



In Safe Hands? The Future of Financial Services

GILL RINGLAND





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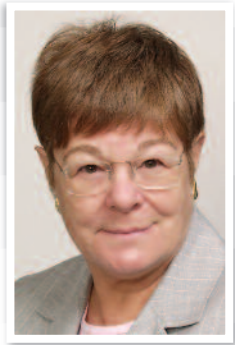
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About the Author



Gill Ringland

Gill Ringland is well known as an author, consultant and trainer on scenario planning and strategy. Since 2002 she has been CEO and Fellow of SAMI Consulting which specialises in decision making and implementation, based on views of the future, "robust decisions in uncertain times". Clients include many financial services organisations.

Gill came to scenario planning when head of strategy at ICL, now part of Fujitsu, where she built a billion pound business in four years. Her career in the IT industry included software, a semiconductor start-up, a process control company and research and product development at ICL.

She is a Fellow of the British Computer Society, a past member of both the Science Research Council's Computing Science Committee and the Economic and Social Research Council, was co-opted to the EC's High Level Group on Converging Technologies and is a Fellow of the World Academy of Arts and Sciences. She has recently been appointed to the European Forum on Forward Looking Activities, which is tasked to embed future thinking into the processes and thinking of the European Commission.

Her scenario books are amazon.com best sellers and are used on many MBA courses. The book "Beyond Crisis", co-authored with Oliver Sparrow and Patricia Lustig, uses scenarios for the new world order to provide blueprints for management. "Here be Dragons", to be published in February 2012, tracks the story of Marco as he is tasked to grow his firm's business in a time of rapid change.

The Long Finance Forum of Futurists (L3F) has worked under the Long Finance umbrella to formulate scenarios, or mental models, for the future of financial services. These scenarios aim to create a shared language and context for exploring the many ideas about how finance may develop in the future. The report "In Safe Hands? The Future of Financial Services" grew out of discussions within the Long Finance community. It became clear that scenario planning, which attempts to envisage how the world will change over the next four decades and what the impact of these changes will be on the provision of financial services, should provide a challenging set of ideas for those examining the future of the financial services industry and the people it serves.

Acknowledgements

L3F is grateful to Z/Yen Group and Gresham College for facilities and support for the workshops which have driven the Forum's work forward, and for the ongoing refreshing range of ideas generated by the various Long Finance activities. SAMI Consulting has provided support through facilitation and expertise at workshops, and has written the majority of this report. "We" in the report therefore reflects the work of the Forum (see Acknowledgements for the Members) but any errors or omissions should be laid at the feet of the Chairman.

Preface

What might financial services look like in 2050? What might our world look like? Would we want to live in it? When there is doubt that the Euro or European Union will survive, when countries once thought of as financially safe seem likely to default on their debt, when our major banks appear to be unsafe and when the possibility of another depression looms large, this fascinating report could hardly come at a better time.

We humans have many weaknesses, among them the inability to learn from history and difficulty in thinking things through and seeing how different components of complex systems are connected. We try to simplify things and look for patterns so, paradoxically, we think we see cause and effect relationships that aren't there. We tend to be either overly optimistic, or overly pessimistic. Most of us want things now. As a result, we value something much less if we have to wait and many of us just can't be bothered to think ahead.

"In Safe Hands?" develops four scenarios in order to consider what our future could be and to understand the implications of possible technological, demographic, geo-political and environmental changes for financial services. We can be certain that all of the four scenarios will be wrong - but this does not matter, since we cannot know the future. What is important is that scenario planning gets us thinking. If we think about how things could change we will understand our world, and our role in it, better.

We may not anticipate the future accurately but trying to do so is almost 'certain' to improve our ability to react sensibly as things happen. We should be able to anticipate events just a little sooner and already have an idea how to deal with them. This can help us to limit risks and take opportunities. It should also help us shape our future, although we probably have less control over it than we think. Whether we do so to the benefit of society and our children is up to us.



Paul Moxey
Head of Corporate Governance and Risk Management, ACCA

Foreword

"The best way to predict the future is to invent it."

Alan Kay

"When will we know our financial system is working?" is one of the questions underlying Long Finance's goal to improve society's understanding and use of finance over the long term. In contrast to the short-termism that defines today's economic views, 40 years is only the medium term for the Long Finance initiative.

40 years is however, beyond most normal planning periods. Scenario planning can usefully be deployed to try and answer questions about the future that cannot be answered with normal forecasting techniques. It is therefore exciting for Long Finance and Financial Centre Futures to publish this paper by Gill Ringland, Chief Executive Officer of SAMI Consulting and an expert in scenarios.

Gill creates four very plausible scenarios of how the world could develop over the next 40 years. The first is a position where we still value democracy, capitalism is still a dominant concept and the nation state still dominates. The second is a world which still has recognisable political and economic systems but has adapted considerably to population and resource pressures.

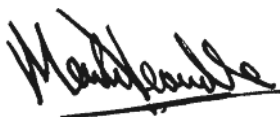
The third scenario imagines a world where the financial crisis has caused a melt-down in many western countries, budgets have been overloaded and general consumption has been severely restricted. The result is a societal structure defined by ethnic and religious groups.

In Gill's final scenario, globalisation has failed and democracy is thought to be unwieldy. Many city states have replaced failed states and constant mobility between these states is seen as completely normal.

For each scenario Gill examines the early indicators of their development, how they might evolve and what could prevent them. Gill goes on to examine the complexity of governing structures, monetary systems and the roles of the 'state' under each scenario.

For me, perhaps the most interesting, exciting and scary parts of this report are the implications of the third and fourth scenarios for financial services, which would need to adapt radically in order to stay relevant.

Policy makers and financial services professionals need to consider possibilities about the future. Their challenge is to make sure that the financial system does not remain broken for too much longer. Gill's paper is therefore required reading for them. It is also an absorbing read for anyone else who is interested in thinking about the future.



Mark Yeandle,
Project Manager, Financial Centre Futures

Executive Summary

Why you should read this report

Financial services have become a major component of western society. Today, the key questions for financial services professionals, as well as their customers, are whether this level of activity constitutes a bubble or whether it is sustainable. What will the industry look like in 10, 20 or 40 years time?

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

The aim is to bring out the implicit assumptions that guide the decisions of industries and organisations. These assumptions are difficult to recognise, since in times of smooth growth most organisations are successful. In turbulent times, as financial services have faced since the financial crises first started to develop in 2006, it is important that such assumptions be recognised. It may be that characteristics which were beneficial in a previous era have persisted but are no longer appropriate. Scenarios provide a non-threatening framework for this discussion.

Using scenarios allows people to explore the implications of other possible—or probable—future worlds and to build these into their own future plans.

Senior managers spend much of their time on current, internal issues. One study of the Fortune 500 companies found that senior managers spend on average just two to three percent of their time collectively discussing strategic issues (Hamel, 1996). Organisations that regularly use scenarios believe that they make better use of this small amount of senior

management time and, as a result, make decisions six months earlier than the competition.

So, you should read this report if:

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

How to use this report

The report can be read as a narrative. In Chapter 2 we develop four global scenarios which explore the following questions:

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

In Chapter 3 we describe the thinking behind the terminology which will be used in Chapter 4 to describe financial services to 2050 in each of the scenarios.

We end in Chapter 5 by 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, rather than reading this report linearly, the reader can skip to Chapter 5, “What has surprised us?”, and use the signposts in that chapter to go to the sections which seem interesting.

The report can also be used as backup for workshops to:

- Compare an organisation's world view with each scenario, in order to bring out the implicit assumptions. Then, by looking for early indicators of each scenario in its competitive environment, the organisation will be better prepared for changes in markets, competition and customer behaviour.
- Test an organisation's existing strategies against the four scenarios. 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, along with its opportunities and threats. A sample agenda for such a workshop is outlined in Chapter 1.7.

To aid in running workshops, we provide a briefing pack (L3Fworkshop.ppt) on the Long Finance web site at www.longfinance.net.

We also include an Annex which contains evidence to support the assumptions about 2030 and 2050 which are common to all scenarios.

CHAPTER 1

Introduction

1.1 Work on the future of financial services

The financial crises which have been unfolding since 2006 have spurred a number of studies on the future of financial services. Two in particular reflect the stresses of these crises.

The World Economic Forum produced a report in 2008, developing scenarios for financial services to 2020. These scenarios explored the effect of two uncertainties: the pace at which geo-economic power is shifting 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.

“We have chosen 40 years, i.e. to 2050, as our timescale. This allows us to explore a number of potential economic, social and technological challenges and discontinuities. These discontinuities mean that individuals may make previously unthinkable choices about their life, potentially creating new paradigms for the economy and for society.”

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 crises have considerably ratcheted up economic volatility, putting an end to the period some have dubbed

“The Great Moderation”. To mitigate these longer-term structural changes in the global economy, 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 centre manages (McKinsey, 2010).

There was also 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, and raised the question of how fast the changes will appear and what their effect will be on financial services.

1.2 Choosing a timescale

In this report we look further ahead than 2020. In doing so, we anticipate that the shift of geopolitical power – which dominates both the studies above – has taken place. Whether this shift is accompanied by a shift in military power, and what form that might take, is more difficult to assess. By explicitly considering the world order that provides a context for financial services beyond the current horizon we start to explore paradigm changes.

We have chosen 40 years, i.e. to 2050, as our timescale. This allows us to explore a number of potential economic, social and technological challenges and discontinuities. These discontinuities mean that individuals may make previously unthinkable choices about their life, potentially creating new paradigms for the economy and for society.

The main differences in working on scenarios with a 40 year 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;

“Forecasts of the global population in 2050 range from 7.5 billion to 11 billion (see Figure A.11 in the Annex). The difference arises because both family size and longevity are unpredictable, which was not the case in previous generations. Even in these previously forecastable domains, the degree of uncertainty is growing.”

- 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, looking back to 1930;

- The possibility that many of today’s political and economic assumptions will no longer be valid and that there may be a paradigm shift.

1.3 Looking 40 years ahead

Forecasting

Forecasting is the process of making statements about events whose actual outcomes (typically) have not yet been observed. It is, however, fraught with dangers since there is always a tension between the evolution of existing trends and the assertion that “a trend is a trend until it bends.”²

Technology and demographics are two areas where forecasting is important and well-developed. The availability of a particular technology 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.

Figure 1.1 Oil industry experts
 Source: International Energy Workshop, 1995

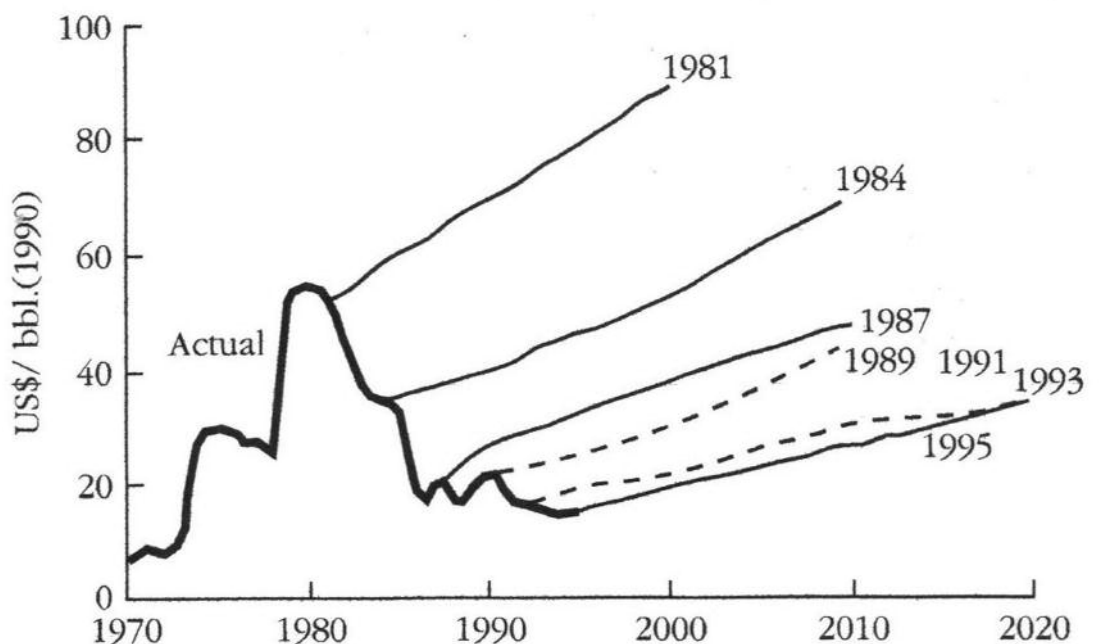
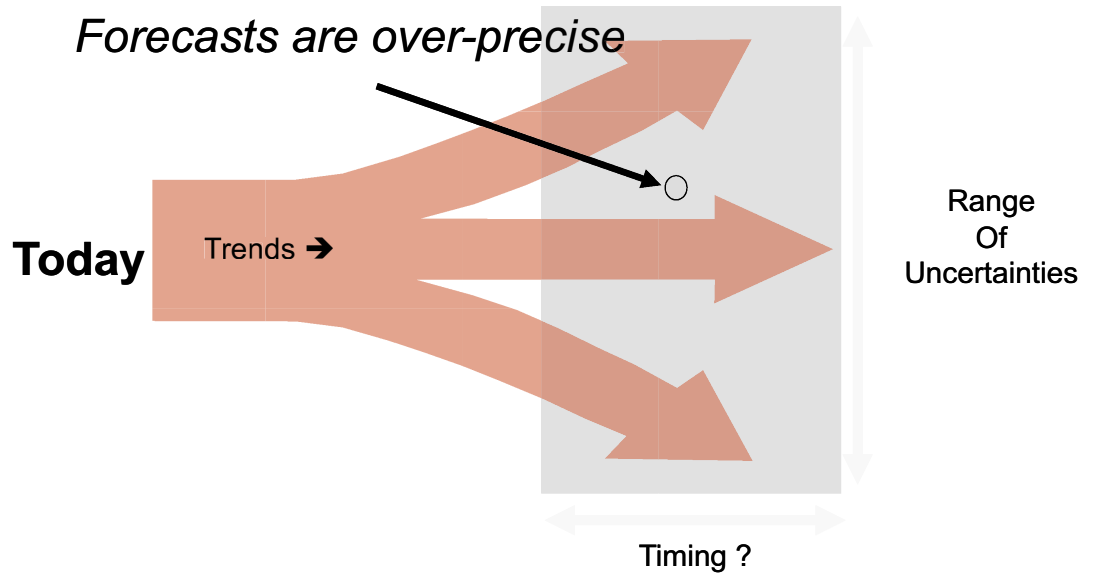


Figure 1.2 A forecast is a single point in a sea of uncertainty



However, it is worth remembering that adoption of technology often takes paths surprising to the technologist, such as the take up of text messaging. Furthermore, the next generations of ICT and biotechnologies will be subject to consumer demands and pressures, unlike previous post-war technologies which were largely part of 'big science'. While much of materials science, for instance, was developed as part of the military-industrial complex, and trickled down to consumer goods, new electronic and biotech advances are quickly adopted by consumers.

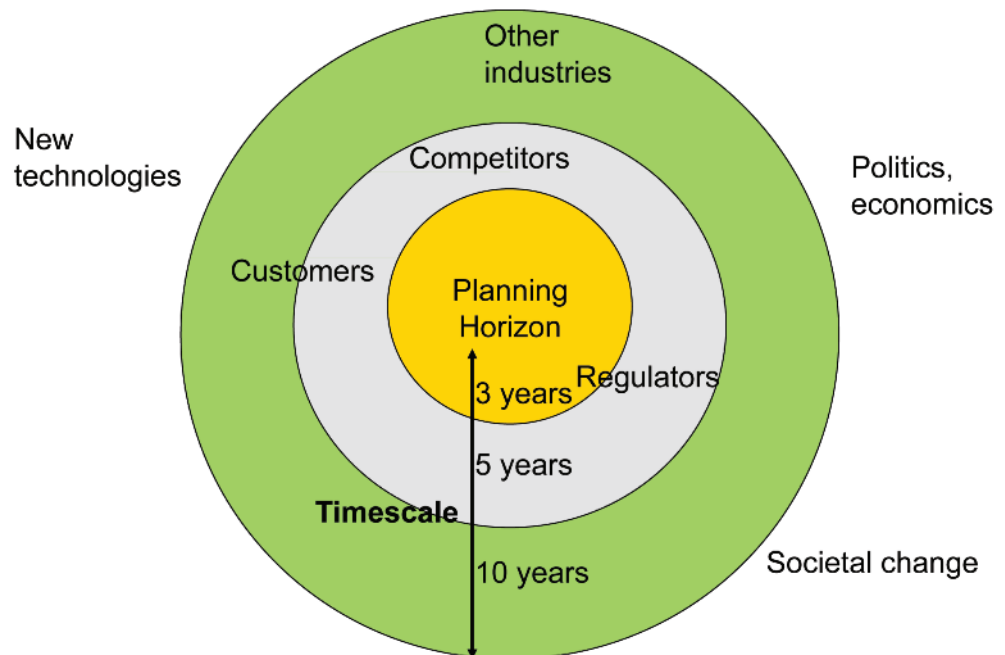
Furthermore, now that people are so mobile, with migration of large numbers of people taking place across national borders, demographic forecasts are much more uncertain in any specific geography, even if relatively forecastable on a global scale. Forecasts of the global population in 2050 range from 7.5 billion to 11 billion (see Figure A.11 in the Annex). The difference arises because both family size and longevity are unpredictable, which was not the case in previous generations. Even in these previously forecastable domains, the degree of uncertainty is growing.

An iterative process of expert consultation such as Delphi (Rowe, 1999) is often used for forecasting. Does consulting a wide range of experts provide good forecasts?

A classic test case is the prediction of the price of oil. A panel of experts forecasted the oil price every three years. The dark line in Figure 1.1 shows the actual price and the grey lines show the forecast price. The experts tended to forecast 'more of the same' and did not anticipate the emergence of new trends.

The ability to anticipate high-impact, hard-to-predict and rare events beyond the realm of normal expectations - so-called "black swan" events (Taleb, 2007) - is rare, though it is often found in science fiction. Yet 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?

Figure 1.3 Change comes from outside the domain



The skill is in knowing when it is right to forecast – and to expect the results to be accurate; and when forecasts cannot be relied upon. And, even when forecasts need to be made – because budgets must be set, plants built and people recruited – it is worth remembering that a forecast is a merely one point in a sea of other possibilities (see Figure 1.2).

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 future over the long term, what tools are there to help? The essential concern in long-term forecasting is to identify and examine implicit assumptions about 'how things are'. Long-term forecasting beyond 20 years or so needs to explore possible paradigm changes. What is the best approach?

A review (Martin, 1989) of the accuracy of outcomes of long-term predictions over 20 years was undertaken after 25 years of Japanese Foresight projects which had used Delphi. They found that accuracy was better when a wider range of subject experts were

included in the process. 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, *as well* as chemical engineers, physicists, biologists, economists and mathematicians. The reason for this improvement in accuracy is that changes in a domain often come from breakthroughs or discoveries in neighbouring domains and these are often not visible to people in the core domain.

An article in Long Range Planning (Ringland et al., 1999) looked at lessons from history, science fiction, forecasts in the public domain and studies of the take-up of technology as four different types of longer-term forecast. As a result the authors identified some implicit assumptions that need to be made explicit when considering the longer term, since these assumptions may be over-turned over time.

The first set of assumptions concerns peoples' behaviour. Maslow's basic framework of a hierarchy of needs (Maslow, 1943) - which

starts with basic needs for food, clothing and shelter and moves on to needs for self-expression and self-actualisation - warns that people consider a wider range of choices once food and shelter needs are met. Their behaviour becomes increasingly difficult to forecast, which can cause paradigm shifts and shocks to occur almost overnight – such as the fall of the Berlin Wall or the Arab Spring.

Second, many forecasts make implicit assumptions that the role of nation states and their governments will be significant. However, many western governments are currently seeing their ability to control their environment decrease, as money 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 the ability of governments to fulfil their post-war role of providing a social safety net.

The third assumption is that of continual progress. For centuries, western intellectual thought embraced the idea of continual progress towards greater scientific certainty and a more perfect state of being. People expected increases in their standard of living. Recent experience in the west has disillusioned many, and preoccupations with issues such as pollution, 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, but is combined in most OECD countries with increasing anger from the “squeezed middle”.

Meanwhile many in the BRIC³ and middle income developing countries are seeing a significant rise in their standard of living.

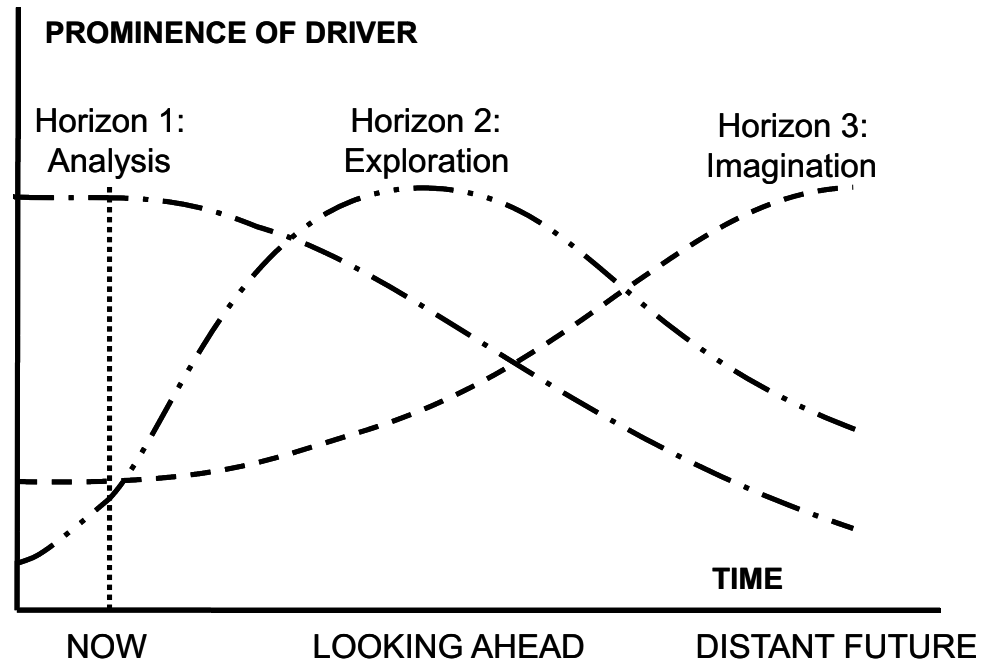
The Three Horizons Framework

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

- **Horizon One** – Important drivers of the world today. Horizon One drivers are likely to be well understood. They affect the operating environment today and give rise to sources of profit and other organisational objectives such as market share and customer satisfaction. These drivers may well be less important in the future.
- **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 and harbingers of trends to come. Horizon Three drivers may become important in the long-term future and will be used to address problems in the longer term. They may be flagged first as weak signals but should not be discounted.

Clearly, changes in attitude may have a curve over several decades, while technology related drivers may be significant only in the shorter term. Whatever the timescale, the framework brings out the effect of current drivers and reveals potential sources of change.

“Clearly, changes in attitude may have a curve over several decades, while technology related drivers may be significant only in the shorter term. Whatever the timescale, the Three Horizons framework brings out the effect of current drivers and reveals potential sources of change.”

Figure 1.4 Three Horizons to classify drivers of the future*Source: Adapted from Curry, 2011***Scenarios**

Scenarios are often used for thinking about the longer-term future beyond the planning horizon of the organisation. They are different from forecasts. They explore possible answers to the questions about the future which cannot be answered with certainty. These questions typically relate to the shape of society, shaped as it is by “events, my dear boy”⁴ 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 shared mental model of a possible future so that people can relate to it, see the

implications for their concerns and provide a context for discussion about desirable and undesirable features of the future. In Figure 1.2, the forecast is the dot and the arrows explore different possible scenarios.

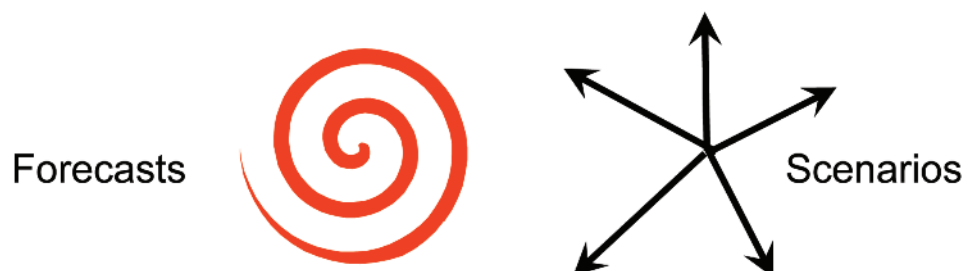
Scenarios are stories. In the same way that a work of fiction is created from the author’s vision and experience, scenarios will ultimately reflect the experience of the creators. In creating scenarios, contributors often include people who have studied the future and the trends which drive change, as well as people who are aware of the current position. Our scenarios have been built and tested by a number of people spanning futurist and financial services, though all with a European or North American viewpoint. We would particularly welcome input and critique from people in newer economies.

“Scenarios are often used for thinking about the longer-term future beyond the planning horizon of the organisation. They are different from forecasts. They explore possible answers to the questions about the future which cannot be answered with certainty.”

Figure 1.5 Scenarios and forecasts

Source: Adapted from Porter, 1985

- 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



1.5 Methodology

The scenarios have been developed with a core group of people – the Long Finance Forum of Futurists (L3F) – with contributions from a number of volunteers from the financial services and futurist worlds. The members of the Forum and the volunteers are listed in the Acknowledgements.

“Scenarios are stories. 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.”

The Forum first met in April 2010 to scope the task: what are financial services and what is 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, at our second meeting we then considered 1930, 80 years back, which is the 2:1 ratio suggested by

the Ethnographic Futures Framework (Textor, 1995) to scope long-term future change. We considered the asset classes that were dealt with by financial services in 1930 in order to assess the extent of the changes that we might anticipate by 2050.

The Forum held a third meeting in May 2010. The session was led by Martin Duckworth of SAMI and aimed to identify the major drivers of change to 2050.

The fourth meeting of the Forum in June 2010 developed the scenario questions while the scenario stories were outlined at a Workshop of SAMI people led by Dr Wendy Schultz at the IT Livery Hall in September 2010, using the Three Horizons Framework.

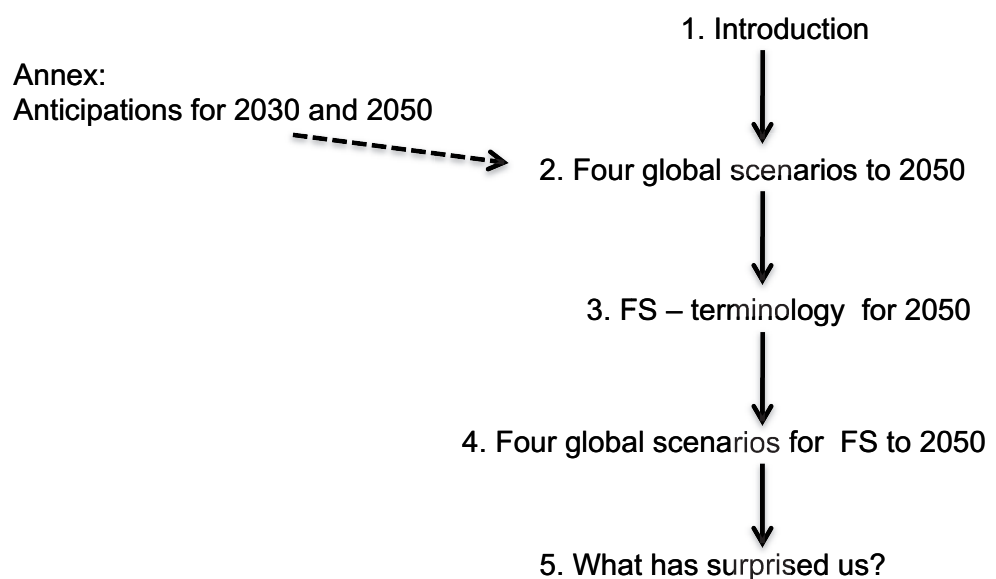
“Scenarios are not meant simply to be read but to influence decisions and actions. They are written to be used.”

The scenarios for the global environment to 2050 were then tested at an open meeting in the London Guildhall in September 2010 attended by members of the wider Long Finance network. SAMI Fellow 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

Figure 1.6 L3F participants working in the Guildhall Crypt, September 2010



Figure 1.7 Report layout



in February 2011, where the implications for financial services began to be articulated in more detail.

The resulting scenarios were exposed in draft form to wider comment and, as a result, a number of aspects were improved:

- More discussion of the short and medium term and the paths out of the financial crises (Annex);
- Discussion of three archetype socio-economic models (Chapter 2);
- Definition of the terminology for describing financial services in 2050, including the ecology of the financial services system, the location of centres and the valuation of assets (Chapter 3);
- Description of “what is common to all four scenarios” (Chapters 2 and 4);
- A more extensive discussion of what has surprised us (Chapter 5).

1.6 Layout of this report

In Chapter 2 we develop four global scenarios, which explore the following questions:

- Will the Washington consensus⁵ survive to 2050?
- What could cause it to break?
- If it does break, what will replace the international organisations and the values of the Washington consensus?

In Chapter 3 we outline the terminology which will be used in Chapter 4 to describe financial services to 2050 in each of the scenarios.

We end, in Chapter 5, by 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.

The Annex discusses the global forces which will affect financial services in the coming decades, anticipating what the effects of these forces will be in 2030 and 2050. The Annex provides the evidence for the assumptions about 2030 and 2050 which are common to all four scenarios.

“Will the Washington consensus survive to 2050? What could cause it to break? If it does break, what will replace the international organisations and the values of the Washington consensus?”

1.7 Using the scenarios

Scenarios are not meant simply to be read but to influence decisions and actions. They are written 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 assumptions

about the future world built into their plans and to explore the implications of other possible—or probable—worlds.

Success is a robust set of scenarios that allows the group or organisation to see new possibilities - the “ah-ha!” moments.

Applications of scenarios

Organisations use scenarios in a number of ways. Sometimes the benefits of the scenario creation process in terms of team building, or the unusual nature of the issues facing the organisation, mean that new scenarios tailored to specific challenges are created. In this case, workshops are held offsite to signal that a ‘different’ type of thinking will be undertaken, with two-day residential formats to allow optimum reflection and absorption time and a diverse set of participants.

Often organisations use existing sets of scenarios to stimulate debate, to develop resilient strategies, to test business plans against possible future events and to try to anticipate futures.

Scenarios are also used to investigate the viability of capital projects. These may take the form of full scale quantitative models, while sometimes back-of-the-envelope calculations may be adequate to capture the essential differences in the viability of alternatives against a set of scenarios.

Early indicators (events which would attract newspaper headlines) are used to communicate with line managers in an organisation, or with the public in debate (Ringland, 2003). These indicators should be seen in the next year or so and are specific to one scenario.

A typical workshop using these scenarios

The four scenarios contained in this report have been tested in workshops with a number of groups, using an agenda to develop or test strategies. The workshop is designed to fit into a half day (3 hours).

Description	Timing
Introduction, aim of the session, e.g. one of the applications above.	15 minutes
Briefing on scenarios (use the L3Fworkshop.ppt deck on the Long Finance website).	15 minutes
One syndicate to work with each scenario: 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, which is not good and what are the early indicators.	15 minutes

“Early indicators (events which would attract newspaper headlines) are used to communicate with line managers in an organisation, or with the public in debate (Ringland, 2003). These indicators should be seen in the next year or so and are specific to one scenario.”

CHAPTER 2

Four global scenarios to 2050

2.1 What is common to all scenarios?

The sources of our assumptions are detailed in the Annex 'Anticipations for 2030 and 2050'. It is suggested that readers who find the statements below unfamiliar should detour to the Annex at this point.

The assumptions for 2050 are that:

- 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;

“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.”

- Ecological, energy and environmental limits will be tested or breached as the population increases, the percentage of the population living in cities approaches 70 percent and the new middle class eats meat, uses cars, refrigerators and electronic goods and travels for pleasure.

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 evolutionary paths. Such a

description was first introduced by Oliver Sparrow in his “Scenarios For 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 through physical infrastructure and the supply of an educated work force.

In the Annex we describe how knowledge will increase as we progress towards 2050, and see that the use of knowledge is localised in clusters.

The first hypothetical societal structure defined by Sparrow is Post-Globalisation style. In this society, clusters of people sharing knowledge will form in predictable ways and will have equally predictable properties. Each cluster will be 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 and which Sparrow calls ‘collective intelligence’.

Anyone who is involved in an intelligent network will find their individual capabilities creatively subsumed into the collective. Appliances (used here to cover all types of intelligent agents), which may reach great levels of sophistication, will provide continual contextual advice, coaching and connectivity to others who are working on the same project. These same technologies, applied to civil society, will essentially eliminate crime, provide children with adventures where there is no real danger, offer endless factual and social education, stimulate innovation and largely replace conventional politics with something very different.

While Post-Globalisation is, in some sense, the 'Official Future' for western societies, some parts of the world may not follow this course.

The states or regions that do not become Post-Global may well be trapped into trying to live with declining resources, high resource costs, environmental degradation and a volatile and potentially violent world. Sparrow calls this type of society Consumer-Lite. These societies will be particularly exposed to what we call 'systemic challenges' (see the Annex) - the consequence of having nine billion people ever-more closely connected together, living in enormous conurbations that lack many basic services, facing declining supplies of cheap resources and the limits of pollution sinks.

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

The 'Poor' element will be much more heterogeneous than the 'Populist' one, but a common characteristic is to seek enthusiastically material well-being, health, self- and family advancement; and also access to the developed world and its glamour. In adversity, there will be a tendency for the 'Populist' element to extend its reach and, in periods of tranquillity, for the 'Poor' element to expand.

“ If the Washington consensus breaks down, the world is likely to become more fragmented over the 40 year timeframe of our scenarios. We have considered two possible ways in which these fragments could be organised. One is as a network of global cities, with city states replacing many functions of the nation state. Alternatively, connections, and therefore markets, could be global and thus largely virtual, replacing geography with other organising structures such as affinity groups.”

2.2 Scenario questions

Scenarios combine what we can anticipate 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 are included in the Annex. Two further questions are of particular pertinence in order to begin to answer the question of what will be the impact of the breakdown of the Washington consensus:

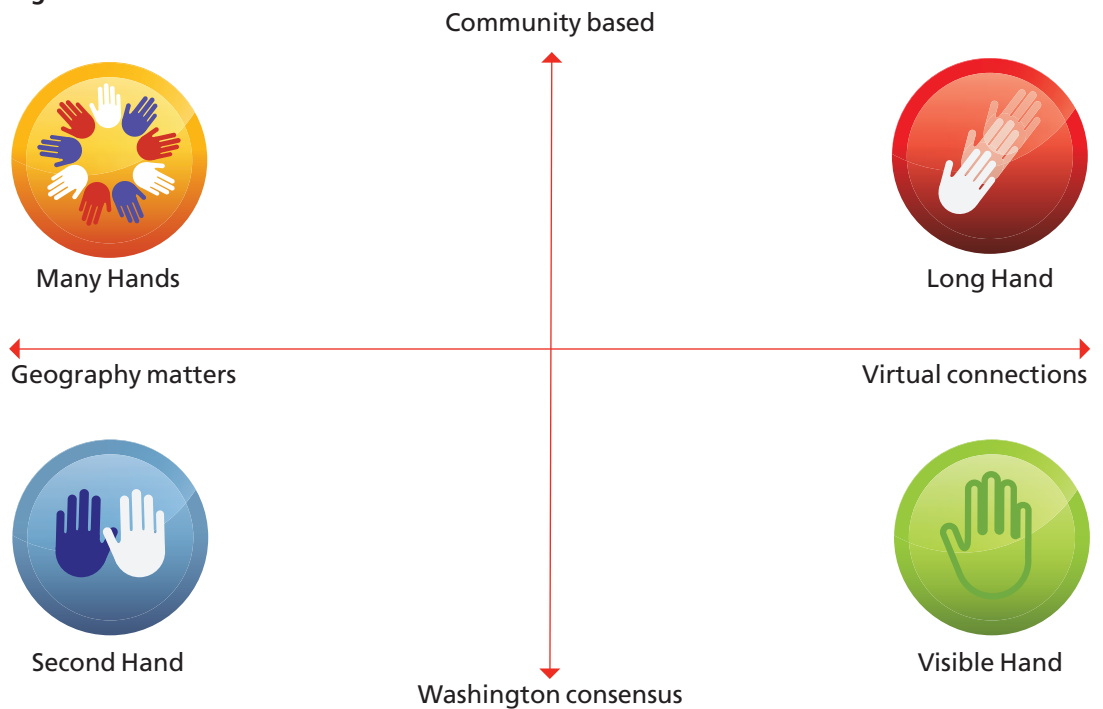
- Is there legal security for property rights? A democratic society is more likely to provide and respect a legal framework. Africa and Latin America are likely to move towards the Washington consensus, but the situation in China is less clear.
- Do western values predominate in international and regulatory bodies?

Within the Washington consensus there are mechanisms – albeit imperfect - to address global systemic challenges (see the Annex). If the Washington consensus breaks down, the world is likely to become more fragmented over the 40 year timeframe of our scenarios.

We have considered two possible ways in which these fragments could be organised. One is as a network of global cities, with city states replacing many functions of the nation state. Alternatively, connections, and therefore markets, could be global and thus largely virtual, replacing geography with other organising structures such as affinity groups.

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 United States alone. Could these form groupings strong enough to balance the demands of the nation state? The Annex explores the potential tensions between western culture and the cultures of the emerging middle class in industrialising countries.

Figure 2.1 Four scenarios



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

- Will our future economy and society be similar to today's?
- Will it implicitly follow the Washington consensus? Or,
- Will there be a new paradigm?
- Particularly in relation to financial services, does geography matter in the new paradigm?
- Will city states replace many functions of the nation state? Or
- Will markets be global and virtual, replacing geography with other organising structures such as affinity groups?

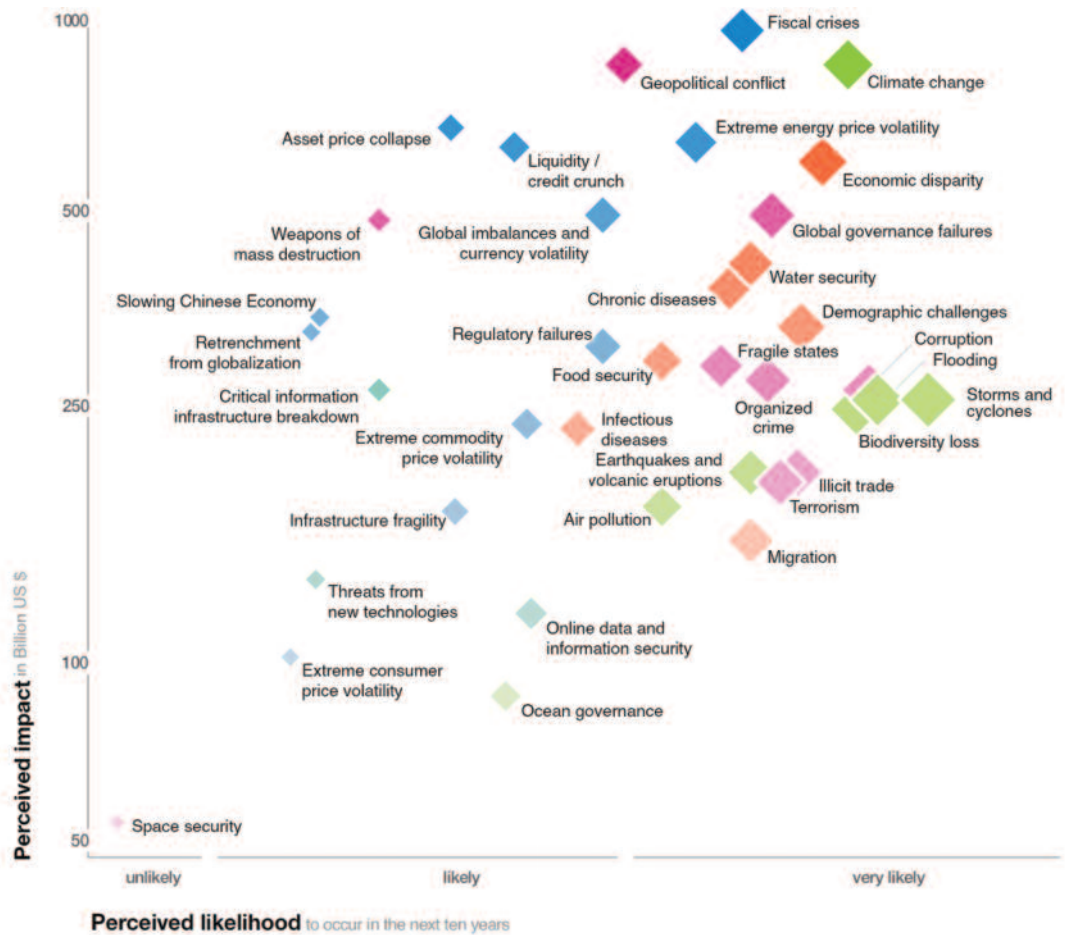
As with all scenarios, the answers to the questions above may be 'both'. We do not expect that the world will be as we describe. The purpose of exploring worlds in which the answers are 'either – or' is to draw out the different characteristics and to facilitate the early recognition of potential changes.

Answering our two questions leads us to four scenarios, which provide a framework for thinking about the context, role and shape of financial services in the future (see Figure 2.1).

The names of the scenarios attempt to provide a guide to their nature. We saw *Second Hand* as a scenario in which the world would use 'hand-me-down' governance structures which would fit badly but would not be replaced. *Visible Hand* refers to an explicit homogeneous governance structure globally. *Long Hand* refers to the fact that the communities may well be religious or ethnic, exercising power remotely. *Many Hands* is a scenario in which there would be many city states, all very different.

Figure 2.2 Global risks

Source: *The Future Timeline*



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 - where severe weather or another natural cause creates global food shortages - in about 2030. In two of the scenarios, this event causes the collapse of the current world order, i.e. the Washington consensus. The recent events in Japan⁶ 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 2.2 (WEF, 2011) on global risks. Meanwhile the

current 'second wave' financial crisis (writing in 2011) could accelerate the breakdown of the Washington consensus.

Imagining the world beyond the Washington consensus is challenging since 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 United States may hasten the demise of many international and multi-national institutions which implement the international dimensions of the consensus.

2.3 Second Hand



The *Second Hand* scenario posits a world in which democracy is still valued, western values and institutions are still part of the global business environment and

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

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

Immigration will be essential to help regions with ageing populations, such as China, Japan, Europe and the United States, cope with the problems posed by a declining workforce. Africa, India and Latin America will have young populations but making a success of these

economies will need all their people, though they may travel for gap years or to get extra language skills.

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

What could cause this scenario?

This scenario could develop as a result of the current mechanisms adapting and evolving to avoid crises. This scenario could 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, which would allow them to seek better economic conditions.

What could prevent this scenario?

We have speculated in section 2.1 on potential sources of global crises that could cause the breakdown of the Washington consensus and hence rule out this scenario as likely or probable.

Early indicators in the short term

Washington consensus

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

Nation states

States find it difficult to provide pensions and health care, leaving provision to individuals and (decreasingly) to employers. There is a shift of responsibilities from the State towards (willing) parts of society – the ‘Big Society’ philosophy. States compete to attract corporates and financial services firms while investors ‘nation-hop’. Investors are offered government bonds at high rates of interest to compensate for perceived risk.

Sources of crisis and success



The western economies struggle 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, such as mining and agriculture.

2.4 Visible Hand

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

"The pervasive global culture of *Visible Hand* will lead to extreme volatility and will break down into a *Long Hand* or *Many Hands* scenario by 2050."

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

There will be 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 will be driven by private sector solutions. Global financial volatility means that large numbers of people in the west will see a decrease in their standard of living over the decades to 2030, and states will struggle to provide a safety net. People will be less concerned about their personal wealth as they identify with the affinity group that makes them feel safe and secure.

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

This world of the *Visible Hand* scenario will be comprised primarily of Consumer-Lite and Poor-Populist societies.

What could cause this scenario?

This scenario could develop if the world is able to deal with the ecological, energy and environmental needs of nine billion people. This might be made possible through a combination of technological advances and changing behaviours and lifestyle ambition in the old and new middle class. It would follow from the western economies recovering strongly from the financial crises and avoiding further crises from any other cause.

What could prevent this scenario?

If the western economies struggle to recover from the financial crises this scenario would not be viable. It is likely that the world depicted in this scenario would become unstable by 2050 due to the large numbers of people suffering decreasing living standards, the influence of dominant and less adaptable corporates, the prevalence of short termism and 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 corporates emerge from the crises stronger and play an important role in an international consensus.

Nation states

States prioritise citizens' benefits and education over other expenditure. This requires innovative approaches such as the emergence of a lifetime 'package of benefits'.

States play an increasingly regulatory role. The empowerment of middle classes in middle income and developing countries challenges the legitimacy of many national governments.

Sources of crisis and success

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

2.5 Long Hand



In the *Long Hand* scenario, the financial crises in the early years of the century will have been followed by a complete melt down in many western countries. State

budgets will have become overloaded, causing a retrenchment in state expenditure, consumer spending power and overall consumption. As a result, virtual connections which span geographies and are based on ethnic and religious affinity groups will become the main global organising structures.

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

Society will break down, with near-famine conditions for some years, and people's lifelines will be their affiliate groups. This experience will reinforce the attitude that such affiliate groups are the only dependable source of security and welfare for their members, and they will rapidly become the mainstay of the new paradigm of 'who you trust'.

“Virtual connections which span geographies and are based on ethnic and religious affinity groups will become the main global organising structures.”

The perceived life experience of most people (the 'feel good factor') will not have been adversely affected. They will discover they can enjoy rich and fulfilling lives with less physical consumption by using the entertainment and social capabilities of the web 3.0. By 2030, many people will have formed their principal social interactions through work and social networking (often the same institutions), with other people who share the same interests, language and ideological or religious perspectives. Affiliation to these cyber groups will become more important than loyalty based on geography or nationality.

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

In this scenario, the role of national or regional governments will be to enforce geographically based property rights through defence against physical or cyber attacks 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 fewer 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 crises, e.g. the failing of the euro. What would cause the new world order to resemble *Long Hand* versus *Many Hands*? The prominence of cyber-crime attacks could lead to a *Many Hands* scenario, with its emphasis on physical presence, whereas military and civil insecurity could be a marker for a *Long Hand* scenario where trust within a community plays an important role.

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 the development of the *Long Hand* scenario.

Early indicators in the short term**Nation states**

States are increasingly unable to finance state benefits, with decreasing tax returns from individuals. In response, 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 play a more important role in providing pensions and security.

New financial services and asset classes

Alternative currencies such as Google doubloons will be on the rise. There could also be an increase in bartering and the rise of Sharia financial services. Oil revenues and sovereign wealth funds would put their money into insurance companies and infrastructure.

Sources of crises

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

2.6 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 to be inadequate. The

concept of the nation state as provider will have disappeared. In its place, a multitude of city states will emerge, in some cases replacing completely a failed state, in others co-existing (occasionally awkwardly) with a state whose role and authority will often be substantially reduced. Mobility across states and between cities will be the norm. The city state communities will have very different strengths, weaknesses, wealth levels and brands.

One of the main drivers will be 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 will see 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 – will fuel malcontent and secessionist aspirations.

The extreme weather events in the 2030's will plunge the world into a heightened state of insecurity from which it will not yet have emerged in 2050. Supply chains will be re-thought and credit will be re-aligned to available resources. Cities on flood plains (river, sea) with over two billion of the world's population between them will be the worst affected areas. Food and potable water supplies will be severely disrupted. The global population will have fallen by a billion people in the 2030's due to food scarcity, epidemics and wars, although the world will appear by 2050 once more to be on a growth path.

City states will represent fortresses where individuals seek protection and order. It will be very much an 80/20 world where inequality is high, both within and amongst cities. Cities will

have distinctive brands and the strongest will be able to pick and choose their inhabitants, leading to positive feedback and wealth reinforcement. Control of immigration and wars for resources will mean that successful cities have armies consisting of robots; unsuccessful cities will have armies of disenfranchised youth, while some city states will have failed and disappeared. 70 percent of the world's population will live in city-states and the top 50 city states worldwide will form the C50, replacing the G20. 25 of the C50 will be in Asia and 10 in Africa (Clinton Global Initiative, 2011).

Cities will not assume all of the 'old' state responsibilities, particularly welfare and financial protection although they will collaborate with whatever survives of the nation state to provide security and defence against physical and cyber attacks.

Individuals will protect their personal identity, credit ratings and parking spaces at all costs. There will have been a collapse of traditional monetary/cash systems. Social networking will have empowered the middle classes in particular. Intelligence gathering will be a key source of competitive advantage for corporations and the ability to maintain trust and reputation will be fundamental. The bonds and commercial papers (or equivalent) of some of the few 'global' corporations will be used as international currency.

This scenario posits more people living in a Consumer-Lite society, maybe five billion, and less in a Poor-Populist society. A few city states will host Post-Globalisation societies.

“A multitude of city states will emerge, in some cases replacing completely a failed state, in others co-existing (occasionally awkwardly) with a state whose role and authority will often be substantially reduced. Mobility across states and between cities will be the norm. The city state communities will have very different strengths, weaknesses, wealth levels and brands.”

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What could prevent it?

This scenario follows a crisis, measures to prevent which could avert this scenario from developing. For instance, in the discussion above, technological advances in food production would avert a food crisis. At the time of writing (December 2011), it is not clear what could avert a financial crisis in Europe.

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 and transaction taxes. Property prices outside cities are depressed due to the high cost of transport. Resentment of subsidies to poorer regions by the majority of 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 step back from integration/open systems and the cloud fails due to security issues. Social media as an organising mechanism for lawlessness causes a reversal in public attitudes to participation on social networks.

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.

CHAPTER 3

Financial services terminology for 2050

In this chapter we outline the terminology which we use to describe financial services in 2050. We start by thinking about asset classes in 1930, in particular 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. Finally, we consider the actors in the financial services system and, briefly, the characteristics of the financial services ecosystem.

3.1 Asset classes

One of the first meetings of the L3F brainstormed how to describe financial services in 1930, to 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). Four asset classes were deemed to be broad enough to describe most financial services activity for 1930:

- Investments in land and in commodities restricted similarly by global constraints such as metals; agriculture;
- Shares in companies involved in energy, infrastructure and utilities, with a value related to demand from individuals and commerce;
- Cash – for which we took the value of gold as a measure, though fixed interest securities and savings accounts were popular at that time, and art, antiques and stamps widely collected;
- Intellectual added value (brains) which in 1930 were shares in the new chemical and automotive industries.

We did not include insurance, as much insurance was negated by the devastation of World War II.

We explored the value of a portfolio as it might have been set up by an expert in Shanghai, Berlin, New York City and London. This helped our thinking about the range and valuation of these asset classes. It also provided some interesting insights –for example property prices in the UK (as measured by the UK government’s property index⁷) represented the best investment globally of the four classes over this length of time.

By 2050, other possible sources of asset value could include:

- Intellectual property and skills as embedded in capability networks (see the discussion of the Post-Globalisation style in Chapter 2);
- 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 today;
- Citizenship of desirable countries or cities.

We therefore extended the scope of the four headings for 1930 and add a new one for 2050:

- Land and related commodities – land is still an asset. Up to 2030 land used to grow food is a scarce commodity, though after that new food production techniques using less land will become widespread. There is a major new emphasis on scarce raw materials, such as water and trace minerals.
- 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 continue to be thought of as refuges from volatility, as do works of art and antiques.
- Intellectual added value – now very much more significant as intellectual property and skills, capability networks and venture capital investments are facilitated by ICT.

A fifth possible asset class for 2050 is assets representing the ability to relieve population pressures. These might include citizenship residence permits, environmental or reproduction permits and clean air or permits connected with biodiversity and other measures of sustainability.

One question we will discuss later is whether insurance – an important asset class in 2010 – will still be important in 2050.

3.2 The short long

There is evidence that, over the last decade, investment decisions in the United States and the UK have become more short-term. Short-term decisions involve investors discounting future cash flows over and above the risk-free rate (Haldane, 2011). One example of such decisions 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 suggests annual discount rates of over 20 percent (PWC, 2011). While corporates impose their own investment rules, corporate decisions will always be influenced by individual attitudes.

The consequences of this short-term thinking are that, in the United States and the UK today, physical infrastructure and high tech investment are suffering disproportionately from a lack of local investment. Hence we see the growth of sovereign wealth funds and investors in the United States and the UK from less stable countries investing in physical and high tech infrastructure and in other long-term investments. Does it matter that much strategic investment comes from outside the United States and the UK, if we take a global view? What is the effect if it does? Certainly, one

effect will be to accelerate the decline of the United States and the UK due to a combination of lack of investment in small items (below the level of viability for sovereign wealth investment); and net flows out of the UK and the United States as the investments start to return net flows to investors outside the west. Such a prospect is rightly flagged by Haldane as a public policy issue.

In looking to 2030 and 2050 we should ask whether short termism is 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 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 to 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 at an executive level as executives make investment decisions.

As one Risk Director recounted:

“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.”⁸

Peter Atwater (Tett, 2011) has suggested that a sense of personal 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*, short termism dominates and contributes to the downfall of the Washington consensus.

3.3 The location of financial services centres⁹

A 2011 report in the Financial Centre Futures series, "The Great Game: Clustering In 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.

Social networks played an 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 explaining 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 accompanied 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.

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 and 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'.

IT has an ongoing effect on the competitive position of international financial clusters in that the sheer scale and complexity of the infrastructure has widened the gap between a small number of truly global players and a much larger group of national or regional financial centres.

Finally, global financial clusters and global marketplaces require global cities and, particularly, the global concentrations of skilled professionals across a range of support functions that only the latter can support.

Externalities – tax and regulation

The external battlefield is 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. 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. Smaller firms are far more likely to move to seek lower tax regimes. If 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 a 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.

Since the European Union is one labour market, 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. 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 percent 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 (Houder, 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 element. The fear of this Sword of Damocles is captured in the answer of one of the respondents to the GFCI 9 (Yeandle et al, 2011) ¹⁰ 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 an uncertain regulatory regime is destructive to financial services clusters.

We will return to these concerns as we consider the four global scenarios for financial services in the next chapter.

3.4 The actors in financial services in 2050

In this section we explore who the actors are and whether we can find a vocabulary that does not assume our current institutional forms.

Individuals

The current retail banks may disappear as new institutions spring up without the legacy overheads which will be discussed further in Chapter 4. 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.

- Paying for items, making savings and acquiring loans/mortgages are activities which 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 employees are increasingly required to work for longer than currently envisaged.

Insurance/guarantors

The basis of insurance is changing. Life and health related insurance is set to become unviable as genetic information becomes available, while property insurance will be more

difficult to acquire as population densities increase in areas subject to flooding, earthquakes and tsunamis (as discussed in the Annex). As science and technology improve 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. Access to insurance could be one of the perks provided by the fifth asset class we have identified, for example through citizenship permits. Since the underlying rationale for much of current insurance will, over our time period, come into question, with the state needing to intervene, we use the term guarantors rather than insurers.

Investors

Investors will be concerned with:

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

Corporates and governments

Corporates and governments will want the same list of products and services as individuals but, in addition, will 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 the *Visible Hand* scenario) or new players based on ICT, as discussed below in Chapter 4.

Traders

There will certainly be some traders in 2050, though even today their role has already been changed beyond all measure by automated trading. The effect of automated trading on volatility has already been seen¹¹.

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 on multiple cultural norms or the Washington consensus? How successful will it be?

The scope of regulation is one of the major distinctions between the scenarios. A homogeneous regulatory regime contributes to the downfall of the Washington consensus in the *Visible Hand* scenario. Regulation is on a city state basis in the *Many Hands* scenario. Regulation is messy and has many unresolved situations in the *Long Hand* scenario, where ethnic groups operate financial services spanning many geographies.

However, the success or otherwise of regulation in financial services may depend on a more basic factor – the ability of regulators to understand the effect of new products and services as they are introduced. As a representative from Standard & Poor's said¹²:

“With hindsight we should not have awarded many of the SPVs and CDOs of the Noughties a Triple A rating, but we did not question what the suppliers said.”

A recent Long Finance seminar on what makes a good regulator¹³ tackled the question of how a regulator in general can be effective, taking into account one of the real limitations of regulatory systems – the people who act as regulators. The discussion considered what expertise they need, where good regulators can be found and whether being a regulator is a good career move. These questions have additional importance in the regulation of financial services, where individuals can become wealthy quickly through investment and trading, but not through working as a regulator. The system in the US, where there is significant movement between major law firms and stints with regulators, would seem to have advantages as well as dangers.

3.5 The ecology of financial services

In this discussion we use the term ‘end user’ for individuals, corporates and governments and the term ‘intermediaries’ for investors, traders and guarantors.

The ecology of financial services is essentially about intermediaries and their regulatory regime. Individuals, corporates and governments use financial services in a manner implemented by intermediaries and set by 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, set as it is by political pressure from end users as well as lobbying by firms in the financial services industry. Of course, end users can contribute significantly to volatility and the momentum of markets as they swarm in or out.

It is obvious that financial services today form part of 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 earlier. Another would consider the end users linked to other end users through multiple intermediaries.

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

A paper for the Centre for the Study of Financial Innovation (Mainelli and Giffords, 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. It concluded that more diversity is needed among at least those “too big to fail (and to manage)” and “too big to regulate”.

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 and large market fluctuations, which are the reason that current approaches to handling risk are inadequate (Bouchard, 2009).

An excellent article¹⁴ by David H Freedman, "A formula for economic calamity", describes the events leading to the crash of 2008, in which sophisticated models were used by investment firms to calculate risk. The models are ubiquitous and fail to take into account important forces that affect the market, such as illiquidity – which is inherently unpredictable – and the fact that, though a model applies to a single institution, in practice many institutions may be using similar models and hence create systemic risk.

He also makes the comparison with models of failure in the utilities industry, which have been very useful at heading off large scale black outs through cascade effects across the grid.

every major organisation examined the effect on them of ten other major banks or countries failing, and shared this with the regulators, the system would be much better understood.

"Models of failure in the utilities industry have been very useful at heading off large scale black outs through cascade effects across the grid. In the investment business, however, knowledge about the strength and nature of the connections between institutions is time dependent, sparse and unreliable compared with the utilities industry."

In the investment business, however, knowledge about the strength and nature of the connections between institutions is time dependent, sparse and unreliable compared with the utilities industry. Given the difficulty this presents for modelling, Freedman discusses the approach put forward by Nobel Prize winner Darrell Duffie of Stanford to "send simulated shocks through the organisation's portfolio" (Duffie, 2010). As Duffie says, "these shocks should not be assigned probabilities but should rather be used as probes to seek out where the bank might have problems". He suggests that if

CHAPTER 4

Four global scenarios for financial services to 2050

In this chapter we use the four global scenarios from Chapter 2 to set the context for a description of financial services to 2030 and 2050. We start by describing some aspects of financial services in 2030 and 2050 which are common to all scenarios.

4.1 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 and environmental and ecological supplies and systems will reshape the nature and delivery of financial services.

Older population

The effect of an older population is 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 not have been achieved without volatility and a decreased standard of living for many in the west.

Changing balance of power

The relative decline in the financial strength of the United States will mean that there is less funding to support the international institutions which underpin the Washington consensus.

While the current focus is on the BRIC and 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 percent of the world's population expected to live in cities by 2050, an increase of nearly two 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' interaction or the use of virtual communities based on affinities, for instance professional, religious or ethnic.

Impact of ICT

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

ICT has two effects on market processes. The first 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 generates benefits through economies of scale, but it also increases instability by making mob sentiment global, thereby accentuating swings in prices. However, markets can also display local irrationality which may result in local regulation in order to counteract volatility.

The size of the financial services industry is set to shrink as ICT becomes built in to 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. The number of employees of banks and technology firms such as Google with similar market capitalisation is in a ratio of 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.

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

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 90 percent (by US book value) of private and quoted firms that lie outside of the top 500¹⁵. Experiments such as the person-to-person funding sites on the Internet have not yet been a major success.

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 percent in France, 350 percent in the UK and 150 percent 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. Insurance may be allied to the provision of risk assessment services of the insurer.

Insurance is, on the whole, set to decline. In 2009, it represented around seven percent of global GDP, as identified in The Geneva Association Fact sheet¹⁶. It is difficult to see this level being maintained as technology reduces personal uncertainty, science reduces climate uncertainty and regulation and licensing reduce corporate uncertainty.

Automated accounting systems may bring capital more easily and more securely to entrepreneurs and others who need it. Much of the routine work of accountants will also be 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, although 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. For instance, commodity trading will be dominated by those with the best information and recent experiments have started to connect the level of trading of stocks to Twitter traffic (Harford, 2011).

Environmental and natural resources

A city-based global population will be at least partially dependent on areas outside the cities to grow food although farming is likely to change radically over our timescale (Foresight, 2011). However, power will be in the hands of those who trade environmental and natural resources and who will be based in financial centres.

An increasing focus of global financial markets will be environmental and natural resources. Some of this focus may appear as commodity trading and 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. Volatility will be increased by the approach to, or breach of, ecological, energy and environmental limits and the ability to avoid such breaches 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. 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 crises developing from 2006 onwards.

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 a further 20 years of work, 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 will be handled differently in each scenario, as discussed in Chapter 2.

The main concern of corporates and governments as users of financial services will be to seek shelter from volatility and to take part in growth markets 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 not have been achieved without volatility and investors will also be concerned to seek shelter from volatility. There may well also be an increase in services linked to risk reduction, for instance in equity investment linked to hands-on management. A sense of personal insecurity will drive corporate and personal investment to a short-term view in the west.

The roles and concerns of guarantors will depend on whether the 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. 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 will be under threat over and above the threats to all financial services. An exception could be the provision of insurance linked to assurance or audit 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 not have been achieved without volatility – often a positive for traders. The ecological, energy and environmental limits encountered will mean that commodities and energy trading will develop new rules. In addition, the effect of pervasive ICT will reshape assumptions and the nature of trading and currencies. Traders could become an endangered species in the financial services ecosystem.

4.2 Second Hand



The world of the *Second Hand* scenario is one in which democracy is still valued, western values and institutions are still part of the global business environment and

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 will limp along. Bigger financial bets and systemic risk will tend to increase volatility and western nation states will struggle to cope. International regulation will be patchy. Investment in gold will continue, while volatility will provide opportunities for traders.

Complexity of structures

Regional structures (five or six in the world) will begin to gather coherence. They will set the rules for personal mobility within and between regions and regulate financial services. These regional structures will have within them affinity communities which span their boundaries, adding complexity to regulation. This complexity will lead to major corporates looking

to simplify their operational environment by retreating from stock exchanges and entering private ownership.

However, the nature of systemic risks (detailed in the Annex) will create a market for global insurance since systemic risks span countries and regions. At the same time, many insurance companies will disappear. Nation states will compete to attract corporates and financial services but will be limited by regional regulation.

Monetary systems

Monetary systems will be recognisable from 2011, although retail financial services will be almost completely automated. End users will interact directly with other end users due to the lack of perceived value of intermediaries and the consequent disintermediation of current institutions.

Taxation and benefits

Taxation of all sorts will be based on individuals and corporates, as it is today. However, national systems will fall apart as nations compete to keep High Net Worth individuals and to attract corporates and financial services, while individuals 'nation-hop' within a region. There will be some welfare state provision though states will increasingly default, so that individuals will be obliged to turn to private provision. Options for private provision will be backed by traded funds.

Financial services

- The ecology of financial services will be similar to today, though with differential regional regulation and increased power of affinity groups;
- Investors will be concerned to shelter from volatility and investment in land based assets will increase prices. Investment in gold will continue;

- Insurance will become much more tailored, using ICT connections and computer analysis of data on individuals, weather, financial systems etc. Within a region, there will be fragmentation of insurance markets to cater for affinity groups within a nation as well as regionally based provision;
- The most powerful financial centres will still be London and New York, although Shanghai and Singapore will trade larger volumes.

By 2050

Washington consensus

The Washington consensus will be severely stressed. Volatility will have increased and become almost unmanageable. Bigger bets will create systemic risk and credit will be hard to get. Companies will look primarily for shelter from volatility.

Complexity of structures

Regional structures (five or six in the world) will set currency, defence, border controls, policy, regulation and mobility rules. Raising capital will depend on regional standards and availability of funds 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 will be 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, while taxation, benefits, permits and rules for mobility will depend on citizenship status.

Monetary systems

Monetary systems will be recognisable from 2011 but will be regional. Retail financial services will be 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 – of property, firms, individuals and transactions – will continue to be collected by nations. State pensions will exist at the national level but the system will be creaking badly and

will be an 'of last resort' option for citizens. The argument about the definition of a citizen will rage on.

Financial services

- The ecology of financial services will be more diverse than in 2011;
- Investors will align with more than one region to shelter from volatility;
- The consequences of an ageing society will be a major concern for all actors, with pensions and security high on the agenda for individuals, corporates and governments. Private insurance will be needed for individuals to augment state systems, though the viability of such insurance will be decreasing;
- Commodities trading will be reduced, as most commodities/resources will be controlled by a single or very few companies. Equity trading will also decline as there will be fewer major corporates and many of these may have opted for private ownership;
- Singapore will emerge as a more powerful financial hub than London or New York, as measured by the Global Financial Centres Index (GFCI)¹⁷.

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.

4.3 Visible Hand



The world posited by the *Visible Hand* scenario is one in which the current political, social and economic regimes are still recognisable within the Washington consensus. It

will have evolved after the financial and fiscal crises, responding to population and resource pressures, 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 breaks down into a *Long Hand* or *Many Hands* world by 2050.

A view of 2030

Washington consensus

The Washington consensus will continue, with a pervasive 'global' culture. Volatility will become unmanageable: bigger bets and systemic risk will tend to increase volatility and nation states will be increasingly unable to cope. The number of major corporates will decline through merger and acquisition across industries and geographies, providing some stability in the medium term.

Complexity of governing structures

Regional structures (five or six in the world) will set regulation and mobility rules within an international consensus. Individuals in the west will suffer decreasing standards of living. The regions will have a powerful role in the 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 will be volatile but recognisable from 2011. Overall, the population will increase and communities will try to create a ring fence around resources such as food, water, mining and agriculture. Pricing, expressed in US\$, will remain the dominant market mechanism.

Taxation and benefits

Taxation – of property, firms, individuals and transactions – will be at high levels, leading to extensive tax avoidance. States will compete to attract corporates and financial services companies in order to shore up their tax base. There will be some welfare state provision though an increasing number of states will become bankrupt. Those dependent on benefits in western economies will suffer hardship and organise themselves. This will mean revolution and organised crime for some and prudence and financial self-help for others.

Financial services

- The ecology of financial services will be more homogeneous than in 2011;
- Investors will focus on areas with natural resources such as gold and industrial minerals;
- People will look for self-protection with like-minded people. Insurance will be largely regional as insurance companies merge to spread risk;
- Retail financial services will become transactional as there will be little scope or need for 'clever' financial trading in a homogenised culture;
- Equity trading will decline as there will be so few major corporates and those which remain may opt for private ownership;
- The consequences of an ageing society will be a major concern and worries over pension provision will dominate. Private provision will be backed increasingly by traded funds;
- London and New York will remain the most powerful financial centres.

In 2050

This scenario is not thought to be stable. A homogenised international regime is unlikely to be able to handle the volatility it creates and will suffer further financial crises. This scenario continues the short-term approach discussed in Chapter 3.2 which, together with a lack of diversity, means that this scenario is likely to degenerate into either *Long Hand* or *Many Hands* by 2050.

“Visible Hand is not thought to be stable. A homogenised international regime is unlikely to be able to handle the volatility it creates and will suffer further financial crises. This scenario continues the short-term approach discussed in Chapter 3.2 which, together with 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 through mob consensus and the unexpected effects of regulations. The asset classes with most value would be those which are thought to provide protection against volatility, primarily gold.

4.4 Long Hand



In the world of the *Long Hand* scenario, the financial crises in the early years of the century are followed by ongoing fiscal crises in many western countries. These overload

states' budgets and cause a retrenchment in consumer spending power and overall consumption. As a result, virtual connections based on affinity groups – ethnic and religious – 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 land-based assets are perceived to be of most value; and in Consumer-Lite communities gold is thought to be of most value.

Washington consensus

The Washington consensus will be breaking down, creating a power vacuum and volatility. We will see the growth of communities based on affinity as defence mechanisms.

Complexity of structures

The international organisations and regulatory systems of the Washington consensus will no longer be enforced, nation states will struggle to collect taxes and emerging communities of affinity will begin 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 will be a multiplicity of national and community currencies and debit cards to deal with the complexity of exchange. There will be a lack of capital and a rise of barter. The food crisis will mean that credit is aligned to available tangible resources and reduced liquidity will affect all financial services.

Taxation and benefits

Nation states will try to collect taxes tied to transactions rather than individual citizenship and benefits will be based on payments by the individual. Affinity groups will provide support across national boundaries.

Financial services

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

In 2050

Washington consensus

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

Complexity of structures

About 50 virtual global communities will set currency based on affinity groups and regulation will be organised by a combination of nations and affinity communities. The only powerful global entities will be corporates. Nation states will try to align to a single community to reduce the complexity.

The virtual communities will have very different characteristics. A few will follow a Post-Globalisation paradigm, but many more will be Poor-Populist in character. Tensions will occur where communities with different paradigms share the same geography.

Monetary system

Monetary systems will have crashed. Overall world populations will be increasing again so communities will try to create a ring-fence around resources, food and water. Financial systems will be more closely tied to assets.

Within a community, much trade will be based on barter but money will be needed between communities. The global currencies will be those backed by corporates.

Taxation and benefits

Tax will be levied on transactions between either people or machines (such as cars on toll roads). Communities will differentiate through taxation. Nation states will not be able to provide a welfare state as we know it and many states will repeal laws prohibiting child labour to compensate for an increasingly high dependency ratio (see the Annex). The social exclusion of many people will lead to revolution and organised crime for some and prudence and financial self-help for others. Affinity groups across national boundaries will start to take responsibility, allied with a growth in private pensions and insurance.

Financial services

- The ecology of financial services will contain up to 50 or so loosely coupled trans-national systems with diverse regulatory regimes;
- Investment outside the home affinity group community will be discouraged;

- People will look to co-operate with like minded people and affinity groups will link up across geographies;
- Retail financial services will be transactional only. IFAs will be replaced by 'Intelligent Financial Advisors' and traditional banking will be replaced by individual to individual borrowing. Trust will be crucial within an affinity group;
- Traders will focus on bartering within trusted affinity groups. Extreme weather will cause volatility in commodities;
- London and New York will reclaim their position as pre-eminent financial services centres following the decision of more than half of the 50 affinity 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 inhabit the same space in the same way as the 270 nationalities living in London do today.

What assets are valued and how are they traded?

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

“London and New York will reclaim their position as pre-eminent financial services centres following the decision of more than half of the 50 affinity 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 inhabit the same space in the same way as the 270 nationalities living in London do today.”

4.5 Many Hands



The world of the *Many Hands* scenario is one which has declared globalisation to have failed, democracy to be too unwieldy and western value systems to be

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, weaknesses, wealth and brands.

View of 2030

Washington consensus

The Washington consensus will have broken down and there will be 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, London, Shanghai and Calcutta will flood. Corporates and governments will be unable to get insurance.

A military conflict and ensuing epidemics will contribute to both population contraction and retrenchment in city and region states.

Monetary systems

In 2030 monetary systems will continue to be based on nation states, while some currency unions such as the euro will have broken up. The weakness of the US\$ will mean that the Chinese proposal of a currency backed by the IMF will be attempted but the IMF will run out of money.

Taxation and benefits

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

Financial services

- The ecology of the financial services system will be of multiple failing nodes and decreasing activity in western economies;
- Traders will return to bartering and bilateral trade;
- The credit crunch and reduced liquidity will dampen re-growth;
- Insurance providers will be unable to cope and many guarantors will fail;
- The most powerful financial centres will be Chicago, taking the New York business, and Singapore, taking the London business.

In 2050**Washington consensus**

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

The city states

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

Monetary systems

Monetary systems based on nation states will crash and each city state will create a new currency. The bonds and commercial papers of some of the 'gold chip' corporations who still enjoy 'global' brand, reputation and trust will occasionally be used as 'currency'. Financial systems will be more closely tied to assets.

Money will be needed for trading between city states but within the city there will be extended use of barter.

Taxation and benefit

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

Financial services

- The ecology of financial services will be very diverse, with city states offering different regulatory regimes and software systems and very loose linkages between states;
- The consequences of an ageing society will be a major concern. Pensions and security will be a prime focus for individuals;
- Trust will be crucial within geography. Traditional banking will be replaced by individual to individual borrowing regulated by each city state;
- Intelligence gathering and analysis will be key sources of competitiveness;
- Bilateral trade and barter will increase: the supply of fundamental resources (water, food, energy) will depend increasingly on financial markets. Security of supply will be a valued asset and will be linked to credit supply;
- Insurance markets will fragment and there will be no mechanism for global risk insurance;
- Five of the 50 city states will dominate financial services, one of which will be Istanbul through its lead in Sharia compliant services.

What assets are valued and how are they traded?

In this scenario, permits to live or operate in desirable city states will be highly valuable assets. Permits could of course be made available indirectly through high property prices rather than a tax collection system. Whether taxes are collected directly or indirectly, permits will be traded directly between individuals or corporates, mediated by ICT.

CHAPTER 5

What has surprised us?

5.1 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.

What could break the Washington consensus? We introduced food crises in the 2030's as one possibility but the current 'second wave' financial crisis (writing in 2011) could accelerate the break-down. Imagining the world beyond the Washington consensus is 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 United States 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 percent in France, 350 percent in the UK and 150 percent in Australia. The scenarios in which the Washington consensus breaks down (*Long Hand* and *Many Hands*) see a return to financial systems more closely linked to assets (Chapter 4).

Thinking about the problems of volatility, and the role of diversity in taming it, 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 3.2) is reinforced by competition between corporates – including financial services providers – for short-term results.

The size of the firms in financial services makes them important employers, for instance in the City of London. Yet many of the current players have uncompetitive cost structures. Estimates

suggest that they use ten times as many staff for a given turnover as firms like Google and Amazon, which were built around the use of ICT from the start (Chapter 4.1).

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, such as the 270 nationalities living in London today (Chapter 4.4). 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 4.4).

5.2 Surprises for individuals as consumers of financial services

The state will be increasingly unable to offer a safety net for pensions or health care. Buying into national schemes may become viable 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 universal safety net.

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 investing in property, in land-based resources such as commodities and in intellectual property (if it can be protected).

5.3 Surprises for insurers/guarantors

The basis of insurance is shared risk to deal with uncertainty. As uncertainty around individual life courses is reduced by genetic screening and lifestyle forecasting, the basis for health insurance decreases, although 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 property insurance will 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, health and property insurance will be under threat over and above the threats to all financial services (Chapter 4.1).

Insurers/guarantors may see an increased need to offer inspections and certifications as part of the overall service such as Lloyd's Register does today.

5.4 Surprises for investors

Managing scarce resources will be one of the main tasks for financial services in 2050. The expectations of a large middle class will ensure that capital is less valued than solutions which mitigate the effects of the systemic challenges pressing hard in a Consumer-Lite society (Chapter 2.1).

The separation of asset values from their backing is seen as a side effect of the Washington consensus. Both scenarios in which the consensus breaks down (*Long Hand* and *Many Hands*) will see a return to closer backing of asset values in the financial system by 'visible' assets. These valuable assets will include, in all scenarios, access to clean air and water, reproduction permits and scarce raw materials (see the discussion in the Annex).

The asset classes which will prosper are dependent on both the particular scenario and the socio-economic narrative. Land and land-constrained assets (e.g. commodities) will be

valued in most scenarios and narratives (Chapter 4.1). In addition, the following assets will have particular value in different scenarios:

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

All scenarios will see the management of environmental and ecological goods as an emerging focus of financial services. A new potential asset class will extend the scope of intellectual property towards capability networks, which will be people-focused clusters around a specific topic or area of interest.

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

5.5 Surprises for traders

Traders have been declared an endangered species at regular intervals since the introduction of automated trading. However, they will continue to be able to threaten to bankrupt companies (UBS being the latest at the time of writing¹⁸). 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 and its evolution is different in each scenario. Trust within the city state (*Many Hands*) or community (*Long Hand*) suggests that barter (which could be electronically mediated) could replace money, since there will

be high levels of trust. Between cities or communities, however, the formality of money would seem likely to continue (Chapter 4).

5.6 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 diversity. Thus, the *Visible Hand* scenario will collapse due to global short termism and volatility which a homogeneous regulatory system could not damp down (Chapter 4.3).

5.7 What next?

As discussed in Chapter 1, scenarios are successful when they are used by a group or organisation to identify new opportunities and threats. We have tested these scenarios 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 own 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. 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.

The L3F members will be happy to help any person or organisation looking to explore how to use this work. We can be contacted on l3f@samiconsulting.co.uk or via the Long Finance web site at www.longfinance.net.

Annex: Anticipations for 2030 and 2050

In this Annex, we introduce five global forces to 2050¹⁹ which will affect the next decades and beyond.

- The ongoing impact of the events of 2006 leading to the financial crises of 2008 and 2011;
- The global population growing to nine billion and getting 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 possibly not sharing the value systems of the west, or the Washington consensus;
- Technology (info, cogno, bio, nano) continuing to introduce changes in personal capacity and lifestyles, with ICT underpinning much of society as well as commerce;
- Ecological, energy and environmental systemic limits being tested or breached as the population increases; the percentage of the population living in cities approaching 70 percent; and the new middle class eating meat, using cars, refrigerators and electronic goods and travelling for pleasure.

All of this is set against a background of military and civil insecurity, particularly in the poorer nations.

After describing the five forces, we sketch what the economic and political landscape might look like in 2030 and in 2050.

The ongoing effects of the financial crisis of 2006 to ?

One of the major influences on the next decades will be the financial crisis which started in 2006 and its aftershocks.

The sequence of events is well known and described in more detail elsewhere (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 A.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?

Two dimensions of uncertainty

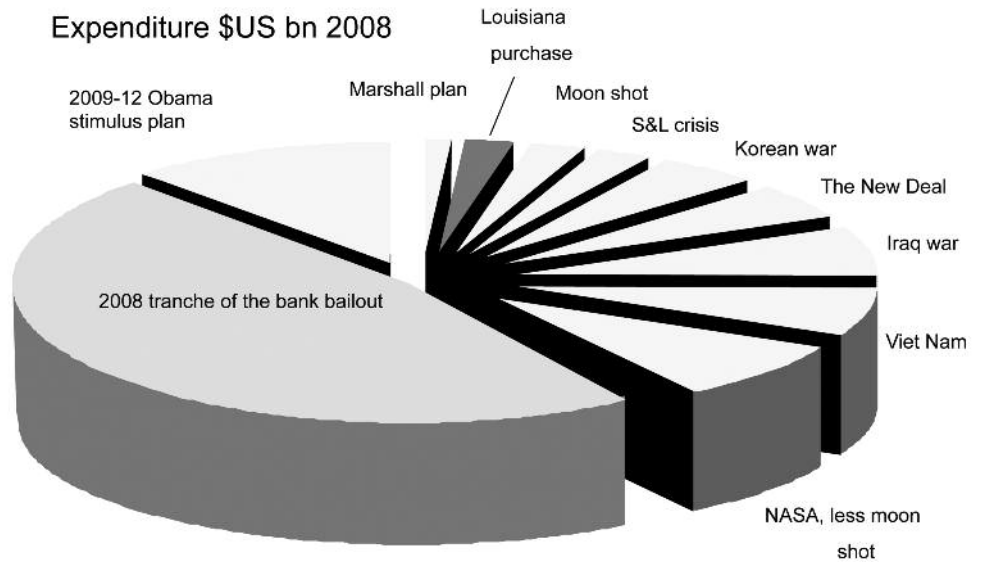
In the short term, the financial crises and countries' exposure and reactions to them will dominate the global picture. There are in fact two strands to the financial crises that affect the environment for organisations in the short term. The first one revolves around bank liquidity and the overhang 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.

If we consider the effect of these two strands separately, a two dimensional image (Figure A.2) helps us to see the future more clearly.

On the horizontal axis, we show the possibility that the banking crisis is either central to future events or merely a part (though an important

Figure A.1 Scale of the US bank bailout

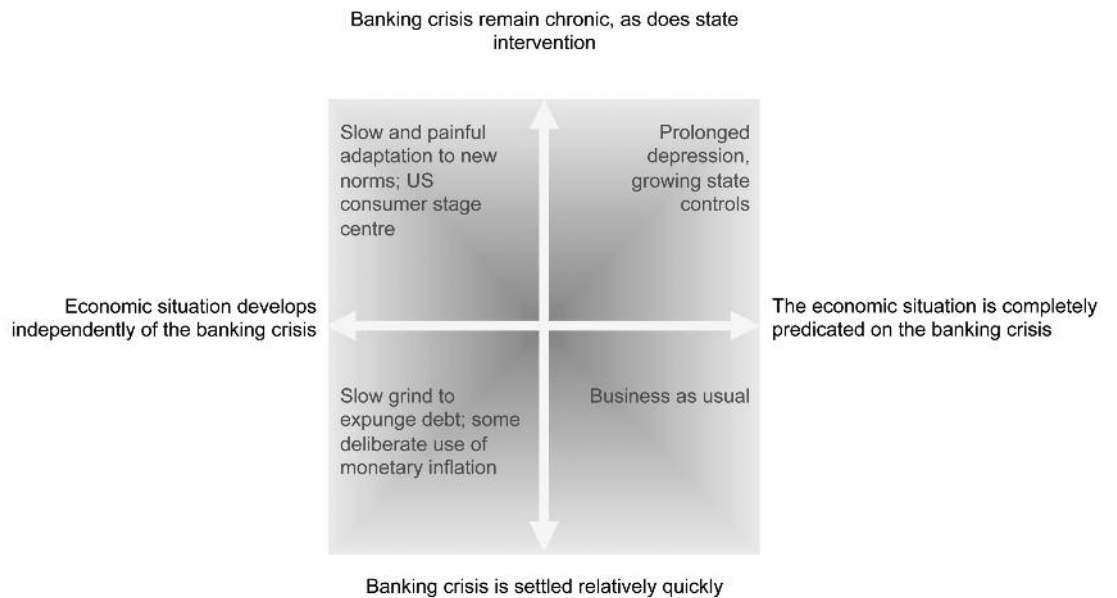
Source: *Beyond Crisis*, Ringland et al, 2010



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Figure A.2 How might the financial crisis be resolved?

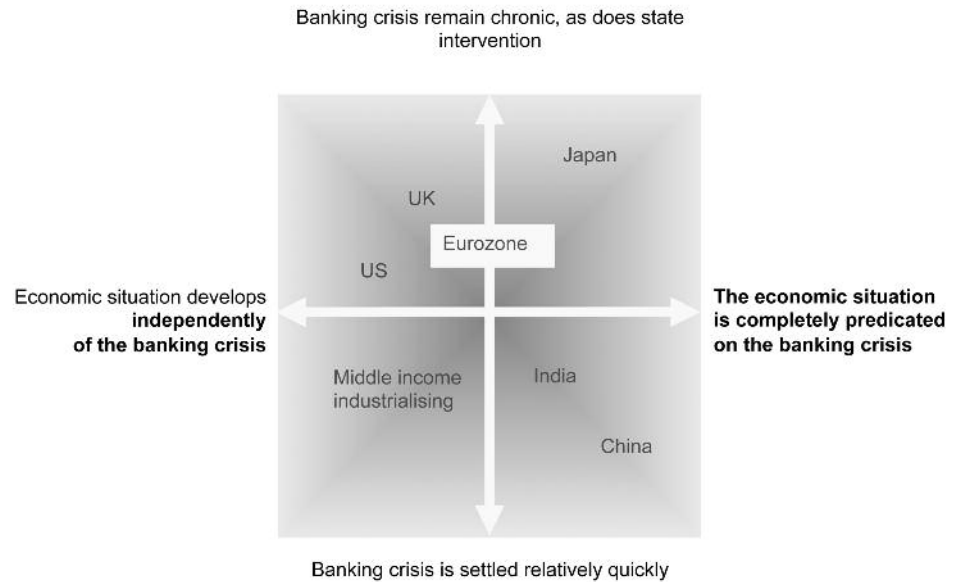
Source: *Beyond Crisis*, Ringland et al, 2010



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Figure A.3 What could happen in different regions?

Source: *Beyond Crisis*, Ringland et al, 2010



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one) of them. Consumer debt is very important in some (OECD) nations but less so in others, for instance in Asia.

The vertical axis explores how quickly the banking aspect of the crisis is resolved. This is likely to depend on factors which are different according to country, region or type of government. Figure A.3 populates the same matrix as in Figure A.2 with some representative countries based on the current position and anticipated trends.

The future looks bleak for the United States and Europe but 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 speculations in the section below. Technology will continue to create new industries but there is no obvious replacement for the US consumers, 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.

As we look further ahead, it is likely that different regions will start to move at very different speeds. The reason for this is that, over the past two decades, the world has been undergoing rapid, 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 processes of dispute settlement and of the nature of international relations.

This is referred to as the Washington consensus. The Washington consensus 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".

The term 'Washington consensus' was coined by the economist John Williamson to describe a set of ten relatively specific economic policy prescriptions that he considered constituted the 'standard' reform package promoted for crisis-wracked developing countries by Washington, D.C.-based institutions such as the International Monetary Fund (IMF), World Bank and the US Treasury Department. The prescriptions encompassed policies in such areas as macroeconomic stabilisation, economic opening with respect to both trade and investment and the expansion of market forces within the domestic economy.

The consensus as originally stated by Williamson included ten broad sets of relatively specific policy recommendations (Williamson, 1989):

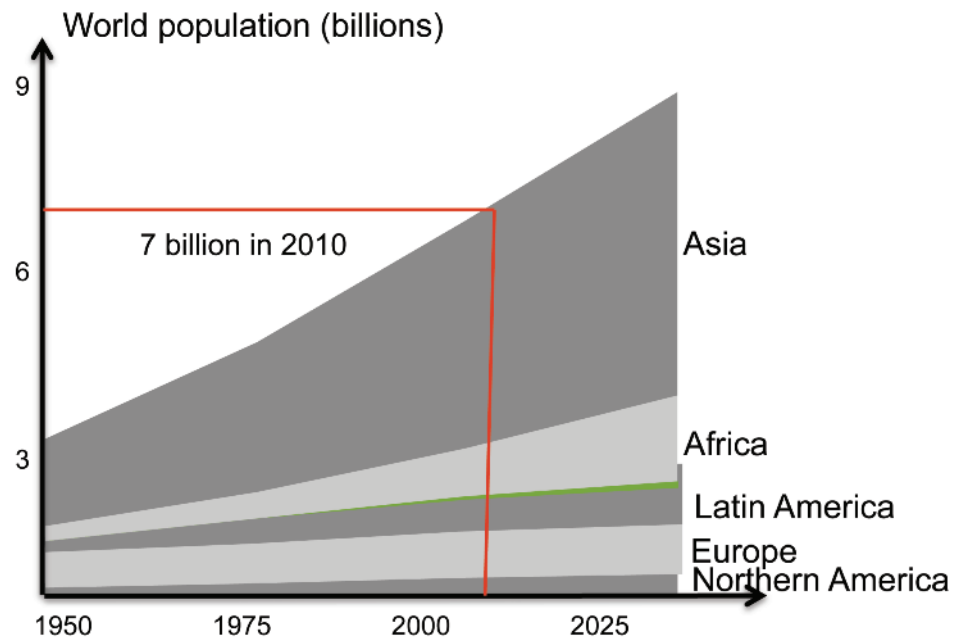
- 1 Fiscal policy discipline, with avoidance of large fiscal deficits relative to GDP;
- 2 Redirection of public spending from subsidies ("especially indiscriminate subsidies") toward broad-based provision of key pro-growth, pro-poor services like primary education, primary health care and infrastructure investment;
- 3 Tax reform, broadening the tax base and adopting moderate marginal tax rates;
- 4 Interest rates that are market determined and positive (but moderate) in real terms;
- 5 Competitive exchange rates;
- 6 Trade liberalisation: liberalisation of imports, with particular emphasis on elimination of quantitative restrictions (licensing, etc.); any trade protection to be provided by low and relatively uniform tariffs;
- 7 Liberalisation of inward foreign direct investment;
- 8 Privatisation of state enterprises;
- 9 Deregulation: abolition of regulations that impede market entry or restrict competition, except for those justified on safety, environmental and consumer protection grounds, and prudential oversight of financial institutions;
- 10 Legal security for property rights.

Demographics

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

Figure A.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. To break this down further, the Asian regions have very different growth rates, with the region as a whole not

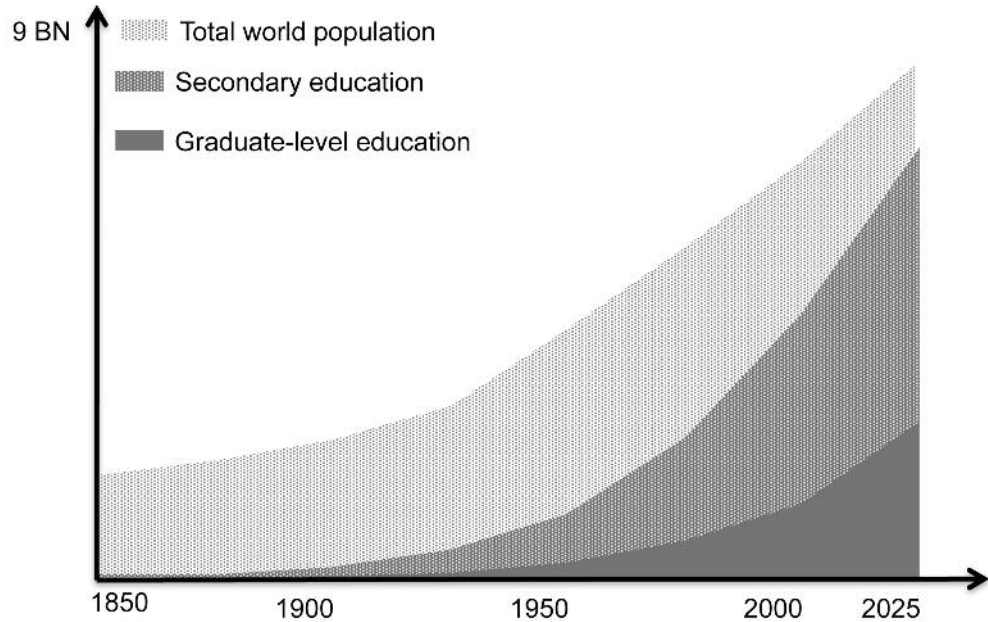
increasing its share of the world's population. The major growth is in Africa, as shown in Table A.1.

Figure A.4 Population numbersSource: *Beyond Crisis*, Ringland et al, 2010

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Table A.1 Where is the growth coming from? ¹⁹

Region	Population 2004 (million)	Population 2030 (million)
South East Asia	555	700
North East Asia	1524	1542
South Asia	1478	2044
Central Asia	63	75
Total Asia	3620	4361
Share of global population Asia	57%	54%
North Africa and Middle East	386	585
Sub Saharan Africa	751	1328
Total Africa and Middle East	1137	1912
Share of global population North Africa and Middle East	18%	23%

Figure A.5 Education levelsSource: *Beyond Crisis*, Ringland et al, 2010

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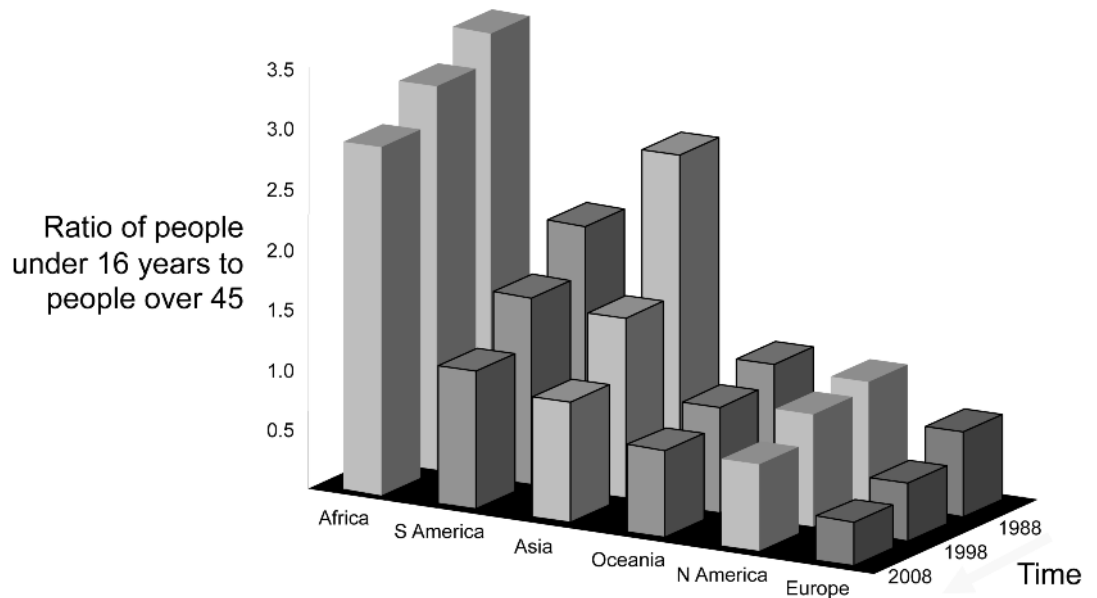
Figure A.5 shows the proportion of the population which has, or is expected to have, received various levels of education. The current Chinese and Indian 'honours student' population currently exceeds the OECD population. The anticipated realisation of a 90 percent literate global population by 2025 is a challenge with which many western countries are wrestling.

Again, there are large differences between the literacy rates in emerging nations, with China claiming 99 percent enrolment in primary schools²¹ and India targeting to increase their primary school enrolment from the current estimated two thirds²².

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 percent 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 70²³ (when he was 74). This was at a time when life expectancy for males in Germany was 36 (although this number is influenced by one child in three dying before the age of one²⁴). The equivalent dependency numbers for 2030 have an average of 35 percent 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 OECD countries 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 A.6 Dependency ratiosSource: *Beyond Crisis*, Ringland et al, 2010

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Figure A.6 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 0.5 persons under 16 years for every one over 45. Africa has three: 40 percent of Africa's population is under fifteen years old and that figure is expected to increase (World Bank, 2008a).

Poverty remains a dominant issue. The World Bank believes that 80 percent of the world lived on less than US\$10 a day in 2005 and around one billion people lived on about US\$1 per day (Collier, 2008).

Economic development and social interactions

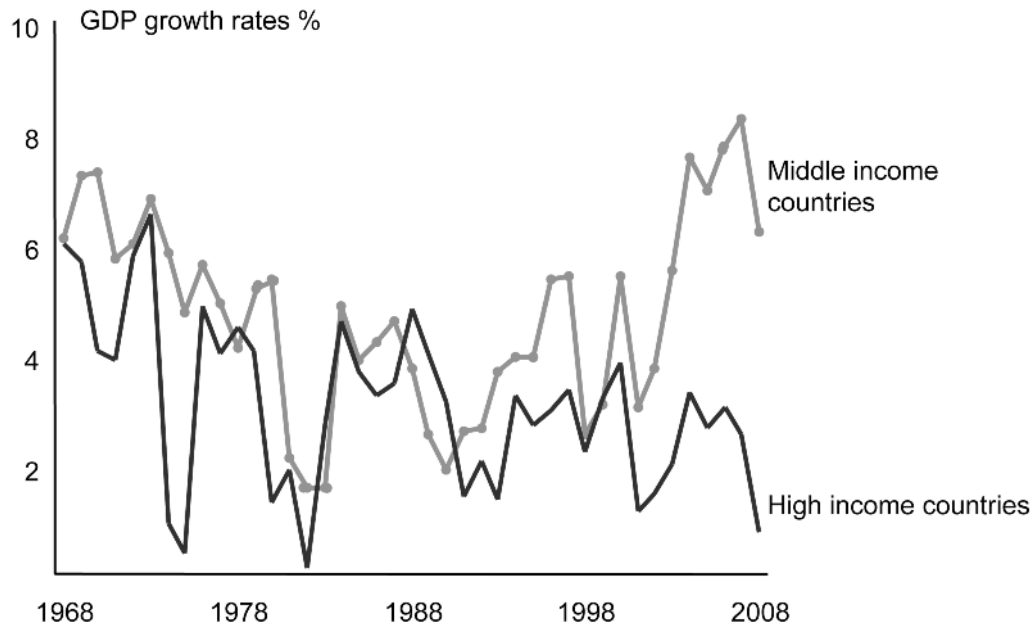
Demographics will cause deep changes in the competitive structure of the world's economies. Added to this will be the effect of economic development. It took Britain about 60 years to double its output during the industrial revolution. It took China seven years to do the

same during the 1990s, because it could look to existing models and technologies to help it move forward quickly (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 most parts of the old rich world.

Studies of this process by the World Bank²⁵ show that 80 percent of the observed difference is explained by three factors:

- Physical location and resources (five percent);
- Distinctions in the quality of education (15 percent);

Figure A.7 GDP growth rates since 1968Source: *Beyond Crisis*, Ringland et al, 2010

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- Differences in the effectiveness of government (which explains 60 percent 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 governments and private sector access the best that the world has to offer, both in terms of knowledge and of 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 A.7 shows economic growth rates for the old industrial (high income) and newly industrialising (middle income) countries. The average growth rate in the high income countries shows a decline since the 1960s, from six percent to two percent. 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.

Western societies wrestle with the implications of this. There is a tendency for them to see the industrialising world as essentially poor copies of themselves, or else as being helpful in the supply of cheap manufacturing. Everyone in the industrialising world is supposed to want to become just like the west. The assumption is

that the ethical basis of western societies will be replicated as and when the industrialising societies attain equivalent purchasing power.

Values of the emerging global middle class

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.

The likely move away from a world dominated by western values is the third factor that will affect the world to 2050. Western values focus, to over-simplify, on what you think and why you think it, i.e. on individuals. 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. Hofstede applies a structured approach to studying cultural differences and has mapped 74 countries (Hofstede, 2001). Similar differences between countries are found on a number of frameworks for discussing cultural differences. We use the framework in Table A.2 to compare the attitudes of traditionalist and wealthy industrial societies to five basic moral dimensions of society (Haidt, 2007).

Figure A.8 shows outcomes from the new disciplines of experimental economics. Experimental economics explores people's behaviour in situations where economics makes predictions. The figure is based on the five dominant dimensions of choices being made about social matters. It shows that the more traditional a society is, the more that 'purity' is relevant to a moral decision, with fairness less important than in the west.

Neural economics seeks to correlate locations in the brain which light up when choices are being made that are heavily laden with a particular moral dimension. Figure A.9 (Carruthers, 2007) shows the results of one set 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 the 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.

What this experiment suggests is that moral decisions based on value systems are based on specific characteristics of brain development, and as such will change only slowly over generations.

Implications for attitudes to governance

There will be very large numbers of new middle class people 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. The shift of power to countries governed by these new middle classes will greatly affect the implicit agenda of the old industrial powers.

During the past fifteen years, power shifts have already occurred and started to demonstrate the inadequacy of the industrial model. Historians will probably measure the decline in the dominance of the old powers and the old world model from the date of the deflation of the financial bubble which started in 2006. The shape of the world as it rebalances is the major question over the next decades.

Communications, science and technology

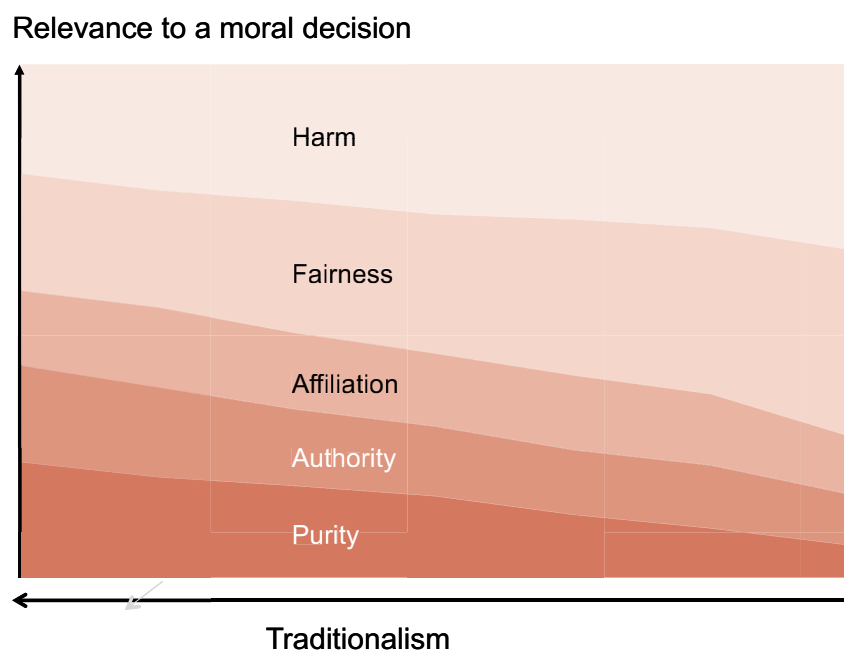
The fourth source of change over the next decades is science and technology. Advances in the biological sciences will continue to extend

Table A.2 Five moral dimensions of society

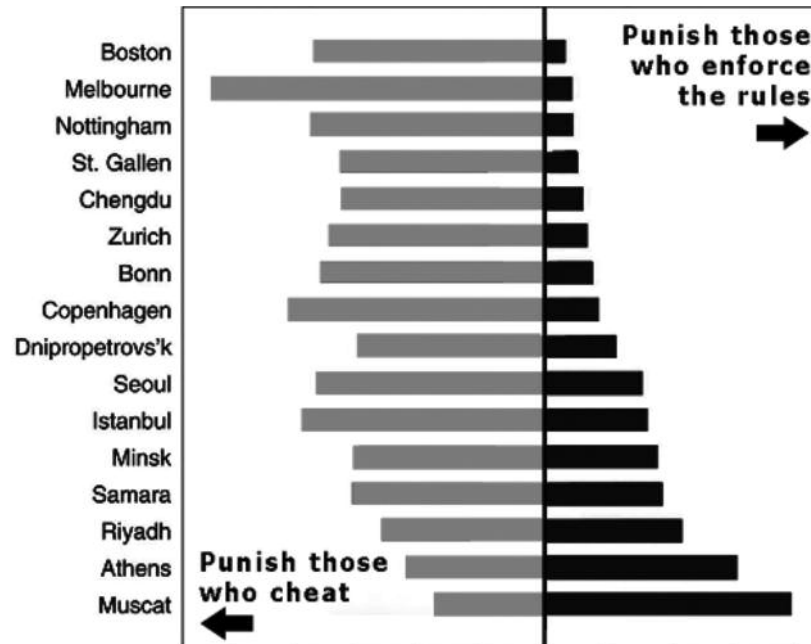
	Traditionalist societies	Wealthy, industrial societies
Harm	Harm avoided and benefits sought but in a more atomic, less systems-related manner.	Risk-benefit and the avoidance of harm are central to policy making.
Fairness	Principal of equality is not strongly recognised.	Individuals have equal rights; 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	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 A.8 The five dimensions of choice.

Source: *Beyond Crisis*, Ringland et al, 2010



©Beyond Crisis, Lustig, Ringland, Sparrow, John Wiley 2010

Figure A.9 The attitude to policeSource: *Beyond Crisis*, Ringland et al, 2010

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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. 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: usage, including the potential for accidents and abuses, will be within the reach of individuals and small groups. In our discussion below we make two assumptions about the effect of these advances during our timescale:

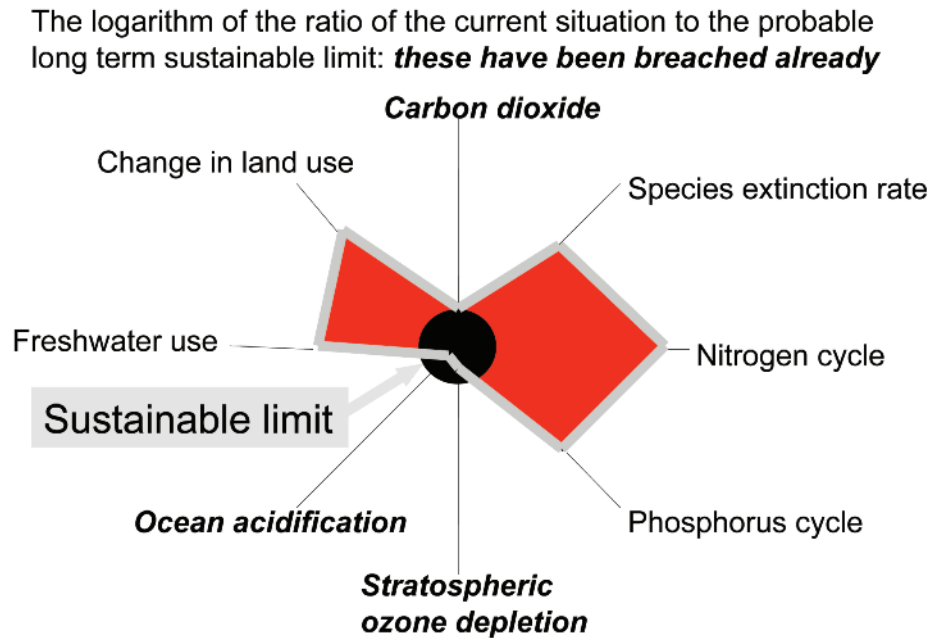
- These powers are used benignly;
- Market mechanisms are still needed for the exchange of goods and services.

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 a direct impact on the generation of wealth. Edwards (1996) reviewed estimates of how investment into knowledge converts into economic performance. The results were discount rates that clustered around 25 percent. The American think tank Funding First 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 (Funding First, 2000).

Technology exploitation tends to occur first in cities. It requires many types of infrastructure if it is to be effective - not just adjacent

Figure A.10 Environmental pressuresSource: *Rockstrom, 2009*

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technologies but law, designers, accountants and transport systems. For example, Scherngell estimates that knowledge has a predictable and extremely local effect on efficiency growth (Scherngell et al., 2007). A one percent increase in knowledge in a region would add two percent 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.

Systemic challenges

Technology

Technology also has the effect of making the world seem smaller. News of train crashes in India, earthquakes in China, fires in Russia, tsunamis in Thailand and droughts in Africa make us aware of events that only a generation ago we would not have known about. The world is also smaller in other ways, with global supply chains and telecoms networks. Failures in these systems have an increasing effect on developed world countries, through shortages

of components or through hacking of cyber networks. Crime, terror and other less welcome structures are pan-national if not global in this inter-connected world.

Three 'E's

We can see that there are three generic systemic challenges facing the world:

- The economic challenges that we have considered above;
- Energy challenges as we reduce or replace our dependence on carbon based fuels;
- Ecological challenges.

While these are all interconnected, it is helpful to consider them separately.

There are many useful reports and studies examining the future demand and supply of energy (Shell, 2011, IEA, 2010) and water (Preston, 2008), concerns over carbon

emissions (Davis, 2010) and the need to consider environmental degradation in determining economic development (Stiglitz, 2008).

At the same time, natural systems that have functioned well for centuries without attention are now being impacted by human activity. When the population was smaller, the rivers and oceans could cope with human waste. Forests could regenerate after cutting.

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 tens of thousands of chemicals not found there naturally in the oceans. Figure A.10 represents graphically the threat to many of the environmental ecosystems that sustain life. It shows the ratio of the current situation of eight environmental markers to the limits thought to be those beyond which the system collapses. Change in land use is a relatively healthy 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.

Finally, by 2050, the population of nine billion will be richer and older. They will have larger carbon footprints than today. Calculations suggest that if everyone consumed as much as the average North American, we would need five planets²⁶ and, when the population is 30 percent bigger, up to seven planets. This extent of over-demand suggests that one of the major uses of financial systems by 2050 could be to manage ecological, environmental and energy resources.

Cities

For thousands of years, people lived in the countryside. Slowly people started to move into villages, then towns and cities. By 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; <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 both flooding and water shortages (WWF, 2011) and are consequently exposed to extreme weather events.

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 percent 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 percent less physical infrastructure than two cities (Bettencourt, 2011). Ecologically there are also benefits: city dwellers use less energy than people in rural areas, for the same standard of living.

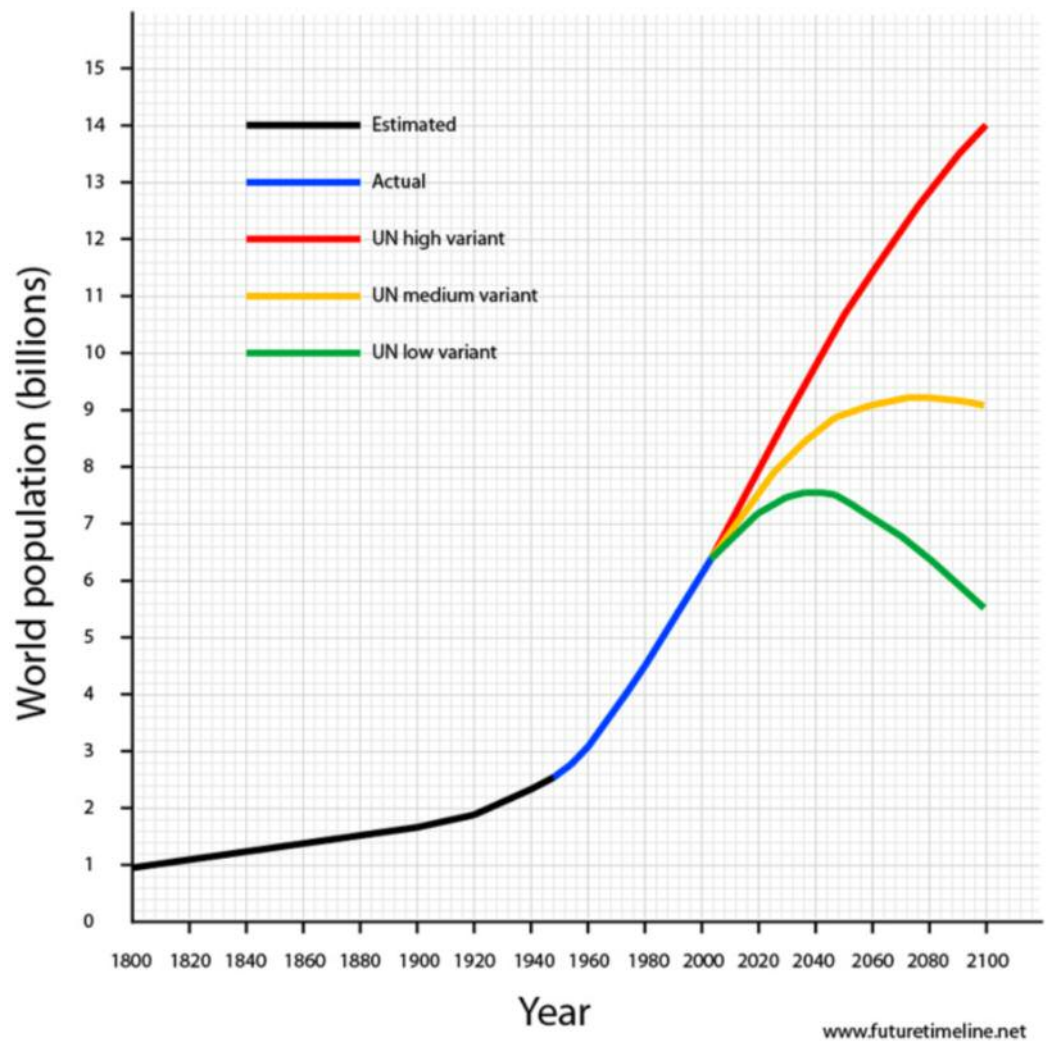
The importance of clusters – requiring cities to support them – was discussed earlier, in relation to science and technology. Cities, however, have another side effect, which is fundamentally changing society. When people move to cities, women tend to be educated, leading to smaller families. This is one of the factors leading us to think that the global population may not rise above nine billion, which is the middle forecast for 2050 (Figure A.11).

The World in 2030²⁶

With widely varying estimates of global population, we present the attempts below to anticipate global political developments to 2030 and 2050 with some trepidation.

The BRIC countries and the west

In the course of the next two decades, the 'emerging' BRIC economies will move from growth to consolidation. Each faces significant internal political, economic and social

Figure A.11 Estimates of global populationSource: <http://www.futuretimeline.net/subject/society-demographics.htm>

challenges and, although outright fragmentation is unlikely, it will be necessary for some power to be taken away from the government of nation states in order 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;

- This will inevitably result in a widening of the gap between high 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;

- In Europe, the gap between inherently sound economies (Germany, Norway etc) and inherently weak ones (Greece, Portugal etc) will widen. This polarisation is likely to work against the formation of regional economic partnerships such as the European Union, 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, there will probably be an increasingly formalised 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 realised from increasingly well managed natural resource export industries. Once again, however, there will be a process of polarisation, with resource-poor states becoming increasingly chaotic to the point of joining the list of failed states. Some will be 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 North Korea, Iran and Pakistan – all of which have, or are attempting to develop, a nuclear weapons capability²⁸. International terrorism based on small nuclear threats and cyber attacks 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 percent 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 geographically unbalanced.

Meeting the challenges of expectations

Computing power is essentially infinite and there are already many systems – military and civilian – which manage tasks beyond human capacity. However, software is not expected to be as good as humans at many tasks originally expected to be handled by robots.

There will ongoing innovation around food supply as more middle class consumers demand meat and fish in their diet, since a tonne of meat currently requires about ten times more water to produce than a tonne of wheat. Progress on renewable energy supplies will be sporadic and energy prices will rise steadily.

Financial markets

The greatest challenge facing both policy-makers and the financial services industry will be devising mechanisms to facilitate the development of markets for valuing, trading and protecting biodiversity and ecosystem services (including water, forests, flora and fauna)²⁹.

The World in 2050

The BRIC Countries and the west

The greatest uncertainty is whether any of the BRIC countries exercises the capability to dominate by using global military power. The answer to this will be determined primarily by the ability of the BRIC countries to re-configure their governmental systems to meet the demands of an increasingly wealthy population for public accountability, and the extent to which military power is exercised by conventional or cyber means. In this regard, pseudo-democratic Russia and autocratic China will be in the most difficult positions.

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 has hitherto been a crippling labour cost disadvantage. Their societal archetype would be Post-Globalisation.

The weaker western economies will struggle to compete, but providing that 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, but they could be de-railed by internal conflicts stimulated by friction with neighbouring states. In weaker economies there is a real chance that devolution will lead to outright political fragmentation.

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 capitalise 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 neutralise the first if it is not itself destabilised. The critical interaction will continue to 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 stabilised 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 in the '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.

People will continue to travel for leisure, putting enormous strains on heritage sites and unique areas. Real-time language translation systems and the dominance of 'Chinglish'³⁰ reduce obstacles to travel 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 their citizens and residents is constrained. There will be a trend towards taxation by transaction (like sales tax in the United States or VAT in Europe) rather than trying to tax incomes.

Financial markets

Global financial markets will be driven to a large extent by environmental and natural issues. The success of liquid, internationally regulated markets in facilitating trading and risk management 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 futurists to disappear for all except rural trading, but historians think this is less likely.

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Gill Ringland, 14 December 2011

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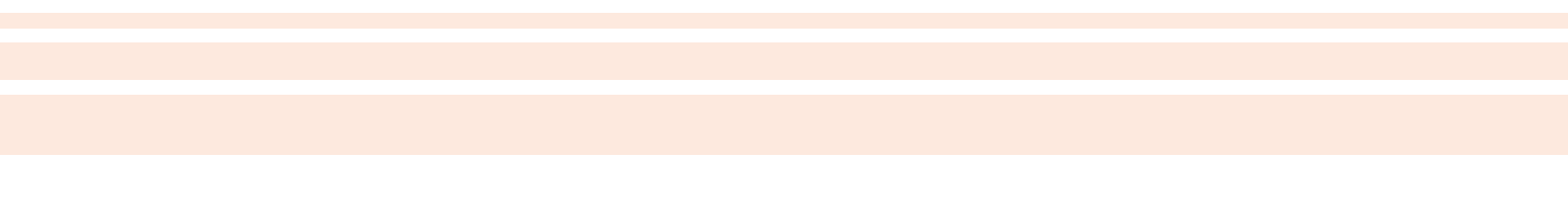
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End notes

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- 27 This section and The World in 2050 were contributed by Dr Malcolm Cooper of ARC.
- 28 www.foreignaffairs.com/articles/65732/graham.../nuclear-disorder
- 29 See, for example, the "Where's The Data?" report series produced by Z/Yen on behalf of the Natural Environment Research Council (NERC) and available at <http://www.zyen.com/knowledge.html>
- 30 'Chinglish' and 'Indlish' are terms used to describe two of the very different directions in which spoken English is evolving as an international language.





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