450,000 in three years time). This suggested annual discount rates of over 20% (PWC, 2011). While corporates impose their own investment rules, corporate decisions will be influenced by individual attitudes.

The consequences of this are that, in the US and UK, infrastructure and high tech investment suffers disproportionately. Hence we see the growth of sovereign wealth funds and investors into US & UK from less stable countries, investing in physical and high tech infrastructure, and other long term investments. Does this matter, if we take a global view? What effect if it does? Certainly, one effect will be to accelerate decline of US & UK due to a combination of lack of investment in small items and net flows out of the UK and US as the investments start to return net flows to investors outside the west. This is rightly flagged by Haldane as a public policy issue.

In looking to 2030 and 2050 we should ask, is short-termism likely to persist? Is it part of either physiological or social change or both? There seems to be evidence that our brains are adapting to the internet age by reduced attention spans – from maybe an hour to typically minutes (Carr, 2008) – but there is no evidence at present to connect this with the lack of a long term approach to investment. However, in the same way that it is possible to assign the cause of the Berlin Wall coming down as satellite television, it may be possible to link short termism to the twin guns of consumerism and personal



gratification, combined with a feeling of uncertainty about their tenure in executives as they make investment decisions.

As one Risk Director recounted to Gill Ringland,

“I told my Chief Executive in 2006 that the US sub-prime loans were highly risky and many of them were border-line fraudulent. He said that they were profitable, and if he did not let the traders invest in them he would be less profitable on a quarterly basis and out of a job – and the next CEO would continue the investments”.

Recent research by Andrew Lo (Lo, 2007) has identified three parts of the brain – a reptilian core, a mammalian layer and a hominid or rational layer. Reptilian instincts, to shut down, come to fore in a crisis. Peter Atwater (Tett, 2011) has suggested that a sense of insecurity fosters a longer term shift towards narrow horizons. Since job volatility may well continue in line with the turbulent environment, it would seem prudent to build this into our look at 2030 and 2050.

In particular, in the homogeneous world of **Visible Hand**, this short termism dominates and contributes to the downfall of the Washington consensus.

5.3 The location of financial services centres⁸

A report for the Long Finance Series “The Great Game: Clustering Wholesale Financial Services” (Cooper, 2011), concludes that while academic theory would suggest that most clustering results from a mixture of three inputs, viz industry-centred complexes, agglomeration, and social networks, wholesale financial markets present an apparent paradox. Although digitalisation has turned finance into a weightless industry, it is very heavily clustered, contrary to expectations.

It is very clear that social networks played an extremely important role in early cluster formation. This is scarcely surprising, given that early financial services institutions tended to be family firms, partnerships and syndicates. Industry-centred complexes and agglomeration theories do, however, have some explanatory power in understanding early stage clustering. Market participants were pulled into early financial centres in the Low Countries because these centres were operating as capital nodes for trading networks that linked the Baltic, central Europe, Italy, Spain and Britain. This agglomeration was attended by the development of increasingly complex multi-tiered businesses and exchanges, the most significant of which in financial terms were trans-national banks and discount houses.

⁸ This section is based on the report “The Great Game: Clustering Wholesale Financial Markets” above.



As clusters matured, the dynamic mixture changed. Growth was based on accelerated agglomeration and the expansion of industry-centred complexes. Social networks remained important; most market institutions remained private businesses, but they effectively became intertwined with industry-centred complexes which were completely dependent on human talent and interaction. Since then, agglomeration has acted primarily as an indicator of cluster health - strong clusters continue to pull in new participants at the expense of weak ones.

Forces contributing to agglomeration

Why have certain clusters grown to positions of global dominance and maintained those positions in the face of a host of challenges?

A combination of geography and international politico-economic history has always shaped the map of where clusters have grown and survived. This is as true today as it was when the Barings and their neighbours fled from Napoleon to the safety of London. The most significant change in the map of global financial clusters in our lifetime has been the emergence of China from internal chaos and self-imposed isolation to begin asserting her full potential on the international stage.

Below the level of geo-politics, however, the real battle for cluster supremacy is being fought on two different battlefields - one internal and one external.

Competition between centres

The internal battle is for control of the various global financial marketplaces. The weapons are controlled by the clusters themselves, of which the strength and depth of their labour pool, the ability to attract flows of liquidity and the size and the strength of their large financial institutions are easily the most important. Although this battle is continually being fought, the general rule is that the largest and best-established global clusters maintain their positions and have sufficient reserves to retake any ground lost during periods of weakness, such as that experienced by London in the aftermath of 'Big Bang'.

The ongoing effect of IT on the competitive position of international financial clusters is that it has, because of the sheer scale and complexity of modern multi-dimensional infrastructure, widened the gap between a small number of truly global players and a much larger group of national or regional financial centres.

And finally, global financial clusters and global marketplaces require global cities, and particularly the global concentrations of skilled market professionals that only the latter can support.

Externalities – tax and regulation



The external battlefield is - and always has been - that of tax and regulation, underpinned by the legal environment. A transparent and implemented legal system, and the certainty it gives, allows participants to transact and do business. The roles of tax and regulation are more variable.

Taxation has historically tended to be a blunt instrument, usually employed by the state to finance wars, and financial centres were always vulnerable to such levies simply because they normally represented the largest and most liquid sources of capital.

The battle today is more complex. The entire taxation regime has changed beyond recognition since the start of the 20th century as growing state sectors imposed higher and higher burdens on the public purse. While the financial services sector has had to shoulder the general increase in corporate and personal taxation, it has often also attracted additional taxes.

Large financial services institutions are international conglomerates with the expertise to manage their corporate tax payments around the globe. The same is not true of smaller firms, such as the financial boutiques that are often at the cutting edge of competition and innovation, and thus these are far more likely to seek lower tax regimes. As long as their destination is simply a tax haven, then no real damage will be incurred by the cluster they have left as their business will still be transacted in its marketplace. The situation changes completely if they decamp to a rival global cluster, for instance because of lower personal tax rates for individuals.

Personal taxation

Personal taxation is often the determinant of the strength of a financial services cluster. The bulk of the workforce is made of skilled professionals in their 20s and 30s who are extremely mobile. Only a small portion of this workforce will remain in the industry after they turn 40 and fewer still until retirement, so they focus on maximising income and savings while still in the mainstream.

The European Union is one labour market, but it does not currently have one tax regime. This means that EU nationals can easily move elsewhere in the Union to minimize their taxes, particularly in cases where their existing employers have offices in other European centres, to minimize their tax. There are also many new centres which will be staffed at least in the short term by a 'brain drain' from established global centres.

The personal taxation issue impacts directly on one of the key assets of a successful global cluster, its skilled workforce. It is currently estimated that something in the order of 25% of the income tax collected in the UK is paid by about 275,000 people, of whom at least half are likely to work directly or indirectly in financial services, (Houlder, 2011).

Uncertainty and regulation

As long as a cluster is facing the same regulatory burdens as its competitors, and as long as the regulatory horizon is relatively stable, firms can generally pass on the increased costs of compliance to their customers. Uncertainty in regulation is the damaging fear. The fear of this Sword of Damocles is captured in the answer of one of the respondents to the GFCI9⁹ question "Do you have any comments on the specific factors that affect the competitiveness of financial centres?"

"There is a constant overhang of regulatory change in the major markets - those affected most by the global financial crisis - that can change the dynamics of our industry in major ways. In the interim, the financial centres must wait with uncertainty and trepidation, not fully knowing what governments will apply as solutions and new rules to counter future crises."

Trends

Global financial clusters are stronger than they have ever been and the largest clusters continue to gain ground at the expense of smaller competitors. Globalisation has strengthened the power of the dominant clusters by increasing liquidity flows and access to talent.

The impact of the IT revolution has been centripetal rather than centrifugal, concentrating liquidity in clusters rather than scattering it across a host of mini-marketplaces.

A combination of higher personal taxation and a more restrictive or uncertain regulatory regime is destructive to financial services clusters.

We will come back to this as we consider the four global scenarios in relation to financial services, in Chapter 6.

5.4 The actors in financial services in 2050

In this section we explore:

- Who are the actors? Can we use a vocabulary that does not assume our current institutional forms? What are the indicators for current institutions?

Individuals

The current retail banks may disappear as new institutions spring up without the legacy overheads discussed in Chapter 6 below— but individuals will still want to pay for items, to save, to take out insurance and loans and/or mortgages, and provide for old age through pensions.

⁹ The GFCI indexes are produced by Z/Yen every six months to chart the relative strength of Global Financial Centres.

- Paying for items, and savings and loans/mortgages, are likely to be disintermediated by ICT systems. (LSE, 2009).
- Providing for ill-health via insurance may become impossible as the underlying assumptions of sharing risk disappear through biotech advances. (Keim, 2008)
- Providing for old age through annuities or corporate or government pensions may become irrelevant as life spans increase and work is increasingly needed for many years longer than we currently envisage it.

Insurance/guarantors

The basis of insurance is changing, with life and health related insurance to become unviable as genetic information becomes available, and property insurance in question as population densities increase in areas subject to flooding, earthquakes and tsunamis as discussed in Chapter 2. As science and technology improves our ability to forecast life spans and weather, the basis for private insurance is in question.

Insurance – of all sorts - may become a prime focus for government and access to this could be one of the perks provided by our fifth asset class in 5.1 above, citizenship permits. For this reason we use the term Guarantors rather than insurer.

Investors

Investors will be concerned with

- The effect of the aging population
- Shelter from volatility
- Environmental and natural resource issues.

There may well also be an increase, as for insurance, in services linked to risk reduction, for instance in equity investment linked to hands on management.

Corporates and governments

Corporates and governments will want the same list of products and services as individuals, but in addition look to use financial products to decrease risk. These products will increasingly be ICT intermediated, and many current institutions serving corporates will fade away. The replacements may be in-house services (as in *Visible Hand* or new players based on ICT, as discussed below in Chapter 6.1.

Traders

There will certainly be some traders, though their existence has already been changed beyond all measure by automated trading. The effect of this on volatility has been already seen, for instance the description in <http://www.finance-ol.com/2011/08/analysts-u-s-stocks-plunged-the-murderers-are-automatically-sell/> on August 19th 2011, and earlier plunges in May 2010.

Regulators

The scope and nature of regulation is an important question for 2030 to 2050 – will it be global or national/regional? Will it be based in multiple cultural norms or the Washington consensus?

The terminology

Our descriptions in Chapter 6 use a functional rather than organisational description of financial services for 2030 and 2050 in which the actors are:

- Individuals who may also be traders or investors or use the services of traders or investors or guarantors
- Corporates and governments who may themselves be traders or investors or use the services of traders or investors or guarantors
- Guarantors (which may be governments or private)
- Investors (professional, individuals or corporates or governments)
- Traders (professional, individuals or corporates or governments)
- Regulators (industry specific, national/regional or global).

In the discussion below on ecology we use the term “end user” for individuals, corporate and governments; and “intermediaries” for investors, traders and guarantors.

5.5 The ecology of financial services

The ecology of financial services is essentially about intermediaries and their regulatory regime – individuals, corporate and governments use financial services in a manner set by the intermediaries and the regulators. This is not to underplay the effect that the end users may have together or individually in determining in particular the regulatory regime: this is set by political pressure from end users as well as lobbying by firms in the financial services industry. And of course end users can contribute significantly to the volatility and momentum of markets at different times

It is obvious that financial services today form a system which has become increasingly global and networked between intermediaries. One way of thinking about the global system is the network of interconnected financial centres of intermediaries described in 5.3. Another would consider the end users, linked to other end users through multiple intermediaries.

In both cases, the question arises: what is the regulatory regime under which transactions take place across the system? Does it engender homogeneity on the intermediaries? There is evidence that homogeneous systems are more volatile and subject to crashes than diverse systems, in financial systems, (Alexander, 2007) as in natural ecology.

A paper for the Centre for the Study of Financial Innovation, (Mainelli, 2009) argues that the crash of 2008 highlighted the fact that wholesale investment banking depended on



only about 20 major players, too few for resilience, and that more diversity is needed among at least those “too big to fail (and to manage)” and “too big to regulate”.

Andrew Haldane has argued for the use of ecosystem research, where quite clear rules have been derived for the robustness and vulnerability of ecosystems, (Haldane, 2011). He also points out the difficulty of collecting data at sufficient granularity to capture emerging behaviour and sources of volatility, as the financial services ecosystem is not only a complex dynamic system, containing (at least) the actors above, but it is also one in which the characteristics of both the links and the nodes can change within the same timescale, (Johnson, 2011). This dynamic interplay can generate unexpected large market fluctuations, which are the reason that current approaches to handling risk are inadequate, (Bouchard, 2009).



6. Four global scenarios for Financial Services to 2050

In the chapter we use the four global scenarios from Chapter 4 to set the context for a description of financial services to 2030 and 2050. We use the terminology from Chapter 5 to describe questions such as how will assets be allocated? And will “new” goods be traded and if so, what will be valued? We start by describing some common aspects of financial services in 2030 and 2050, in all scenarios.

6.1 What is common to all scenarios?

Forces shaping financial services to 2050

Across all scenarios, the effect of an older population, the changing balance of global power, pervasive ICT and the need to manage energy, environmental and ecological supplies and systems, will reshape the nature and delivery of financial services.

Older population

The effect of an older population means that much of the world’s population will be risk averse. Even in countries which currently have young populations, family size will have decreased by 2050 and people will be living longer. Population growth may be tailing off and wealth increasing but major shifts of economic power will have not been achieved without volatility and a decreased standard of living for many in the west.

Changing balance of power

While the current focus is on the BRIC countries and the middle income industrialising countries, by 2050 the success story may well be Africa. The challenge will be to turn a rapidly increasing – and young – population into an asset rather than a problem.

The other changing balance of power is from the country to the cities, with 70% of the world’s population expected to live in cities by 2050, a growth of nearly 2 billion. This changes the nature of trust from “we have always known the family” to new ways of establishing trust. Our scenarios explore two ways that this could happen – continuing to rely on geography and “face to face”, and the use of virtual communities based on affinity – for instance professional, religious, or ethnic.

A city-based global population will be at least partially dependent on areas outside the cities to grow food, even if this is less traditional than today and factory farming has taken on a whole new meaning, (Foresight, 2011). However, power will be in the hands of those who trade environmental and natural resources, who will be city-based.

Impact of ICT



The role of ICT and other technologies will continue to revolutionise financial services, as has already been seen on the automated trading on stock exchanges in relation to equities and funds.

ICT has two effects on market processes. One is that prices can be set by mathematical abstraction, as in derivatives trading, and the second is that it has made prices of many goods essentially universal and brought assets that were hitherto isolated into the sphere of speculation. This has benefits through economies of scale, but it also increases instability by making mob sentiment global, so accentuating swings in prices. However markets often also display local irrationality: this may result in local regulation which is a countervailing force.

Retail banking may re-invent itself. At present, small scale capital is not seen or traded by the main markets. Less than ten percent of trade volumes go to the ninety percent (by US book value) of private and quoted firms that lie outside of the top 500. Experiments such as the person-to-person funding sites on the Internet have not yet been a major success. However the number of employees of banks and technology firms such as Google with similar market capitalisation is in a ratio approximately 10:1 (Partnoy, 2011), and so a drastic reshaping of banks would seem to be due: a person-to-person service intermediated by technology could be one replacement model.

What additional services might the financial services community offer to the world? It is fair to say that risk bundling and trading is unlikely to reach the levels that we have seen in the past. In 2009, the total assets of the three largest banks as a share of GDP were approximately 250% in France, 350% in the UK and 150% in Australia (OECD, 2011). Investment banking has probably hit its peak. Private equity – hand-holding by investors of the management team - and focused venture capital still have a long way to go. And insurance may be allied to the provision of risk assessment services of the insurer.

Insurance is, on the whole, set to decline. It represents in 2011 around 6% of the OECD gross product. It is difficult to see this being maintained as technology decreases personal uncertainty, science decreases climate uncertainty, and regulation and licencing reduce corporate uncertainty.

Automated accounting systems may bring capital more easily and more securely to entrepreneur and others who need it. Much of the routine work of accountants will also have been automated using standard software, so that the focus of the accountancy profession will be the utility of the data captured, (ACCA, 2010).

Social networking growth will continue and become embedded in all of Post-Globalisation, Poor-Populist and Consumer Lite societies, though the way social networking is used will be scenario dependent. The role of information will be sharply differentiated – if it is readily available, it will have little or no value; but commercially



protected information may have extremely high value. So for instance commodity trading will be dominated by those with the best information, and recent experiments have started to connect Twitter traffic to stock market movements (Harford, 2011).

The size of the financial services industry is set to shrink, as ICT becomes designed into its processes rather than used as an adjunct as in many branches today. The effect of an increased use of automation and reconfiguration of the industry will be to replace many of the existing players.

Environmental and natural resources

An increasing focus of global financial markets will be environmental and natural resources issues. Some of this may appear as commodity trading, also as trading of permits of various types related to the pressures of nine billion people – reproduction, (based on the experience of China), clean air, residency, etc. The volatility is increased by the approach or breach of ecological, energy and environmental limits, and shelter from this will shape many financial services.

A crisis in 2030

In our scenarios we have imagined that a food crisis could be the cause of a radical shift away from the Washington consensus. For instance, a lag in delivery of new food sources from technology advances could cause global shortages and disruption, with millions fleeing to places with more food. But, of course, there could be other sources of disruption such as nuclear conflicts, climate change tipping points (thought to be outside our timescale), and the financial debt crisis originating in 2006.

The actors

The main concern for Individuals - and those providing financial services for them - will be the consequences of an ageing population which looks for safety for whatever money it has. However the generation leaving school now will be 60 in 2050, facing 20 years more working, and mostly without corporate or state pensions to look forward to. Given the short term nature of personal decisions noted above, many may have no financial reserves to fall back on. The creation of a safety net is handled differently in each scenario, as discussed in Chapter 4.

The main concern of Corporates and Governments as users of financial services will be to seek shelter from volatility and to take part of growth outside the west.

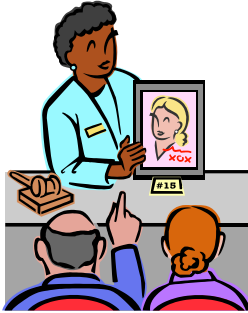
The investment picture by 2050 will be dominated by the tailing off of population growth and an increase in aggregate wealth. Major shifts of economic power will have not been achieved without volatility – a concern of Investors will be to seek shelter from volatility.



The roles and concerns of Guarantors will depend on whether world has learnt to manage volatility, e.g. through localism of regulation and breaking of systemic links. Guarantors will be faced with an ageing population which looks for safety for its money and a guaranteed income. And the underpinnings of insurance – shared risk – may well have been over-turned. The strength of the evidence from genetics and weather forecasting among other ICT applications suggests that the mainstays of insurance are under threat over and above the threats to all financial services

The effect of an older population means that Traders of all types will have customers who are more risk averse. Population growth may be tailing off and wealth increasing but major shifts of economic power will have not been achieved without volatility – often a positive for Traders. But the ecological, energy and environmental limits encountered will mean that commodities and energy trading will develop new rules. And the effect of an older population and pervasive ICT will reshape assumptions and the nature of trading and currencies. Traders could be the most endangered species in the financial services ecosystem.

6.2 Second Hand scenario



Second Hand is a world in which democracy is still valued, western values and institutions are still part of the global business environment, capitalism is still the dominant paradigm, as part of the Washington consensus. It is a world in which geography – in the form of the nation state – still matters, though with weaker powers than today. It is a “muddle through” scenario, in which international structures decay as they do not reflect the relative wealth of the BRIC countries and other industrialising nations such as Turkey.

A view of 2030

Washington consensus

The Washington consensus limps along, bigger bets and systemic risk tend to increase volatility and western nation states are struggling to cope. International regulation is patchy. Investment in gold continues, while volatility provides opportunities for Traders.

Complexity of structures

We start to see regional structures (five or six in the world) gathering coherence – they set the rules for personal mobility within and between regions, and regulate financial services. These regional structures have within them affinity communities which span their boundaries, adding complexity to regulation. This complexity leads to major corporates looking to simplify via retreating from stock exchanges and entering private ownership.

However the nature of systemic risks (as in Chapter 2) creates a need for global insurance – systemic risks span countries and regions. At the same time, many insurance companies are disappearing. Nation states compete to attract corporates and financial services but are limited by regional regulation.

Monetary systems

Monetary systems are recognisable from 2010, though retail financial services are almost completely automated and end user to end user, due to lack of perceived value and disintermediation of current institutions.

Taxation and benefits

Taxation of all sorts is based on individuals and corporates as now, but national systems are falling apart as nations compete to keep High Net Worth individuals and to attract corporates and FS, while individuals “nation-hop” within a region. There is some welfare state provision though states are becoming bankrupt, so that individuals increasingly turn to private provision. Options for private provision are backed by traded funds.

Financial services

- The ecology of financial services is similar to today, though with differential regional regulation and increased power of affinity groups.
- Investors are concerned to shelter from volatility, and investment in land based assets is sought, increasing prices. Investment in gold continues.
- Insurance is becoming much more tailored, using ICT connections and analysis. Within a region, there is fragmentation of insurance markets to cater for affinity groups within a nation as well as regionally based provision.
- Commodities trading will be controlled by a single or very few companies in each region. Equity trading will decline with the number of major corporates through agglomeration and opting for private ownership.
- The most powerful financial centres are still London and New York, though Shanghai and Singapore trade larger volumes.

By 2050

Washington consensus

The Washington consensus is severely stressed. Volatility has increased and has become almost unmanageable: with bigger bets and systemic risk, and credit hard to get. Companies primarily look for shelter from volatility.

Complexity of structures

Regional structures (five or six in the world) set currency, defence, border controls, policy, regulation, mobility rules. Raising capital depends on regional standards and availability and nations will be increasingly desperate to attract funds to pay pensions and invest in infrastructure as short termism comes home to roost. Corporate advisers and accountants are needed to deal with the multi-layered complexity. The definition of a citizen will continue to be ad-hoc by country or region in this scenario, maybe with categories as in ancient Rome, and taxation, benefits, permits and rules for mobility will depend on citizenship

Monetary systems

Monetary systems are recognisable from 2010 but are regional: and retail financial services are provided by off-shoots of other businesses which have lower costs of operation, e.g. Tesco and Google, operating on a pan-regional or trans-regional basis.



Taxation and benefits

Taxation – property and individuals and transactions – is still collected by nations. State pensions still exist at the national level but the system is creaking badly and “of last resort” for citizens, and the argument about the definition of a citizen still rages.

Financial services

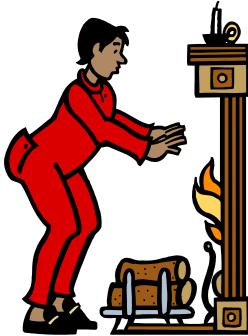
- The ecology of financial services is more diverse than in 2010.
- Investors align with more than one region to shelter from volatility.
- The consequences of an ageing society are a major concern for all the actors – with pensions and security high on the agenda for individuals, corporate and governments. Private insurance is needed for individuals to augment state systems, though the viability of this is decreasing.
- Commodities trading is reduced, as most commodities/resources will be controlled by a single or very few companies. Equity trading will also decline as there are fewer major corporates, and many of these may have opted for private ownership.
- Singapore has emerged as a more powerful financial hub than London or New York, as measured by the CSFI index.

What assets are valued and how are they traded?

This scenario reflects most closely our current world but with more population pressures. While all five asset classes will have value, land based assets, and permits for citizenship or reproduction may be of most value.

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6.3 Visible Hand Scenario



Visible Hand is a world in which the current political, social and economic regimes are still recognisable as the Washington consensus. It will have evolved after the financial and fiscal crises, responding to population and resource pressures, and taking advantage of new technological capability. The world is more educated and well fed but at the expense of “rugged individualism”, with a pervasive homogeneous global culture. This homogeneous culture leads to extreme volatility and break down into a ***Long Hand*** or ***Many Hands*** world by 2050.

A view of 2030

Washington consensus

The Washington consensus continues, with a pervasive “global” culture. Volatility is becoming unmanageable: bigger bets and systemic risk tend to increase volatility and nation states are increasingly unable to cope. The number of major corporates declines through merger and acquisition across industries and geographies and hence provides some stability in the medium term.

Complexity of governing structures

Regional structures (five or six in the world) set regulation, mobility rules, within an international consensus. Individuals in the west suffer decreases in their standard of living. The regions have a powerful role in provision of pensions and investment products. There is a possibility of global conflict – with ‘feudal barons holding out in their castles’.

Monetary systems

Monetary systems are volatile but recognisable from 2010. Overall, populations are still increasing – communities will try to create a ring fence around resources - food, water, mining, agriculture: price expressed in \$ is still the dominant market mechanism.

Taxation and benefits



Taxation – for property and individuals and transactions – is at high levels, leading to extensive tax avoidance. States compete to attract corporates and financial services companies to shore up their tax base. There will be some welfare state provision though states are becoming bankrupt. Those dependent on benefits in Europe will suffer hardship and organise themselves – revolution and organised crime for some; prudence and financial self help for others.

Financial services

- The ecology of financial services is more homogeneous than in 2010
- Investors focus on areas with natural resources, gold and industrial minerals.
- People will look for self-protection with like minded people, insurance is largely regional as insurance companies merge to spread risk.
- Retail financial services become transactional only as there is little scope or need for “clever” financial trading in a homogenised culture.
- Equity trading will decline as there are so few major corporates which may in any case opt for private ownership
- The consequences of an ageing society are a major concern and concerns over pensions dominate. Private provision is increasingly backed by traded funds
- London and New York are still the most powerful financial centres.

In 2050

This scenario is not thought to be stable. A homogenized international regime is unlikely to be able to handle the volatility it creates, and will suffer further financial crises. A lack of diversity means that this scenario is likely to degenerate into either *Long Hand* or *Many Hands* by 2050.

What assets are valued and how are they traded?

This scenario sees the world trying to tackle the global systemic risks through Washington consensus methods and facing increased volatility. The asset classes with most value would be those which were thought to provide protection against volatility, viz gold.

6.4 Long Hand Scenario



In the ***Long Hand*** scenario, the financial crisis in the early years of the century was followed by a fiscal crisis in many western countries. This overloaded states' budgets and caused a retrenchment in consumer spending power and overall consumption. As a result, virtual connections based on affinity groups – ethnic, religious – and spanning geographies become the main global organising structures.

Financial services are mostly organised around communities of affinity, spanning countries and regions. Assets are allocated by the market within a community and intermediated by technology. The most highly valued asset classes vary with the community: in Post-Globalisation communities, they are intellectual property and permits to reduce the effect of population pressure; in Poor-Populist communities it is land-based assets, and in Consumer-Lite communities it is gold.

Washington consensus

The Washington consensus has broken down, with a power vacuum and volatility: and we see the start of growth of communities based on affinity as defence mechanisms.

Complexity of structures

The international organisations and regulatory systems of the Washington consensus are no longer enforced, nation states are struggling to collect taxes, and emerging communities of affinity are starting to collect revenues and provide security. These communities could include those based on religion, profession or lifestyles (e.g. the super-rich).

Monetary systems

There are a multiplicity of national and community currencies: debit cards deal with the complexity of exchange. There is a lack of capital and a rise of barter. The food crisis means that credit is aligned to available tangible resources, and reduced liquidity affects all financial services.



Taxation and benefits

Nation states try to collect taxes based on transactions rather than individual citizenship, and refuse benefits unless the individual has paid in a certain amount. Affinity groups provide support across national boundaries.

Financial services

- The ecology of financial services during this time of disruption and transition reduces to separate islands of activity.
- Investors take flight to safety but not sure where this is
- Most Guarantors lose out
- Traders focus on bartering within trusted affinity groups. Extreme weather causes volatility in commodities.
- The most powerful financial centres are Singapore and Shanghai following floods in New York and the North Sea.

In 2050

Washington consensus

The Washington consensus has broken down to be replaced by 50 or so global communities based on culture, ethnicity or religion. Volatility is less manageable: bigger bets and systemic risk increase volatility, and the competing communities do not have a structure of international cooperation to dampen.

Complexity of structures

About 50 virtual global communities set currency based on affinity group, and regulation is organised by a combination of nations and affinity communities. The only powerful global entities are corporate. Nation states try to align to a single community to reduce the complexity.

Monetary system

Monetary systems have crashed. Currency is a dead concept. Overall world populations are increasing again – so communities try to create a ring fence around resources, food and water.

Taxation and benefits

Taxation is of transactions: these could be between people or machines. Communities differentiate through taxation. Nation states cannot provide a welfare state as we know it: many repeal laws prohibiting child work to compensate for worsening of the dependency ratio. There are many excluded people – leading to revolution and organised crime; prudence and financial self help for others. Affinity groups across national boundaries start to take responsibility, allied with a growth in private pensions and insurance.



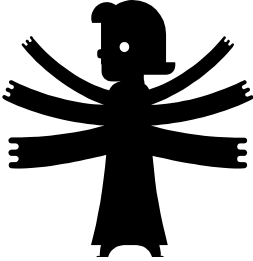
Financial services

- The ecology of financial services contains up to 50 or so loosely coupled systems with diverse regulatory regimes.
- Investment outside home community discouraged.
- People will look to co-operate with like minded people – affinity groups link up across geographies.
- Retail financial services transactional only – IFAs replaced by “Intelligent Financial Advisors” - traditional banking is replaced by individual to individual borrowing. Bank of “me” – trust is crucial within an affinity group.
- Traders focus on bartering within trusted affinity groups. Extreme weather causes volatility in commodities.
- London and New York reclaim their position as pre-eminent financial services centres following the decision of more than half of the 50 communities to base their operations there to take advantage of multiple cultures. London would prosper best in a ***Long Hand*** scenario, in which multiple virtual communities inhabited the same space – as the 270 nationalities living in London today

What assets are valued and how are they traded?

Assets allocated by the market within a community and intermediated by technology. The most highly valued asset classes vary with the community: in Post-Globalisation communities, they are intellectual property and permits to reduce the effect of population pressure; in Poor-Populist communities it is land-based assets, and in Consumer-Lite communities it is gold.

6.5 Many Hands scenario



The *Many Hands* scenario sees a world which has declared globalisation to have failed, democracy to be too unwieldy, and western value systems inadequate. The concept of the nation state as provider has disappeared. In its place, a multitude of city states have emerged, in some cases replacing completely a failed state, in others co-existing (occasionally awkwardly) with a state whose role and authority are often substantially reduced. Mobility across states and between cities is the norm. The city state communities have very different strengths and weaknesses, wealth and brand.

View of 2030

Washington consensus

The Washington consensus has broken down, and there is no effective international organisation or regulation in place, leading to volatility and uncertainty.

The crisis

This scenario is based on a hypothetical crisis such as extreme weather causing food shortages and population decline in at least some areas (such as cities at sea level). New York and London are flooded. Corporates and governments are unable to get insurance. A military conflict and ensuing epidemics contribute to both population contraction and retrenchment in city- and region States.

Monetary systems

These are still based on nation states and some currency unions such as the euro have broken up. The weakness of the \$ means that the Chinese proposal of a currency backed by the IMF is being tried but the IMF runs out of money.

Taxation and benefits

Nation states are in disarray and tax collection suffers. Individuals retreat to growing their own food and hope that the crisis will pass.

Financial services

- The ecology of the financial services system is of multiply failing nodes and decreasing activity in western economies.



- Traders – return to bartering and bilateral trade
- Credit crunch and reduced liquidity damps regrowth
- Insurance unable to cope, many guarantors fail
- The most powerful financial centres are Chicago, taking the New York business, and Singapore, taking the London business.

In 2050

Washington consensus

In place of the Washington consensus has there is a loose federation formed of about 50 city states, the C50. Trust between city states is weak and international regulation decayed.

The city states

The top city states, maybe 50 globally, set their own currency, regulatory framework and mobility rules. The rules are designed to reinforce their brand, and the states all are trying to attract High Net Worth individuals and global corporates (including financial services) through low taxes. Personal ID, credit rating and parking spaces are highly protected. Intelligence gathering across states is a source of competitive advantage

Monetary systems

Monetary systems based on nation states have crashed and each city state has created a new currency. The bonds and commercial papers of some of the 'gold chip' corporations who still enjoy 'global' brand, reputation and trust are occasionally used as 'currency'

Taxation and benefit

Taxation is property based in most cities but those following a Post-Globalisation paradigm also tax transactions. Benefits are very basic in all cities.

Financial services

- The ecology of financial services is very diverse, with city states offering different regulatory regimes and software systems and very loose linkage between states.
- The consequences of an ageing society are a major concern – pensions and security are a prime focus for individuals.
- Bank of “me” – trust is crucial within geography. Traditional banking is replaced by individual to individual borrowing regulated by each city state.
- Intelligence gathering and analysis are a key source of competitiveness.
- Bilateral trade and barter: growing importance of fundamental resources (water, food, energy) on financial markets - security of supply is a valued asset & linked to credit.
- Fragmentation of insurance markets, there is no mechanism for global risk insurance.
- Five of the 50 city states dominate financial services, one of which is Istanbul through its lead in Sharia compliant services.



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What assets are valued and how are they traded?

In this scenario, permits to live or operate in desirable city states are highly valuable assets. This could of course be implemented through high property prices rather than a state system. In either case they would be traded directly between individuals or corporates, mediated by ICT.



7. What has surprised us?

7.1 Surprises for financial services professionals

One of the purposes of scenarios is to create mental models which are different from our current world and challenge our assumptions. Some of the things which did this for us were these.

What could break the Washington consensus? We introduced food crises in the 2030's into the scenarios where the consensus is broken: but the current "second wave" financial crisis (writing in 2011) could accelerate this. Imagining the world beyond the Washington consensus was challenging as so much of our infrastructure – both physical and governance – is based on western values and management. Clearly not all of this infrastructure will break at the same time, but financial pressures in the US may hasten the demise of many international and multi-national institutions, (Chapter 4.1).

Financial services were major players on the world stage in 2009. The total assets of the three largest banks as a share of GDP were approximately 250% in France, 350% in the UK and 150% in Australia. The scenarios in which the Washington consensus broke down (***Long Hand*** and ***Many Hands***) saw a return to financial systems more closely linked to assets (Chapter 5.1)

Thinking about the problems of volatility and the role of diversity in taming this took us into building a scenario – ***Visible Hand*** – in which the Washington consensus succeeds too well. By creating a homogeneous global culture, with a short-term focus, the seeds of its destruction are sown, (Chapter 4.3). The natural caution of managers in volatile times (Chapter 5.2) is reinforced by competition between corporates – including financial services providers – for short term results.

The size of the firms in financial services has made them important employers, for instance in the City of London. But many of the current players in the west have uncompetitive cost structures – estimates are that they use 10 times the number of staff for a given turnover as firms like Google and Amazon, built around the use of ICT from the start, (Chapter 6.1).

When we thought about the strength of financial services centres in each scenario, it became clear that London would prosper best in a ***Long Hand*** scenario, in which multiple virtual communities inhabit the same space – as the 270 nationalities living in London today (Chapter 6.4). A city state scenario such as ***Many Hands*** would strengthen centres such as Hong Kong.



The positive aspects of *Long Hand* are aligned to a Post-Globalisation society. A negative view could encompass the hold of religious fundamentalism on a Poor-Populist society, (Chapter 6.4).

7.2 Surprises for individuals as consumers of financial services

The state is facing decreasing capability to offer a safety net for pensions or health care. Buying into national schemes may become only for the rich, as a perk related to payment of high levels of tax (*Second Hand, Long Hand, Many Hands*). The *Visible Hand* scenario, with a homogeneous western culture, is the only scenario in which the state attempts to provide a safety net.

However, the changes in insurance flagged below suggest that insurance-based approaches may also fall apart as genetics becomes more accurate in life forecasting, the science of weather forecasting improves, and supplier failures are tackled by licencing. So individuals could consider property, land-based resources such as commodities, and intellectual property (if it can be protected).

7.3 Surprises for insurers/Guarantors

The basis of insurance is shared risk to deal with uncertainty. As uncertainty around individual life courses reduces, through genetic screening, the basis for health insurance disappears, though life insurance against accidents would still have value. As weather forecasting improves in accuracy and climate prediction becomes more certain, many of the systemic reasons for insurance again disappear, leaving only accidents arising from people's behaviour, e.g. burglary or damage from incompetent repairs.

The improvement of prediction in genetics and weather forecasting among other ICT-based applications suggests that the mainstays of life and health, and property, insurance are under threat over and above the threats to all financial services. (Chapter 6.1)

Insurers/guarantors may see an increased need to offer inspections and certifications as part of the overall service, on the lines of Lloyds Register.

7.4 Surprises for investors

Managing scarce resources will be one of the main tasks of financial services in 2050: the expectations of a large middle class will ensure that capital is less valued than the ingredients of a Consumer-Lite society, (Chapter 3.1).

The separation of asset values from their backing as highlighted in the 2006 and later financial crisis is seen as a side effect of the Washington consensus. Both scenarios in which this breaks down (*Long Hand, Many Hands*) see a return to closer backing of asset values in the financial system to "visible" assets. These ingredients include, in all

scenarios, access to clean air and water, reproduction permits and scarce raw materials, (Chapter 5.1)

The asset classes which prosper are very scenario dependent, and within that dependent on the socio-economic narrative: while land and land constrained assets (e.g. commodities) are valued in most scenarios and narratives, (Chapter 6.1).

- In *Second Hand*, additionally permits for reproduction and citizenship are valued
- In *Visible Hand*, additionally gold and scarce industrial metals are valued
- In *Long Hand*, Post-Globalisation communities value intellectual property and permits to offset against population pressures; Poor-Populist communities value land based assets; and Consumer-Lite communities value cash (e.g. gold)
- In *Many Hands*, permits to live in desirable cities are the anchor of other valued assets.

And all scenarios see the management of environmental and ecological goods as an emerging focus of financial services. A new potential asset class extends the scope of intellectual property as described by patents, towards capability networks, which are people-focused clusters around a specific topic or area of interest.

Investors may see an increased need to offer management services alongside investment, as seen with private equity firms.

7.5 Surprises for traders

Traders have been declared to be an endangered species at regular intervals since the introduction of automated trading. However they continue to be able to threaten to bankrupt companies (UBS being the latest at the time of writing). The implementation of safeguards against “rogue” traders is one of the failures of the financial services industry, with little sign of appetite to tackle it.

The future of money is a frequent discussion point: the answer is different in each scenario. Trust within the city state (*Many Hands*) or community (*Long Hand*) suggests that barter (often electronically mediated) could be replace money here, since there is trust. But between cities or communities, the formality of money would seem likely to continue, (Chapter 5.4).

7.6 Surprises for regulators

All our scenarios are, to a greater or lesser extent, market-based scenarios and as such have a crucial role for regulators.

One major surprise that we encountered was that a unified global regulatory system may well be a mistake, even if it could be attained. The reason is that, while regulatory



systems are imperfect, and difficult to enforce, a common set of rules leads to a lack of “biodiversity” with its greater volatility than a diverse system. Thus, the ***Visible Hand*** scenario collapses due to global volatility which a homogeneous regulatory system could not damp down.

7.7 What next?

As we said in Chapter 1, scenarios are successful if they are used by a group or organisation to see new opportunities and threats, the “ahahs”. We have tested these with a number of groups and two approaches have emerged.

Some organisations use the scenarios to compare their world view with each, to bring out their **implicit assumptions**. Then, by looking for early indicators of each scenario, in their competitive environment, they are better prepared for changes in markets, competition and customer behaviour.

Other organisations prefer to test their existing strategies against the four scenarios – though they are written as for 2050, change happens quickly once it starts. The purpose is to look for **options which are robust** in all scenarios; and to set up a watch for the early indicators which would flag a particular scenario, with its opportunities and threats. A sample agenda for a short workshop to do this was outlined in Chapter 1.7.

The L3F team will be happy to help any organisation looking to explore how to use this work: we can be contacted on l3f@samiconsulting.co.uk or via the Z/Yen web site www.zyen.com.

Gill Ringland
Chairman, L3F
CEO & Fellow, SAMI Consulting
20th October 2011.

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