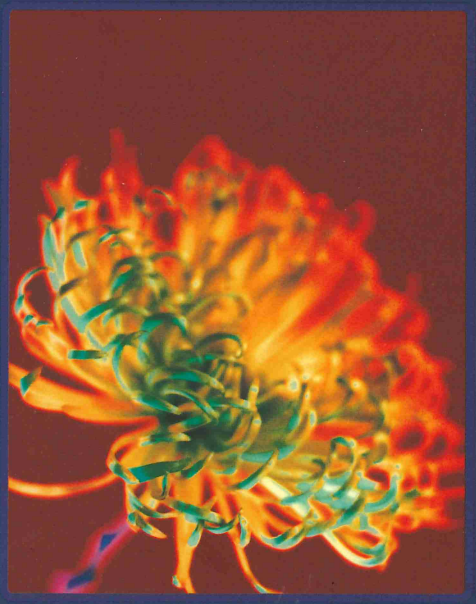

Group Scenarios 1998-2020

The Group Scenario book is *restricted*. This means that the information in it can be freely shared with staff in Shell and Associated Companies, but not with third parties. You should apply due diligence to prevent access by third parties. At some time, probably about a year after the publication of this book, certain information contained in these scenarios may be released for selected dissemination outside the Group, where this would add value. If you are considering sharing the scenarios with an outside audience, or need any further information, please contact PXG.

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The Group of the Future and the Group Scenarios, 1998-2020

The **Group of the Future** is an umbrella term for a collection of initiatives and developments within the Shell Group that are designed to help us position ourselves to shape and meet the challenges and opportunities of the future. These initiatives are principally concerned with the key inter-related areas of Purpose, Portfolio, and People.

Previous global scenarios have, as the name implies, concentrated on *global* issues such as the oil price, the environment, political and financial trends, and the post-Cold War world order. This time, however, the focus is on *Group* issues, especially the external developments that have a direct bearing on strategic questions currently facing the Group. Under each scenario, the section entitled *The New Corporation* raises fundamental issues – the function of corporations, the importance of strategic control points, the profit zone, the forces of atomisation and commoditisation, the nature of reputation, organisational learning, leadership, and core purpose.

The 1995 scenarios introduced 'TINA' ('There Is No Alternative'). The strong winds of TINA – liberalisation, globalisation and technology – were blowing away

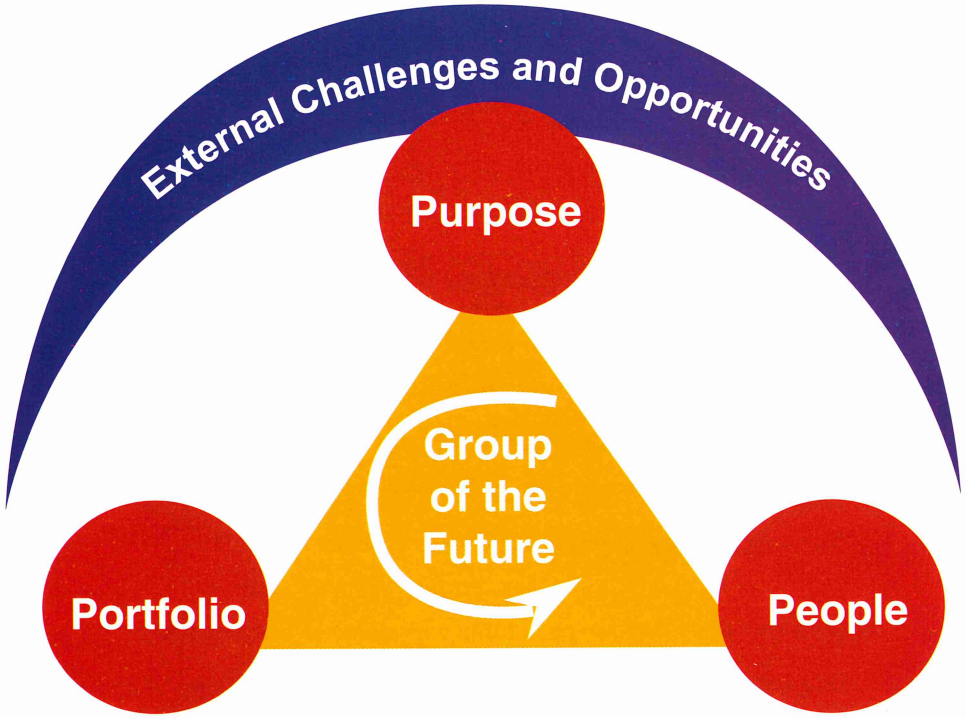
all opposition to the prevailing ideological and economic models. In 1998, TINA appears healthier than ever, and many of its effects on corporations are becoming apparent. TINA has enabled new forms of organisation to emerge, forcing corporations to confront difficult issues head on. For example:

- What does it mean to be a global company?
- What strategic control points in our businesses can enable us to gain sustainable advantage?
- Are there any hidden cross-subsidies in our businesses, and are these providing misleading signals or causing misallocation of resources?
- Can any of our businesses be unbundled, and would this improve performance?
- What risks are implicit in our businesses, and how can they best be managed?
- Where are our profit zones – areas where customers are willing to pay more than the cost of capital?
- What kind of learning do we need in order to perform better? How well are we learning? How can we learn more effectively?
- How much authority should be delegated to front-line managers, and what processes and organisations are needed for such empowerment?
- Technology has given us the opportunity to organise in networks. Should we be doing this in our businesses, and, if so, where and how?
- Where should we provide tailored solutions for different situations and different customers, and where should we impose an optimised single solution?
- How can we translate a high-level value proposition into practical business strategies?
- What is the best approach to technology development and commercialisation?

The Group, like other major corporations, has been grappling with these and other issues, including some which are specific to our own businesses, such as forthcoming changes in automobile technology and the world's energy mix. These challenges will continue to be high on our agendas.

The 1998 scenarios, then, are Group Scenarios rather than global scenarios. They are designed to help the Group understand the challenges facing corporations and the environment for building the Group of the Future.

Group of the Future



Using the Scenarios

Scenarios are plausible and challenging stories, not forecasts. They do not extrapolate from the past to predict what will happen in the future, but instead offer two very different stories of how the future might look. They help to prepare for discontinuities and sudden change; they help to create a common culture or language through which the future can be imagined and discussed; and they challenge the mental maps we all hold.

All scenarios are designed for particular purposes, and these Group Scenarios focus on issues which are of particular importance for the Group at the present time. As such, they should be relevant to strategy-making in many of the Group's businesses and activities. A number of techniques have been developed, and are still evolving, to make the scenarios as helpful as possible to management teams in the Group. They include:

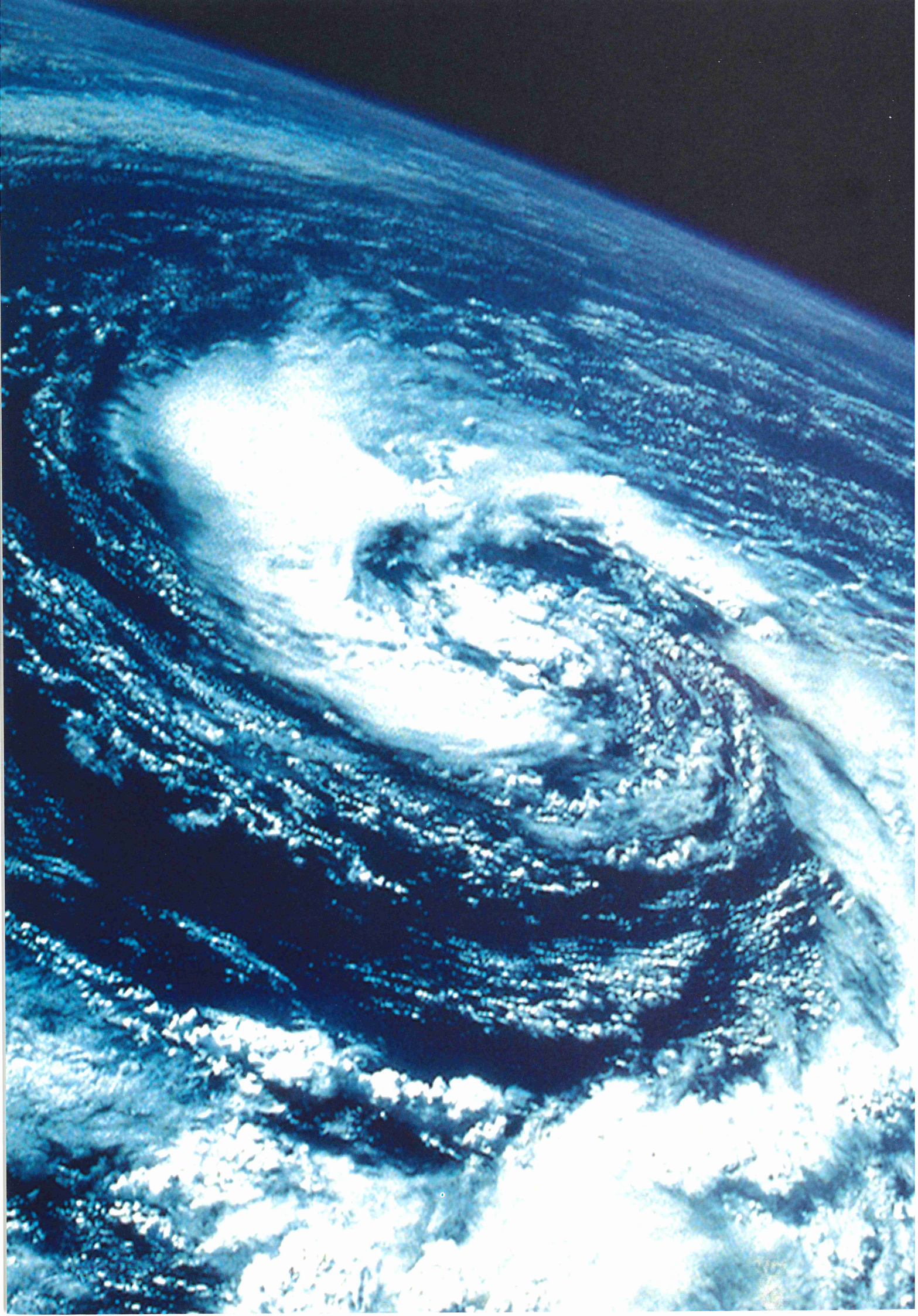
- Scenario Presentations.
- Focused Scenarios.
- Scenario Modules.

- Scenario-to-Strategy Workshops.
- Project-Specific Scenario Workshops.

For a period of around one year, the Group Scenarios will remain restricted to Group personnel. After this, it is intended that the scenarios should add further value to the Group through a number of forms of dissemination to a wider public. For example:

- Presentations and workshops for stakeholders and other interest groups.
- A booklet summarising the scenarios.
- The provision of content for keynote speeches.

Information or advice on any of the above are available from PXG. In addition, a summary of these scenarios and a slide pack can be found on the Shell Wide Web through the PX home page: http://sww.cc.shell.com/px/.

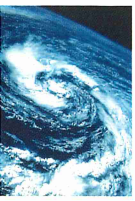


TINA Above and Below

TINA – 'There Is No Alternative'

In the early 1990s, the forces of globalisation, liberalisation, and technology were sweeping the world, creating enormous challenges as well as new opportunities. The 1992 scenarios described two responses to these forces: in *New Frontiers*, the opportunities and challenges were embraced, while in *Barricades*, they were resisted. Three years later, we saw that *Barricades* was an unsustainable world – the forces of what came to be known as 'TINA' were simply too strong to resist.

The 1995 scenarios emerged from *New Frontiers* in response to the question: what political, social, business, and economic systems are best able to exploit the forces of TINA? In *Just Do It!*, success came to those who took advantage of quick-moving opportunities in a world of hypercompetition, customisation, and rapid technological innovation. In *Da Wo* ('Big Me'), countries and companies



discovered that success called for a committed investment in relationships, where trust and the enabling role of government provided the long-term strategic advantage. At the time, Asia enjoyed an advantage in the *Da Wo* scenario because its societies and businesses were at home in a world in which the individual – 'small me' – understood that self-interest is inextricably linked to the welfare of the whole – 'Big Me'. But with the advantage of limited hindsight, we can now see that *Da Wo* is not feasible until TINA truly comes to Asia.

In 1998, we see that TINA is more powerful than ever, and that the effects of TINA operate on two levels: at the level of markets, financial systems, governments, and other wide-reaching institutions (*'TINA Above'*); and also at the level of individual people, who, in many parts of the world, rich and poor, are becoming wealthier, better educated, and freer to choose (*'TINA Below'*).

TINA Above: Globalisation, Liberalisation, Technology – and their Interactions

Globalisation is obvious to anyone who watches American movies in Kenya, or buys Chinese-made clothes in France, or drives Japanese cars in South America, or listens to British CDs in Papua New Guinea.

Liberalisation is also familiar to the millions of consumers who are faced with competing sellers of telephone, gas, power, and entertainment services. For many products, only a small share of value is locked into geography – which means that the 'footloose' parts of the manufacturing process can be moved anywhere. In competing for these footloose enterprises, cities, regions, and governments find they are subject to the discipline of global financial markets – TINA at work.

Technology innovation not only improves efficiency and enables new products and services, it also creates effects whose impacts take many years to understand.

New Technology

New science breeds waves of new technologies, and some of these eventually change the world. The large industries of the mid-20th century were built on developments from the 19th that we now take largely for granted – artificial light, fats and fibres, oil and engines. The real impact is not realised, and often not understood, for decades while people learn what is possible, and businesses, markets, and social systems adjust. So, too, electronics, digital technology, molecular biology, materials science, and nano-technology now stand ready to provide the seed-corn for growth industries well into the 21st century. At their core, disciplines like chemistry appear to be more or less complete – 'The king is dead, long live the king'.

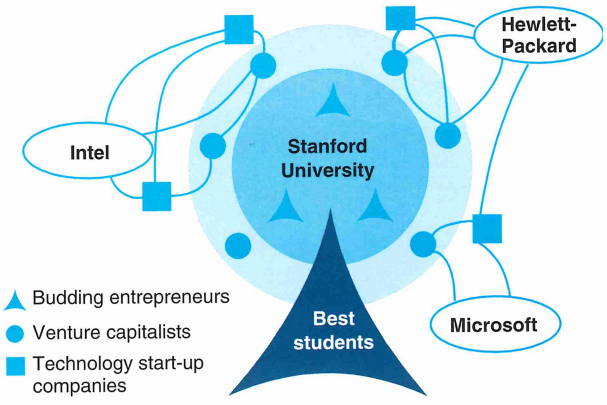
Development of new products, processes, and services from these technologies depends on a dynamic relationship between smart people and businesses of all sizes. The large, old-tech companies used to attract technology innovators into their R&D laboratories. But now, many of the brightest science students no longer believe that their futures lie in working for these companies; nor do the companies themselves regard their R&D laboratories as engines of progress. The model that is evolving in relation to these new technologies is quite different: leading universities spawn small, multi-disciplinary companies, which swarm, insect-like, around those larger companies able to realise the value of the innovators.

Huge savings are possible when a successful new method or component is introduced to speed up the search for a better drug or chip design or catalyst or oil-field or way to store hydrogen on-board a vehicle, for example. But development of new chip fabrication plants, drugs, power generators, aircraft, and even computer software is only economic on a world-scale. Small science-led companies depend upon the vigour of their larger partners to flourish – and *vice versa*.

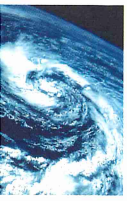
Innovation often takes place best in small teams, and it is increasingly the smaller companies that can provide an environment for this to happen. As is apparent in the pharmaceutical and information technology industries, high prices are paid to acquire those small firms that are successful so as to ensure access to the right methods and to increase the capacity to freeze out competitors. These high prices mean value is crystallised up front – often before the innovation is fully realised. Not surprisingly, the best scientists are attracted to the new industries that offer such high initial returns.

This new approach to organising innovation means that linking technology development to corporate purpose and market needs poses a key challenge for companies, whether small or large, new- or old-tech in nature. To be a successful technology generator or integrator, one has to be aware of what is possible, understand the competitive value of the technology, and have access to the right options. Many experiments must be tried in order to find the winning approach. But making choices about options and experiments can be harder when developments begin life outside one's own organisation and come from completely unexpected directions, as is often the case with new science and technology.

Technology Network



Given the nature of these technologies, the virtuous circles – performing the right experiments, leading to innovation, leading to new products and processes, leading to huge rewards in the marketplace – are so strong that a technology-oriented company, large or small must ensure that it is part of the network or it will become irrelevant to the rest. Increasingly, the best companies will be those that learn how to make the network operate to their advantage.



For example, information technology was developed a number of years ago – but its ultimate impact is still hotly debated. Some argue that IT is a democratising force; others, that it enhances the capacity for central monitoring and control as well as dependence on centralised servers, for example, or on unique software standards.

Regardless of its final impact, it seems clear that *information technology* intensifies TINA in three ways:

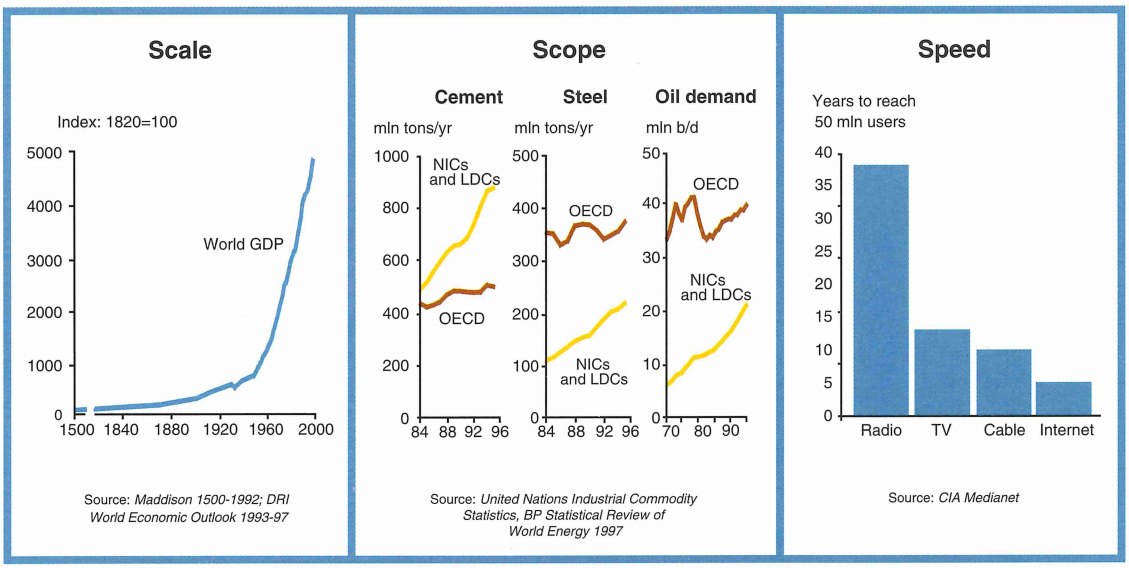
1) IT *informs* customers and suppliers, allowing customers to find the best value from an increasing array of competitors, and allowing suppliers to tailor their offerings to individual customers.

2) IT *disintermediates,* allowing customers to communicate directly with the sources of goods and services, and allowing companies to unbundle their manufacturing processes and re-distribute them more efficiently. Disintermediation is a particularly subversive part of information technology, threatening many established oligarchies, such as banking and other financial service companies, because it lowers the barriers to entry of smaller firms which would not have been able to compete in the past.

3) IT *enables,* particularly in the areas of communications, automation, tracking, and speed. IT expands choice and increases transparency; it is ubiquitous, serving as a powerful force in the globalisation of ideas; and it is mundane, because its primary applications are in meeting basic customer needs and in improving basic business processes, although often in innovative and revolutionary ways. The impact of one such innovation, the internet, is characteristic of the paradoxical nature of IT in that it increases both fragmentation and connectedness.

These three forces of TINA – globalisation, liberalisation, and technology – have increased in scale, scope, and speed. It's not, for example, that the rate of world economic growth has changed significantly in the last 100 years, but that the

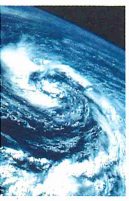
sheer *scale* of ordinary actions produces extraordinary conditions. More countries are entering the global economy, and more industries are emerging, greatly expanding the *scope* of trends and events. The developing world is increasing in importance in the global economy, and many of the past characteristics of what are now industrialised nations – for example, a high demand for cement, steel, and oil – are now characteristics of the less developed nations. In addition, the *speed* of action and response is increasing – as technology is disseminated more rapidly, so, too, are ideas and products.



Not only are these forces increasing in scale, scope, and speed, but their interactions are transforming entire industries. The combined cycle gas turbine was a powerful technological development, for example; but it changed the nature of the gas business only when gas markets were liberalised, and globalisation spawned IPPs and integrated alliances.

TINA Below: People with Education, Wealth, Choice

Although wide variations exist, most people across the world are getting wealthier and more educated and have more choices. As people move up the hierarchy of human needs, they begin to exercise choice based on their values and



desires rather than on hunger and fear. For example, in developed economies, wealthier people express a greater willingness to pay for goods and services that are 'green' or that are the products of socially responsible companies. What will be the effects of more people becoming wealthy enough to make such choices?

No matter what the nature of people's choices, the fact of the increase in the number of these choices, as well as the growth in education and wealth, will create new pressures on government institutions, businesses, and even individuals themselves.

Two Scenarios for Business

The squeeze on institutions and societies will intensify in response to pressures from above – open and transparent markets, globalisation, commoditisation – and pressures from below – better informed and more demanding customers, higher employee expectations, and the demands and expectations of citizens and other stakeholders. Will we learn to cope with *TINA Above* by coming together to design global rules of the game that allow it to be played fairly and efficiently? Will we strengthen global institutions, continually reinvent our businesses, and learn to play ***The New Game***?

Or will *TINA Below*, with its spontaneous, unstructured, and less predictable forces of wealth, choice, and education, dominate? Will consumer choice, rising personal expectations, and grassroots pressure groups overwhelm attempts to impose rules and overshadow old institutions? Will ***People Power*** emerge, producing forms of organisation and economic activity that we have never seen before, and challenging businesses with the need for creativity and resilience?

In either scenario, businesses will be transformed. There Is No Alternative to such transformation. The question is: how will it occur? Which of these forces – *TINA Above* or *TINA Below* – will be more powerful in shaping the future?

The New Game

In ***The New Game***, existing institutions and organisations successfully adapt to the new complexities of *TINA Above.* At all levels, from the local to the international, people come together to deal with problems, and in the process, new institutions emerge, and old institutions are reconstructed to deal with TINA's global revolution. The new framework that emerges means that, for the first time, there's only one global game to play in – or, as is the case in some regions, to aspire to join.

On the level of individual businesses, the over-arching framework of ***The New Game*** brings with it rules of play and models of best practice. Information technology and high transparency allow these rules and models to be seen and analysed. Those who learn these rules and can play well in such transparent and efficient global markets can earn rich rewards. As always, those who can design winning strategies do well, and success breeds success – but because of the global scope of ***The New Game***, sustained success comes to relatively fewer players on the field. The good players reap extremely large rewards, while those who play poorly simply drop out of the game. In a way, the model for this sort of system, involving a transparent framework of rules on top, many players underneath, and big gaps between winners and losers is the US. Indeed, for many people, the predominance of the Anglo-Saxon economic model makes the world feel increasingly like the US writ large.

In ***The New Game***, companies are engaged in a relentless search for profit under the keen eye of the competition authorities. Here the ability to learn faster is the defining advantage, especially in rapidly changing industries. But even in more established industries, learning is key to success. Companies cannot simply continue to do business as usual, but must identify the part of the value chain that can actually produce a profit and move to that 'profit zone', moving again as soon as the profit zone shifts. The forces of TINA encourage many players to enter the game, and rewards the most successful – who are not necessarily the largest – in every market.

Meanwhile, the faster spread of experience, the ability to tap that experience, the increasing feedback loops in every sector of activity, and the growth of transparency may be creating an additional TINA of learning. Evidence of this possible TINA may be found when we look at the wide variety of predictions that haven't come true: the much-trumpeted limits to growth have been circumvented by market responses and technological progress; oil price changes have had progressively smaller impacts on the world's economy; nuclear war has so far been avoided; China has not collapsed; Mexico has survived the peso crisis; Kyoto has not been abandoned. All of these are 'dogs that didn't bark'.

Those businesses and institutions do best in ***The New Game*** when they are designed as learning systems, continually reinventing themselves. This is especially important in a world of high mobility in which people come and go, and in which knowledge is rapidly transferred. The moves, players, and rules in ***The New Game*** are transparent. But this transparency serves to encourage a larger number of players to enter the game, while at the same time, it does nothing to decrease the complexity of the game itself or the difficulty of designing winning strategies. The game is increasingly complex, with a bigger board, new pieces, new rules, and the emergence of new institutions.

The Framework for Institution Building

The world of ***The New Game*** has learned that TINA does not tolerate structural financial weaknesses for very long. The Asia crisis of 1997 and the resulting investor responses, as well as the application of IMF corrective measures, lead banking systems around the world to adopt a more conservative approach. The currency crises of the late 20th century drive home the point that in this global economy, we are all vulnerable to weaknesses in any part of the system. By 2015, a functioning macrostructure is emerging, and global public opinion is forming to support the notion that this stability should be institutionalised through establishing a global-lender-of-last-resort system. The International Monetary and Financial Council (IMFC) evolves from the IMF and begins to serve this function very effectively.

In *The New Game*, progress is made towards creating a global society of states – not through 'world government' but through emerging understandings of what is of mutual benefit. This learning is then embodied in a limited number of multilateral treaties, as well as world-wide organisations whose legitimacy is derived from their effectiveness and who emerge, like the IMFC, from earlier institutions or from the splitting off of specific functions from existing global organisations. In addition, both businesses and governments have learned how important it is to have NGOs and other interested parties at the table when problems are being addressed. And NGOs recognise that they have to work within the economic system, not against it.

One of the effects of the increase in effective global problem-solving and the emergence of functioning global institutions is that national governments become one of a number of partners in problem solving. High tax levels have been lowered, hidden subsidies removed, and minimal social security safety nets are available, but only for those in real need. A relentless search for best practice on the part of the market state as well as businesses means that states are beginning to function in similar ways. In addition, the function of the state is beginning to shift. The social contract of the old nation-state model was based on the welfare of its citizens, on taking care of them. Now the nation state seems to hold itself responsible for something else: ensuring minimal safety nets while maintaining a fair economic playing field for its citizens. The new model seems highly effective. Many problems that had seemed intractable in the 20th century are being solved, usually at the level most suited to address them – global, national, or local. Entrenched positions, including unions and special-interest lobbies, are eroded in this new world.

By 2020, a new society of market states is in place, which allows for global competition within defined frameworks. The rules-driven and competitive world of *The New Game* prospers, with world GDP growing just under 4% per year during the scenario period.

Energy, the Environment, and the Value Chessboard

Given the global financial consensus, held in place by new institutions and revitalised market states, liquid and competitive markets emerge everywhere – for example, in the trading of carbon emission permits and in new forms of trading risk. Like other commodities, energy is bought and sold in highly transparent markets in which risk and every other part of the value chain is unbundled. The value chain is expanded at each link in at least one other direction, becoming more like a multidimensional chessboard than a chain. The best players become dominant, in part because the power of virtuous circles is greatly increased in ***The New Game***. And, because of risk insurance and the advances towards perfection of the market, the old advantages of size and integration are not enough to give a company strategic advantage. Anyone can compete at any point in the value chain.

In ***The New Game***, Kyoto works. Consensus about the importance of the environment leads to the formation of the World Environment Organisation (WEO), which arises from working groups of NGOs, government officials, and business representatives, with input from other international organisations, such as UNEP. The WEO becomes increasingly skilled in encouraging and overseeing market mechanisms to reach environmental targets. Effective enforcement of Kyoto largely drives coal out of the energy mix in OECD countries and curtails oil demand through encouraging highly efficient new vehicles as well as the growth of gas and, later, renewables.

Meanwhile, the US Partnership for a New Generation of Vehicles (PNGV) program and its competitors succeed in commercialising a new generation of highly sought-after vehicles with three times the fuel efficiency of late 1990 models. The energy business is also challenged by rapid growth of cross-border natural gas sales. Middle East oil producers see the writing on the wall and, in order to maximise the value of their resource, increase their share of the limited market by keeping prices around $10 per barrel.

The New Corporation: Learning and the Power of Strategic Design

The New Game is a tough world for business. Increasing transparency and competition drive goods and services towards the zone of commoditisation and, eventually, into the 'empty core,' where profit is very low. Companies attempt to achieve competitive advantage by seizing strategic control points in a given market and then by continually reinventing themselves in order to stay ahead of the competition and of the very effective regulators, who vigorously root out potential monopolies. In ***The New Game***, strategic cost leadership is absolutely vital – but it isn't enough. Success depends on identifying the constantly shifting profit zone, the area of the value chain where customers are prepared to pay in excess of the cost of capital. Fast, cheap, and effective learning is a core competence in this world, and organisations design structures to encourage this learning. The challenge for management in ***The New Game*** is to do better in allocating capital than the atomised, impersonal, and highly efficient market – in short, to add value.

People Power

In ***People Power***, *TINA Below* brings significant increases in wealth, choice, and education, and, for the first time in history, large numbers of people across the globe are free to express their own values and often do so in unpredictable, unstructured, and spontaneous ways. This flowering of diversity undercuts authoritarianism and conformity, and appears to weaken many long-standing social institutions – marriage, obedience to authority, and norms of sexual expression and public behaviour, for example. It is a volatile and exciting world, one of great creativity and accelerating change, where 'news of the new' is rapidly disseminated.

It may seem as if values are changing, too. But a closer look reveals that people have always held differing views, but have been too poor to have time to express them, or too constricted by authority to be able to do what they wanted, or too ignorant to know they had other choices. What is different about ***People Power***, then, is not that people change their values, but that people are enabled, through liberalisation, education, technology, and relative wealth, to behave openly and effectively in expressing a wide range of diverse values and desires. It is as if the tight cords of authority and poverty that have held people together, like so many flowers in a bouquet, have been cut, leaving the individual flowers to blossom in many directions. And, in a world of hundreds of multimedia outlets, always looking for the new, these divergent blooms receive a great deal of attention. No matter how strange and chaotic the world is, it *appears* even stranger as packaged for news and entertainment.

Millennium Bangs and Experiments

This unleashing of diversity in ***People Power*** allows weeds to flourish as well as flowers. It is a volatile and unpredictable world with fragmented political parties and such a divergence of views that institutions find it difficult to build consensus. Institutions are further challenged by the speed of change – they just never seem able to catch up or to reform themselves or their spheres of activity in time to

address the current problems. They do learn and reinvent themselves – but the lag time between the changes in people and the necessary changes in the institutions that serve them seems to be growing. Only a crisis can lead to a large-scale change in this world. Such a crisis occurs when a stock market 'correction' – some say, 'crash' – in the US, accompanied by financial crises in Japan and China, reverberate around the world in a series of 'Millennium Bangs', creating the biggest recession since the 1930s.

In Europe, where governments fail to tackle high taxes and inflexible labour contracts, recovery is uneven. But elsewhere in the OECD, recovery is remarkably fast, in part because many local experiments in problem-solving are coming up with novel solutions to what had seemed intractable problems – pensions, for example, and social welfare. Because of the inadequacy of institutions, such solutions tend to be pragmatic and go forward one step at a time, placing a greater degree of responsibility on local citizens than the solutions of governments in the 20th century. But these solutions are unevenly applied, and while news of the 'experiments that work' travels quickly, generating the political will to challenge entrenched interests is often difficult. Problems get solved, in different ways in different places, with the solutions themselves sometimes creating unintended consequences.

After the Millennium Bangs, average economic growth rates increase to 5%, but growth is uneven, with change tending to take place only when crisis looms. Many relatively well-off and educated citizens, who have an increasing array of choices, join other like-minded people in expressing their values through a variety of global associations. Environmental activists, for example, are far more likely to support their international cause, whether rain forests or whales, than support their particular government policy, which may have been crafted to encourage particular national companies. At the same time, people engage in intense activity at the local level, where they can see the direct results of their political influence. In democracies, the referendum is a popular mechanism for allowing a local public to vote on issues that in the past were left to their representatives – the old

elites – to decide. Above all, the new politics is one of creative experimentation, in which people have to manage a veritable 'portfolio of identities', and where the national government becomes just one of a number of competing voices – and not a particularly powerful voice at that.

Energy, the Environment, and Consumer's Choice

In ***People Power***, energy markets, like other markets, are driven by an increasingly diverse array of end-user needs. This is a world full of entirely new ways of doing things, with large numbers of experiments. Also, because of intense media attention, including tailored internet news dissemination, the new catches on rapidly. Entire industries can change almost over-night. The players in the electricity industry, for example, are rapidly transformed beyond all recognition as they come to terms with distributed power generation. Oil prices are volatile as the market responds to events such as the inrush of oil from Russia and the Caspian Region and the effects of sanctions and boycotts against Nigeria and other victims of 'the curse of oil'.

Energy marketers in ***People Power*** aggressively exploit new information and communication technologies to differentiate services according to time and occasion-of-use, location, demography, and even attitude, creating an explosion of new bundled energy services. For many customers, however, energy marketers become an irrelevant impediment between themselves and the supplier.

After recovering from the Millennium Recession, energy demand explodes in developing countries. But in industrialised countries, on-going efficiency improvements, continued economic shifts to services, and saturation of major energy needs keep demand growth relatively stagnant. People prefer to spend increases in disposable income on entertainment, health, and personal services rather than further superfluous appliances.

In ***People Power***, although the EU ratifies the Kyoto agreements, the US does not. Angry about local pollution, congestion, and health issues, people target oil, coal,

and car companies through increasingly more effective NGOs. Outrage spills over into boycotts and other actions against polluters, including the drivers of gas-guzzling cars. Corporations, under intense media scrutiny, are held to higher standards of social accountability.

The New Corporation: Core Purpose and the Power of People

In this world of media spotlighting and consumer expression of values, reputation and brand really matter. But brand may require subtle variations across borders or other customer segments, assuming more importance in less developed nations, for example, than in OECD countries. In fact, 'tailorism' – the tailoring of solutions to fit individual customers – is a feature throughout the world of ***People Power***, extending to governments, education, services, and almost every facet of life. Companies succeed only if they can provide tailored services not simply for their own customers, but for their customers' customers.

Diversity in a world of 'tailorism' is not just about gender, race, and nationality, but also about skills, feelings, and values. Employees, for example, are willing to give a lot where they find a fit between their personal values and those of the corporation, but are highly intolerant of companies that don't fit them. In turn, companies find they need to tailor employment roles and opportunities to fit many different kinds of people. Companies need diversity because they need to understand the contradictory trends and currents of their markets. But increasing diversity means they can no longer afford to have single competence profiles and one-size-fits-all employee development models. In the old world of 'Taylorism', people were commodities – moving parts which had to be made more efficient or replaced. In the new world of 'tailorism', people are irreplaceable individuals whose unique talents create opportunities for business growth and profit. The creative entrepreneurs so necessary in ***People Power*** have many opportunities to succeed on their own, so companies must work very hard to attract them.

People are key to success in this world, for only people are creative and resilient enough to respond intelligently and quickly to the unpredictable – and customers

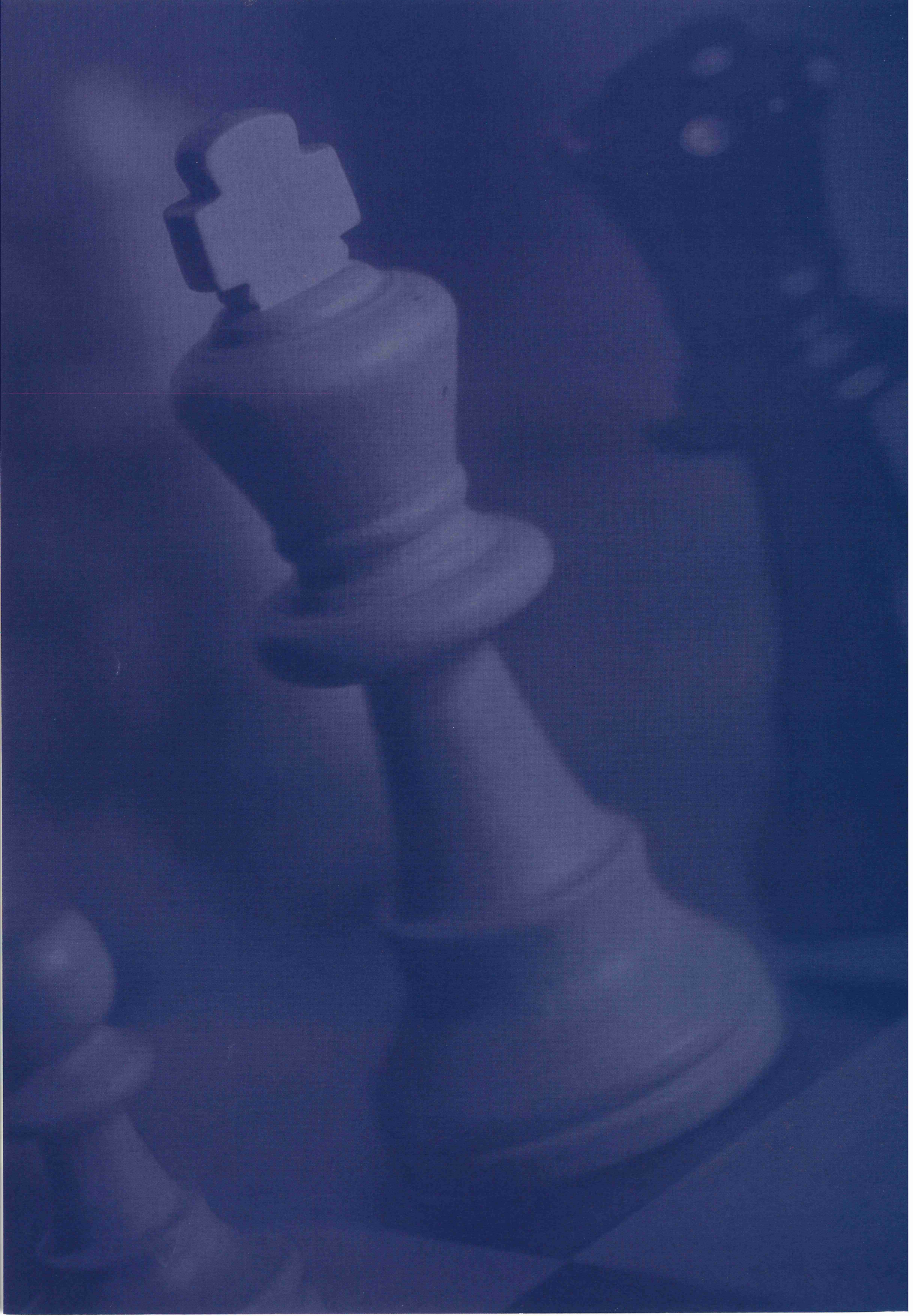
are often unpredictable. Successful companies are those that have highly empowered and entrepreneurial individuals close to the customer. In the absence of a hierarchical management structure, corporate leaders in ***People Power*** function as coaches for the front-line managers, who are empowered to make major decisions. What guides all these empowered front-line entrepreneurs is clarity of purpose and a strong sense of values, with leaders working to establish and strengthen these. In ***People Power***, core purpose is not just a slogan – it is a way of aligning the company for competitive advantage.

- New global institutions
- Liquid and transparent markets
- Kyoto works
- Low oil prices

The New Game

People Power

- Flowering of diversity
- Institutional obsolescence
- Energy growth and saturation
- Volatility



The Framework for Institution Building

The Framework

In *The New Game*, governments, institutions, businesses, and individuals learn how to deal with the forces of TINA. In a way, this response is not surprising – it is the nature of human beings and institutions to evolve better ways of dealing with the world. Humans are, after all, capable of making rational decisions. But what makes this world distinctive is the degree of international consensus about the best way to harness TINA. That consensus is built on four fundamental principles: *the rule of law; transparency; standards;* and *stability.*

Solving Problems

In the late 1990s, a consensus begins to emerge about what global problems need to be solved – and, in many cases, how to solve them. Most of these solutions have been known for a long time, requiring only consensus and political will to be put into effect. Specifically, people begin to look for solutions to four central issues:

1. How to prevent financial crises in one part of the world from creating major economic disruptions in other parts of the world.

2. How to make markets work within a framework of sound and enforceable rules.

3. How to create sustainable social safety nets and stay competitive in the global economy.

4. How to address global environmental problems.

Key Principles of Rational Decision-Making

The key model of behaviour accepted by contemporary social sciences is based on the assumption that in aggregate, and in the long run, most people behave rationally and that those who do not, lose out. When we make decisions, we tend to follow certain principles of rational decision-making, whether we are conscious of these principles or not.

Cancellation – We don't have to care about possible events that don't help us make a choice. Suppose that if the weather is fine tomorrow, we can choose to go to a football match; but if it snows, we can't. Suppose, also, that if the weather is fine tomorrow, we can choose to go to a parade, but that we can't if it snows. The Cancellation Principle says that in choosing between the match or the parade, we don't have to worry about whether it snows.

Transitivity – If we prefer football to parades, and parades to staying home, then we also prefer football to staying home.

Dominance – If watching an exciting football match is better than going to a parade, and if watching a boring match is at least as good as going to a parade, then we should decide to go to the match.

Invariance – Regardless of how the same decision-making issue is presented, we should come to the same decision.

Source: *Tversky and Kahneman (1986)*

The story of ***The New Game*** is, in part, how a new global framework gradually develops in fits and starts, and often in ways that appear *ad hoc*, to tackle these problems. The first step involves the continuing evolution of the highest-level economic institution, the G8.

For some years, the leaders of the world's most influential economies have met informally to set the political and economic agenda, and, occasionally, to tackle a

specific problem. The precise composition of this grouping has varied from time to time, but by the start of the new millennium, global leadership is firmly situated in the G8 – the US, Canada, Japan, Germany, France, Italy, the UK, and Russia. But the idea that a group representing only 13% of the world's people should act in this way becomes increasingly uncomfortable. As the non-G8 economies continue to make progress, the composition of this top-table group is evidently inappropriate and unsustainable.

"We must choose between satisfying our jingoism, thereby sliding into the age of darkness, or taking the path of reform toward a humane free market economy."

Anwar Ibrahim, Deputy Prime Minister and Finance Minister of Malaysia

At a landmark meeting in 2005, the old world hands a little of its prestige to the new. The European members of the G8 agree to be represented by a single EU delegate, and the G8 is supplemented by representatives of India, China, ASEAN, and Mercosur. The G8 has become the G9, 60% of the world's people are now represented in it, and, of the large regions of the world, only Africa is still absent.

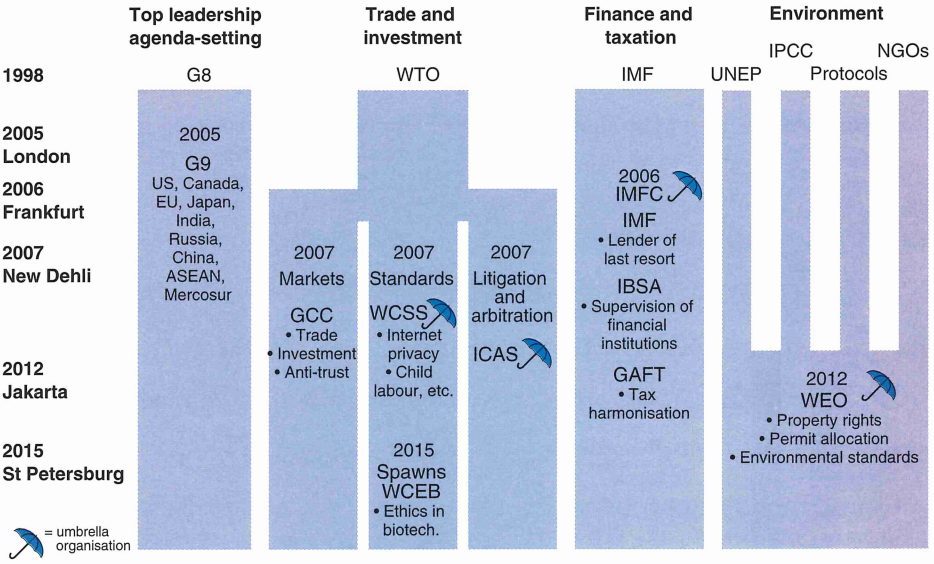
Preventing Financial Crises

In ***The New Game***, nations create the framework for effective institution-building in the areas of the environment, global competition, and social standards; but central banks and fiscal authorities are increasingly worried that globalisation is undermining the stability of the financial systems and the ability of governments to tax footloose firms and commerce. The extent of the Asian crises, in particular the unexpected relapse in mid-1998, begins to convince the global financial community that a more consistent approach is necessary, one that includes not only a powerful lender of last resort, but also an effective supervision agency for financial institutions to prevent undue risk-taking.

Following a series of consultations among the leading nations of the world, including China, a major conference is held in 2006. At this meeting, some of the roles of the increasingly overburdened IMF are given to two new bodies – the International Banking Supervisory Authority (IBSA), and the General Agreement

on Fair Taxation (GAFT). IBSA takes over some of the roles of the Bank of International Settlements, but also has the authority to regulate capital adequacy ratios and bad loan provision ratios, as well as the duty to notify a bank's stockholders when it considers the bank's loan and activity portfolios to be too risky. GAFT aims to limit tax havens for owners of liquid capital and to prevent electronic commerce firms from evading sales taxes. By effectively controlling competing electronic currency systems, GAFT also strengthens the monopoly of major central banks on the issuance of currency. Governments continue to require that 'their' taxes be paid in 'their' currency, just as they insist that 'their' civil servants be paid with 'their' currency. An umbrella organisation, the International Monetary and Financial Council (IMFC), co-ordinates these new institutions.

Development of International Institutions



The Global Society of Market States

The global framework of rules, transparency, and subsidiarity established in ***The New Game*** creates a compelling playing field for governments, which are otherwise often at cross-purposes when it comes to issues such as human rights, social policy, and behaviour towards ethnic minorities. Underlying the global consensus of ***The New Game*** is the recognition that pursuing short-term

advantage by exploiting temporary positions of strength to the detriment of other states undercuts the potential for much bigger win-win opportunities. Thus, self-interest among all parties – governments, industry, and consumers – drives the relative harmony of *The New Game*. National rules are harmonised with the standards set by global institutions. Regions take on new importance as the nation state becomes relatively marginalised.

"Now the United States is like a big corporation in the world economy."

US President Bill Clinton

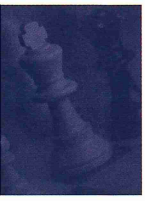
By the early years of the 21st century, politicians are replacing the old rallying cry of the nation state – 'national security' – with the new banner of 'global competitiveness', even though some of this rhetoric causes backlash against globalisation itself. Anti-NAFTA and anti-free trade forces are a noisy minority in the US and elsewhere, as people mistakenly blame the stagnant wages of the US and the high unemployment of continental Europe on globalisation itself.

Globalisation and Wage Inequality

Many opponents of globalisation invoke the 'great sucking sound' to describe the alleged loss of low-wage jobs to competition from poor countries. As jobs 'go south', low-skilled workers, it is said, become unemployed, as in continental Europe, or must accept work at lower wages, as in the US and Britain. During the 1990s, many studies were undertaken to assess the validity of these claims.

The main conclusion of these studies is that globalisation of trade appears to have affected earnings inequality very little. The main reason that wage patterns have changed is that changes in technology have increased the demand for high-skilled workers relative to demand for low-skilled workers. Interestingly, studies by both opponents and advocates of globalisation come to that same basic view. Disputes continue, however, over the precise impact of globalisation on wages.

Some argue that even if the impact of low-wage competition on wage patterns in developed countries is small at the moment, we might see a greater impact in the future, as the world becomes more integrated. If this proves to be so, of course, global income gaps between rich and poor will diminish as people in poor countries gain relative to people in rich ones.



What makes ***The New Game*** work is the increased understanding that in order to solve ongoing problems, institutions at many different levels must set and enforce standards. That means establishing conventions for dispute arbitration, including automatic enforceability of awards.

Structured tiers of decision-making evolve, many of them concerned with creating the new rules of the game. These do not emerge under a model of global government, but more as a series of ad hoc gatherings made up of members of different clubs. A new, three-pronged hierarchy of institutions is established to deal with three central issues:

1. *Market access on fair and equal terms for all players.* A working organisation known as the Global Competition Commission (GCC) ensures open borders, the equal treatment of foreign and local firms, and the punishment of suspected market power abuse at the global level.

2. *Social and environmental standards governing the behaviour of business.* Here multinationals play a key role in lobbying for clear global rules to substitute for the patchwork of rules of different countries. An umbrella organisation, the World Council on Standard Setting (WCSS), co-ordinates a number of bodies that set and monitor standards in different areas. In one such area, the environment, concern is so intense that in 2012, the GCC splits off the environmental division of its organisational structure, creating the World Environment Organisation (WEO).

3. *Independent arbitration with consequent enforceability in the relevant jurisdiction.* This issue is also taken up simultaneously in the G9, which, in 2007, establishes an International Court and Arbitration System (ICAS) to harmonise the international arbitration rules already in existence.

In all these negotiations, wide global citizen support is obtained because of the extensive inclusion of NGOs and other public interest groups in the discussions. It is also clear that the problems these new international institutions are addressing can be solved only at the global level. By 2015, the EU has accepted a

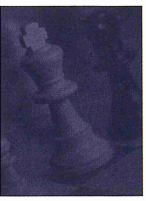
diminished independent power to tax and spend; Asia has less corruption; and the US has enacted campaign finance reform, thus diminishing the worst effects of lobby-based politics. Meanwhile, those countries that resist TINA or in other ways refuse to join in ***The New Game*** fall behind and find it increasingly difficult to re-enter. No country can be half in and half out of this game, and free-riders in the international system are given a hard time. Increasingly, investors lose interest in countries that don't play in ***The New Game***. Many such countries have to discount their goods and find that the prices of their assets are decreasing and that fewer players are willing to deal with them. Risk premiums go up. As time passes, the penalties for attempting to operate outside the global framework become more severe.

"There was a sense in the mid 1980s that antitrust enforcement should be minimal because the market would take care of most problems. Enforcement today is more sceptical that the market will solve these problems. There are deals that will harm consumers."

Robert Pitofsky, Chairman Federal Trade Commission

The rule of law ensures the construction of a level playing field that allows players in ***The New Game*** to reap the benefits of their actions and investments. The new global markets are increasingly governed by clear, transparent rules. Contracts and property rights are secure within and among countries and are enforceable world-wide. Cross-border deals lose much of their riskiness. In turn, the emphasis on rules-based systems in the global market creates an incentive for democratisation in many societies – China being only the most prominent of these. As independent courts and judges begin to uphold the rights of individuals in the realm of property, the principles of rule of law and of the rights of individuals begin to take hold, affecting the political as well as the economic life of nations.

In ***The New Game***, global institutions arise from mutual recognition between different groups – governments, businesses, and NGOs, for example. Business, in particular, needs common rules, and institutions evolve to provide these. In a sense, this process is similar to the evolution which occurred at the end of the



Historical Note: The Creation of New International Institutions

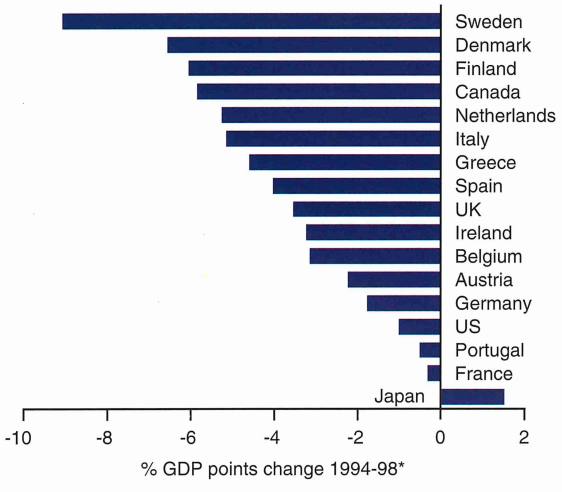
Rarely are fundamentally new institutions created. Hayek, the great Austrian economist, argues that the most stable and long-lived institutions are those that arise as pragmatic responses to challenges facing society and that are built upon years of experience.

The International Monetary Fund

Several international conferences were convened during the 1930s to address world monetary problems, but they ended in failure. Partial and tentative solutions were clearly inadequate. What was required was co-operation on a previously untried scale by all nations in establishing an innovative monetary system and an international institution to monitor it. In a happy coincidence, two bold and original thinkers, Harry Dexter White in the US and John Maynard Keynes in the UK, put forward almost simultaneously in the early 1940s proposals for such a system, to be supervised not by occasional international meetings but by a permanent co-operative organisation. The system, reacting to the needs of the times, would encourage the unrestricted conversion of one currency into another, establish a clear and unequivocal value for each currency, and eliminate restrictions and practices, such as competitive devaluations, that had brought investment and trade to a virtual standstill during the 1930s. After much negotiation under difficult wartime conditions, the international community accepted the system and an organisation to supervise it.

19th century, when state institutions arose to meet the challenge of the new industries emerging from the industrial revolution. The emergence of these institutions increased governmental intervention in the domestic economy until the 1980s and 1990s.

Reduction in Government Spending



* 1998 = forecast

Source: *Swedish Ministry of Finance; OECD*

Of course, there are winners and losers when the rule of law takes effect. Entrenched interests lose privileged positions, and the new framework for international business sometimes has the effect of re-assigning value. For example, cross-border electricity and gas pipeline construction benefits from this new-found security, allowing gas to compete against coal in Asia.

Addressing Environmental Problems

The creation of the WEO in 2012 comes as a surprise to those who have doubted the capacity of governments to leave behind national interests and agree to global action in the face of environmental threats. At the WEO conferences, participating nations agree on common standards and the principles for allocating environmental property rights. As with the founding of the organisation, NGOs are important players in setting the agendas of the WEO conferences and fill a watchdog function in relation to implementation agreements. The WEO administers allocation schemes, sometimes by assigning permits to various jurisdictions for implementation and sometimes by directly auctioning them off. Far-sighted companies support the deliberations of the WEO because of their interest in clear rules and a level playing field.

The widespread public support for the mission of the WEO serves to accelerate the application of tradable permits to water rights, fishery rights, and various forms of emissions. A major outcome of the introduction of tradable carbon dioxide emission rights is that natural gas becomes much more attractive than coal.

Creating Sustainable Social Safety Nets

In ***The New Game***, the pressures of TINA and demographic trends require most societies to overhaul their social security, health, and pension systems. The welfare state gives way to targeted and effective social safety nets. Most countries adopt a 'three-pillar' system that requires recipients to work if they can and to help manage their safety nets through their own savings. Under this framework, means-testing is wide-spread.

1. The first pillar of security is tax funded and provides all citizens, regardless of income, with basic health benefits, unemployment compensation, and education.

2. The second pillar enhances this basic protection by mandating that all individuals contribute to a savings scheme in relation to their pensions.

3. The third pillar encourages individuals to augment protection further by giving tax incentives for voluntary savings towards retirement, sickness, and unemployment.

In addition to the social security provided by the three pillars, the well-functioning capital markets allow people to invest globally. Thus, the ageing populations of advanced economies have relatively safe investment opportunities in developing countries with fast growth. Improvements in health also allow retirement ages to be raised gradually. The combination of these measures resolves the anticipated funding crisis for the world's large pension systems.

Transparency

In ***The New Game***, one of the key features helping to keep the rule of law in place is transparency. New technology, particularly the internet, greatly expands the capacity to monitor activities of both businesses and governments. Transparency goes hand-in-hand with greater accountability; it feeds – and feeds on – open political discussion and democracy. With greater transparency, it is not surprising that early in the 21st century, a move towards democracy is seen in many governments around the world. As privilege is driven out, even governments who never wanted to play in ***The New Game*** are inexorably pressured to join.

Although they benefit from the global framework, businesses find that the transparency of this framework means that they are under increasing scrutiny from all sorts of public interest groups, environmentalists in particular. By 2007, most multinational companies have adopted an audited triple-line accounting regime, which openly displays their contribution not only to wealth generation, but also to the environment and to society. Independent rating agencies keep widely publicised scorecards of rankings in many dimensions, social as well as financial, and these rankings are reflected in the financial markets.

Role of NGOs

A striking feature of ***The New Game*** is the extent to which non-governmental organisations – Amnesty International, Greenpeace, the International Consumer Association, the Anti-Poverty League, the World Business Council for Sustainable Development, and many others – increasingly play a part in inter-governmental negotiations, bringing an element of greater political accountability into their deliberations. Initially, these NGOs simply have a monitoring function – they publicise breaches of human rights or environmental and safety standards. But they soon acquire a more influential role, helping to shape the agenda of discussion and to provide relevant expertise. And, of course, this creates dilemmas for them, for, like other institutions, they must reassess their mission and purpose.

Governments also accept that there are some public values that cannot be met in the marketplace. For example, when the World Council for Ethics in Biotechnology (WCEB) proposes a new Code of Bioethics that includes extensive safeguards against abuse of biomedical research, many countries enact the code into law, enforcing it with strict liability rules.

Risk

As markets become more perfect, and financial markets expand, capital controls are abolished in all countries. Clever financial institutions begin to offer more risk-management products world-wide, allowing customers to minimise the cost of risk-bearing by obtaining thinly sliced risk-management products. Private political risk insurance, which had started to boom in the 1990s, accelerates, and syndicated coverage for a wide variety of risks – currency convertibility, war and other civil disturbances, expropriation, breach of contract – is large enough and available for a long-enough term that most projects can take advantage of it. As contract security grows, the rates for expropriation and breach of contract cover decline. In addition, with the growth of global financial derivative markets, convertibility insurance becomes tradable by 2002.

Expropriation, War, Convertibility, and Breach of Contract Insurance

	1970s	1990	1998	2005
Term	very limited	< 3 years	7 to 10 years	15 years
Coverage		< $100 mln	> $1 bln	> $ 2 bln
Price		>500 bp*	20 to 1500 bp	15 to 1500 bp
Tradable		no	no	yes

*bp: basis points

At the same time, governments all over the world are allowing free entry into competitive markets. Special rights, such as mining leases, concessions, and build-operate-transfer (BOT) schemes, are routinely auctioned and re-auctioned competitively, leaving less room for negotiated deals. Small, previously local companies are thus able to make up for their lack of international expertise and diplomatic savvy by buying efficiently priced insurance and by gaining market share on the strength of their innovative construction and operating expertise, particularly in the coveted Chinese and Indian markets. In addition, because the rule of law protects property rights and insures redress in courts, it reduces risks, thus attracting many new players.

Information Technology

In the first decade of the new century, long-standing expectations that advances in information technology (IT) would revolutionise business at last become fulfilled. One of the key factors is that IT products and processes have become much more simplified and standardised. In 2009, Japanese firms take the lead in software production, having found ways to automate the production of complex code. These and other advances reduce the demand for skilled workers, particularly in relation to IT. At the same time, a boom in demand for personal services, from plumbers to nurses, raises the demand for lower-skilled workers, thus narrowing the income gap between rich and poor.

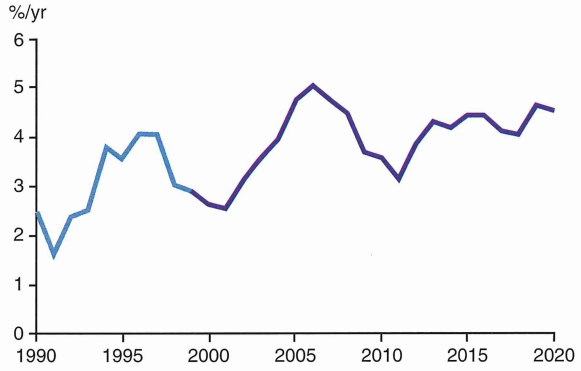
Competition

The global rules of ***The New Game***, which provide an over-arching framework within which companies operate, intensify the competitive pressures on them. Players in ***The New Game*** find that this world offers not only easier entry but an increasing number of entry points. Governments take active steps to allow new players into the game. By helping to make markets more transparent, IT contributes to this intensely competitive scene.

Economic Outcomes

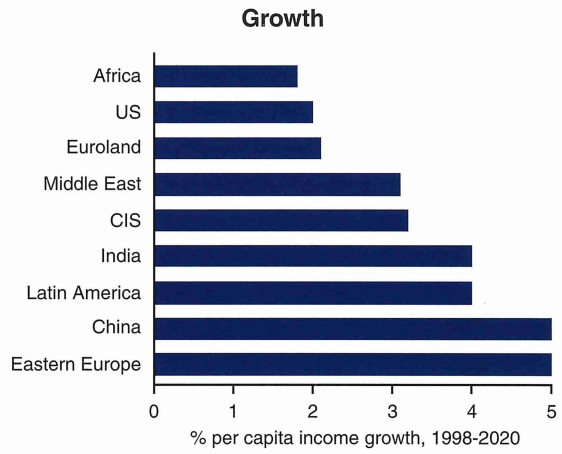
In ***The New Game***, world GDP growth averages just under 4% until 2020. Business cycles flatten or become largely synchronised across the world. Competitive pressures are strong, leading to continued high productivity growth, especially in developing countries, which are rapidly catching up with advanced ones.

World GDP Growth



The New Game is a world that rewards the US for the flexibility of its economy. Incessant restructuring of business and improved uses of new technology raise US per capita income growth from 1.5% per year to 2% per year. The rest of the OECD also performs well. Growth in the East Asian tiger economies slows somewhat as they begin to approach the income levels of the leading countries of the world. Per capita income in India continues to grow strongly at 4% per year, and China does even better, at 5%. Once TINA has been accepted, Russia and the other CIS countries experience very healthy per capita income growth, above 3% from the early years of the new century – although growth here is more volatile than in other parts of the world. And even Africa starts to recover on a sustained broad basis, raising per capita income growth from negative rates to almost 2%. Reforming Middle Eastern countries, such as Egypt and Jordan, grow strongly,

with sustained per capita income rises of over 3% per year. Both Eastern European and Latin American economies reap the fruit of hard adjustment policies, with per capita income growing at 5% and 4%, respectively. But countries that, for whatever reason, have stayed outside the global framework of enforceable standards, do poorly.



The rule of law, transparency, common standards and enforcement of these standards all lead to a greater stability in ***The New Game*** than the world has ever known. Co-ordinated policies allow nations to avoid shocks. Fiscal responsibility, including a balanced budget in the US, becomes the norm. Rules take precedence over discretion, and constitutional reforms in many parts of the world create political institutions that are modern, competitive, and, above all, stable.

Social Outcomes: Meritocracy

One social outcome of ***The New Game*** is simply the result of the 'curse of meritocracy' – a sense of futility and hopelessness among those who cannot succeed in the hyper-competitive global race. People who in earlier times would have prospered because of their social status, education, or privileged connections to the powerful, now find that only those who can compete on their own merits really succeed. As with other aspects of ***The New Game***, technology and IT serve to level the playing field so that earnings inequality is driven less by race and background and more by achievement. This trend is exemplified by the many high school students

"Universities will have to become entrepreneurs, working with corporations on curriculum and other matters, or they will die."

Del Weber, Chancellor University of Nebraska, Omaha

educated in non-technical areas who become successful CEOs, while highly educated information scientists face competition from automated processes. A growing consensus develops that people are poor because they deserve to be poor.

The discontent engendered by the new global meritocracy never boils up for very long because the new social safety net system works and because overall economic and social prospects are bright. However, complaints about some key features persist. Flexible labour markets quickly transmit competitive pressures right down to the last worker, to the point that people worry more and more about the right balance between pressures at work and their comparatively pampered lives as consumers.

Potholes in the Playing Field

By 2020 the world has become much richer: incomes of the poor are rising in most countries, social safety nets work, and agreed standards protect against abuse and risks of all sorts. But the very success of the global framework of ***The New Game*** carries within it certain dangers.

The first of these is connected with *liability*. This is a world in which rules are taken seriously, and anyone can sue any company, world-wide. The courts deal harshly with any firm found acting irresponsibly with its shareholders' money or selling new products that have not been tested to the highest standards. Companies become increasingly worried about the possibility that they may be exposing themselves to future liability, and this fear slows down innovation and the introduction of new products.

An additional danger arises from the increased competition resulting from (a) the clearer rules; (b) the greater ease of entry by new players into markets; and (c) the pressures arising from the new transparency. The journey towards *commoditisation* becomes even quicker, and the difficulties in earning rewards from innovation even greater.

Moral Hazard

"Lend stupidly; act tough; and watch the money return. That is a perfectly sound policy for the world's most powerful banks. Is it a satisfactory one? The answer must be no, not just because of the encouragement to take such risks again, but also because of the burden imposed on ordinary people in the capital-importing countries."

Financial Times, 10 June 1998

'Moral hazard' is the excess risk undertaken by players who feel they will be rescued by some outside agency if their gamble fails. When we know that the money we deposit in a bank is insured, we are less likely to check whether the bank itself is financially sound or likely to default on us. We are simply willing to 'gamble' or assume risks that we would not necessarily accept in the absence of deposit insurance. This is one example of the broad phenomenon of 'moral hazard' – the temptation that under the protection of insurance, we will unthinkingly accept more risk than we would otherwise – thus adding more risk to the economic system as a whole. In the case of *natural hazards*, like earthquakes, the odds are independent of what we do. But in the case of *moral hazards*, the odds are partly determined by ourselves.

Examples of moral hazard abound. A fairly well-documented case concerns US air traffic controllers. After they were offered early retirement with good benefits if they were declared overly stressed, there was a sharp increase in reported near-collisions. Air traffic controllers allowed relatively low-risk emergencies to arise so that they could later claim to have been exposed to excessive stress. Other examples of moral hazard are the disproportionate number of traffic accidents at pedestrian walk ways, presumably because pedestrians rely too much on the safety provided by the official crossing.

Whenever there is some type of safety net, the insured party may be tempted to choose riskier courses of action than they would if the safety net did not exist. In private insurance schemes, moral hazard is taken into account in pricing insurance premiums. Insurance companies also try to monitor and assess the behaviour of the insured party to determine whether excessive negligence or outright fraud can be proven. And when moral hazard is very strong, insurance is no longer written.

Moral hazard can have significant effects, not just on insurance contracts, but on the economy as a whole – as in the US savings and loan crisis of the 1980s, for example, or the recent Asian currency crises. Such crises are partly generated and partly aggravated by excessive risk-taking of banks and investors, who believe they will ultimately be bailed out. This 'false' sense of security encourages both too much investment and too risky investment. Resources are thus inefficiently used, and overall economic growth may be dragged down. In the case of the US savings and loan crisis, the rescue ended up costing 3% of GDP, not counting the non-quantifiable costs to investors who were not bailed out, or the forgone benefits from better investments that could have been made had moral hazard been less. A number of banking crises in the world have resulted in significantly higher costs. It is not unusual for moral hazard-driven investment decisions to drag down growth by 0.5% to 1% of GDP annually for as long as a decade. In spite of these significant costs, the insurance system that gives rise to the moral hazard issue also offers significant benefits – especially, the prevention of uncontrollable financial panic. The question remains whether these benefits justify the costs.

Another issue is *moral hazard,* the tendency to take greater risks if protection against possible loss is available. The successful unbundling of risk in ***The New Game*** allows players to undertake many risky ventures and to forego cautions that might impose a short-term drag on profit. But when many players make such choices, the effect is to create a long-term drag on the efficiency of the system as a whole. One indication of the rise of moral hazard is the increasing tendency of pensioners in this apparently safe world to make risky investments in developing economies. While another global financial crisis under the new framework is highly unlikely, even local financial volatility has potentially widespread harmful effects in this interconnected and almost complacent world.

Stability – A Drag?

In 2015, in a widely read essay in *Foreign Affairs*, published electronically from his retirement home in southern Spain, R. Rainbow rebuts the great architect and apologist of ***The New Game***, Larry Summers, and warns that increasing belief in the safety of capital market investments has led many aspiring pensioners to pursue excessively risky investment strategies so as to be able to afford the spiralling prices of homes in the South of Europe. Excessive risk-taking by pensioners is set to drag down economic growth, he warns, and asset bubbles are proliferating. The ability of central banks to identify and prevent bubbles is clearly diminishing, because in the new world of automated basic services, it becomes increasingly difficult to measure inflation as distinct from 'real' GDP changes. This is because the quality of products is difficult to compare from year to year, particularly because more and more economic activity consists of service jobs that produce hard-to-measure outputs like health care and education. Without useful inflation measures, central banks and fiscal authorities cannot manage business cycles and bubbles. All sorts of contracts indexed to inflation, such as wage and pension contracts, might soon have to be re-written. The author announces "the end of macro-economic management as we have known it since the 1950s" and suggests more decentralised approaches to steer the demand and supply of money and other assets.

Moreover, he observes that the caution induced by the world's ever tighter standards and liability rules is dampening innovation, and even suppressing entire product lines that otherwise would look very promising. "People are becoming afraid to experiment and have fun," he complains.

As concerns over the negative effects of uncontrolled economic growth are translated into binding standards, and as strict liability rules are used to punish offending firms, a mood of caution settles over the global economy. Accepted rules and safety nets are likely to be 'cast in stone' after a while, sometimes retarding desirable change. Many interest groups that benefit from a particular set of rules successfully resist change. Innovation is gradually slowed, and, eventually, growth slows, too. But maybe that's the price the world is willing to pay for economic, social, and political security.

The 'Dogs That Didn't Bark' – 2020

" 'Is there any point to which you would wish to draw my attention?'
'To the curious incident of the dog in the night-time.'
'The dog did nothing in the night-time.'
'That was the curious incident,' remarked Sherlock Holmes."

Sir Arthur Conan Doyle, "Silver Blaze," Memoirs of Sherlock Holmes, 1894

The G9 agreement reached in 2007 completes the basic institutional arrangements that open the door for extremely vigorous competition in the second decade of the 21st century. The new framework allows the world to avoid a variety of major potential conflicts. Currency crises – such as the one feared for China, when it removed capital controls in 2006 – are a matter of the past. The expected crunch for pension systems has been avoided because ageing populations in advanced economies are able to invest without fear in emerging markets, where labour force increases and technological catch-up allow fast and sustained growth. The fear that CO_2 emissions would grow exponentially is put to rest, as is the expectation that there would be 'limits to growth', or that oil prices would continue to rise. In short: because ***The New Game*** is a world in which institutions learn, by 2020, there are many 'dogs that didn't bark'.

Energy, the Environment, and the Value Chessboard

The Global Energy Market

By the late 1990s, it has become clear that deregulated energy markets have led to lower prices and increased efficiency, without any sacrifice of supply security. Evidence of this link between efficiency and open, competitive markets has come from the US, New Zealand, the UK, Argentina, and Spain. In ***The New Game,*** governments learn and apply 'best practice', adapting their regulatory regimes to maximise competition.

OECD and Latin American governments complete liberalisation of their energy markets by 2008, while EU liberalisation of power and gas markets proceeds ahead of schedule. Countries slow to liberalise face increasing pressure from domestic energy consumers, who pay substantially more than their competitors in other countries and now lack the counter-weight of protected markets. By 2020 all the world's major energy markets are liberalised, and the concept of 'liberalised' continues to expand.

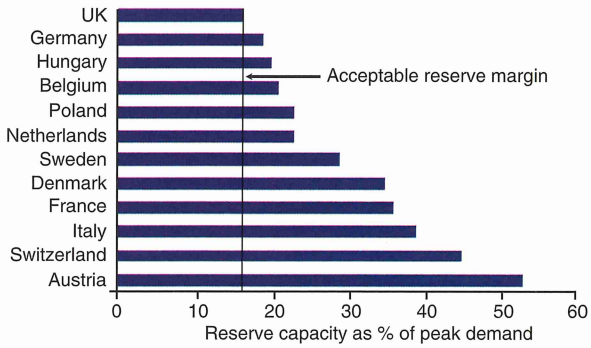
As regional and national barriers come down, the playing field for energy companies shifts from local, to national, to continent-wide. Markets also develop at all stages of the value chain. In *The New Game*, energy markets become broader, more diverse, and much more sophisticated.

Early in the next century, industry observers talk about the global energy market alongside the global capital market and the global telecommunications market. Increasing cross-border energy trade and the emergence of large multi-national energy companies, whose reach exceeds those of national regulators, drive the rules governing energy markets to a supra-national level. New regional and global institutions emerge to oversee the market, capped by ratification in 2009 of the Global Competition Commission (GCC) Energy Agreement, which establishes rules governing open and non-discriminatory energy-sector investment covering competition safeguards, interconnection guarantees, transparent licensing processes, and the independence of regulators.

Consolidation, New Entrants, and Unbundling

With liberalisation, hundreds of small local power and gas suppliers find themselves ill-equipped to compete in a world of intense price competition driven by over-capacity and a scramble for market share. Many smaller utilities are forced into the arms of firms with deeper pockets. The larger markets created by liberalisation offer new economies of scale, not in energy production, but in marketing and purchasing. Firms that can replicate service offerings successfully across regions or borders gain advantage.

Europe: Excess Power Capacity



Source: *CERA Autumn, 1997*

But with the elimination of market barriers, many new entrants are attracted to an industry perceived as 'sleepy'. Competition emerges at all stages of the value chain. Capital markets provide

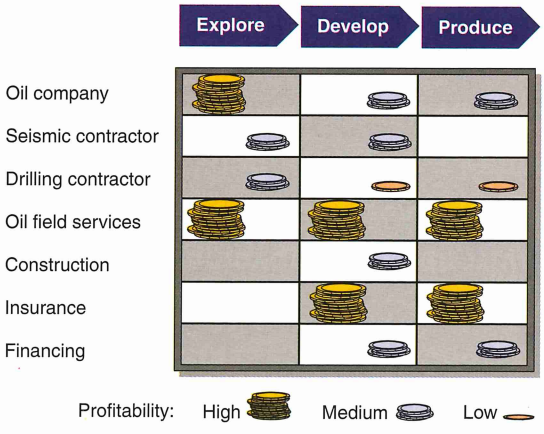
ready funding for highly skilled specialists, who would rather become entrepreneurial presidents than simply department heads. Specialised firms are able to exploit profitable market niches left exposed through years of cross-subsidising by incumbents. Like oil companies in the US, companies in major energy markets find that liberalisation and transparency create an intense pressure to unbundle products and services. Gas and power companies contract out non-core services, such as equipment maintenance and meter reading. Many of these services eventually become fully automated. Hundreds of smaller, focused companies, providing specialised services around the energy value chain, emerge and flourish; and many larger, integrated energy firms are forced to separate energy production and marketing in response to the lack of synergies between different parts of the value chain and the intense competition from specialised firms.

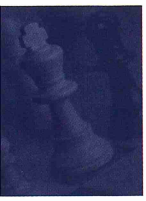
Unbundling does not necessarily mean atomisation, however. Larger markets allow specialised firms to achieve competitive advantage through world-scale operations. Global equipment maintenance franchises, for example, are established following the consolidation of the energy equipment industry into a handful of global suppliers.

Shifting Value Chains

In ***The New Game,*** competitors must continuously strive for innovation and efficiency while at the same time avoiding the pressures of regulators and competitors to erode advantage. With competition emerging at all stages of the energy value chains, and with the boundaries between different energy forms disappearing, a value chain is better seen as a kind of value chessboard. Firms struggle to find and hold strategic positions in different parts of the value chain in order to create competitive barriers and to move

The EP Value Chessboard





resources from one part of the chain to another when profit opportunities shift. And profit opportunities in the value chain do shift – constantly – making it difficult to find and hold onto zones of unusual profitability.

Opportunities for exploiting price anomalies in ***The New Game*** are few. One reason for this is that e-commerce increases price transparency in all markets. Another is that regulators are adept at establishing highly competitive energy markets to avoid regulatory discontinuities during market transition. In 2007, Enron sells its trading and derivative business to Klein Cable Grunwald Derivatives.

Smarter Governments

In ***The New Game,*** governments withdraw from direct interference in energy markets and become smarter at shaping these markets through market-oriented policy instruments. Governments are primarily interested in ensuring competition, and they enforce the rules vigorously. In cases when companies appear to be engaging in anti-competitive market expansion or consolidation, government regulatory and anti-trust attention diverts management energies and causes the firms under scrutiny to fall behind.

THE FINANCIAL TIMES

NOVEMBER 5, 2010

Shell/Gazprom required to shed market share

By D. McKay in Brussels

The EU anti-trust panel ruled yesterday that the Shell/Gazprom alliance must shed 50% of its market share to competitors over a four-year period in a move to increase competition in the European gas markets.

The ruling followed a court challenge last year by the European Federation of Manufacturers, in conjunction with a coalition of consumer groups and environmental NGOs. This consortium claimed that Shell/Gazprom last year controlled just under 50% of bulk gas sales across Europe. The key factor in the panel's ruling was that Shell/Gazprom was able to exercise excessive control over crucial transport links during peak demand periods.

The European manufacturers successfully argued that despite liberalisation a decade ago, European gas prices were still 40% higher than in North America and that gas supplies which would lower these costs were being held from the market.

To enhance energy security, governments provide the political support to ensure the completion and stability of large cross-border energy supply projects. A key event that helps promote these large projects for consumers in the EU and China occurs in 2002, when the US and Iran normalise relations. Another key event occurs in 2008, when Russia joins the GCC (the successor organisation to the WTO), thus providing a boost to large export projects to Asia.

Governments in ***The New Game*** use market liberalisation to extricate themselves from complex subsidies provided to the energy sector. Information technology allows the development of sophisticated charging systems for road use, and these systems are aggressively encouraged by governments to help ration scarce road infrastructure and provide clear signals about the need for infrastructure expansion. In addition, governments increasingly use auctions to allocate production licenses, rights of way, and infrastructure franchises. Most countries, for example, follow the model of the Netherlands in the late 1990s in putting all new service stations out to auction. Auctions allow governments to extract more rent up front. In addition, since capital is readily available from the markets, smaller companies without long track records can also bid.

"Only a federal bill will pre-empt a patchwork quilt of state legislative actions that could turn US electricity restructuring into a regulatory dog's breakfast."

Senior US Department of Energy Official

Governments also learn how to achieve environmental objectives through establishing new markets. In ***The New Game***, tradable pollution rights expand beyond sulphur to carbon and eventually to a wide range of by-products (NOx, particulates, waste mud) from the energy system.

Climate Change and Kyoto

OECD governments take the Kyoto climate change protocol seriously and commit to policies to meet the targets. Public opinion polls show solid support for

'prudent actions'. Notwithstanding a virulent campaign by some groups in the US to stop the protocol, the idea of small insurance steps is well understood by most. No one is pushing panic buttons. Indeed, the protocol spurs a flurry of counter-theories to explain observed temperature increases, from sunspots to a wobbly earth axis. But this research has the effect of solidifying the evidence that human activities contribute to climate change, although at a much lower rate than previously claimed by some.

The public resents those who cry 'environmental doom' as well as those who cry 'economic collapse'. A growing consensus emerges in OECD countries that just as littering or dumping waste into the ocean is wrong, so is pumping waste into the air. The public accepts the need to pay something – but not too much – and expects governments and industry to get on with finding solutions. EU governments ratify the Kyoto protocol in 2000. The US follows in 2003, after key developing countries join various carbon offset and trading projects, so that the protocol can be sold as truly global.

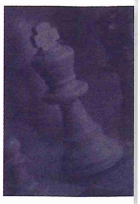
"The Kyoto agreement will eventually be ratified by the US government. This is a major priority for the US environmental movement, and we have never lost on an issue where we were united."

Fred Krupp, Director, Environmental Defence Fund

NGOs work to herd the last recalcitrant companies into the Kyoto corral. Then industry becomes the most important driver in implementing the protocol, often in partnership with NGOs, who work with them in developing projects, which will ultimately be certified and monitored by private firms.

By 2010, the OECD has succeeded in reducing greenhouse gases. But non-OECD countries have done relatively little to reduce emissions, and global atmospheric concentrations continue to rise. Resentment threatens to boil over into serious trade and political disputes. But at last India and China, now major carbon emitters – who wish to expand investment in their energy sectors and to gain full access to the rapidly expanding market in carbon permits – accede to the protocol.

The dangers so narrowly avoided convince the global environmental community that something more must be done. In 2012, after the adoption of a new Climate Change Convention that extends the commitments made in Kyoto to all countries, a World Environmental Organisation (WEO) is established out of a patchwork of UN, trade, and other bodies responsible for environmental issues. Among the most effective lobbyists for the establishment of the WEO are the multi-national companies, who argue that the complex and often inconsistent national rules governing the environment are not achieving environmental objectives and simply add unnecessary costs to consumers. During the first few years after its establishment, the WEO succeeds in creating a more coherent set of rules governing energy and the environment.



Carbon Policies

The US leads in establishing a minimal set of policies to accelerate decarbonisation of the energy market. Building on numerous pilot programs started by the energy industry, the US formalises a system of tradable carbon emission permits in 2001. By 2004 a system of tradable permits has been established in the US auto sector, followed by a domestic and commercial sector carbon permit program, with guaranteed prices for carbon saved – a carbon bounty program. Carbon and energy use is made highly visible through these permits, and the price of carbon permits is as widely quoted on nightly news reports as the price of oil and gold.

EU governments initially adopt a range of emission reduction policies, giving preference to carbon taxes. Carbon taxes are popular because EU governments see them as a way to reduce labour taxes, thus creating a 'double dividend' – clean environment and more employment. But the employment dividend fails to materialise, and European companies complain that they are paying twice as much for carbon emissions as their US counterparts. EU governments are eventually forced to expand carbon permit systems and phase out overlapping carbon tax policies.

The Japanese government works with industry, creating voluntary agreements to reduce energy use and assisting industry through the purchase of surplus carbon credits from Russia. These agreements, with associated financing, help secure separate long-term energy supply contracts from Russia to Japan.

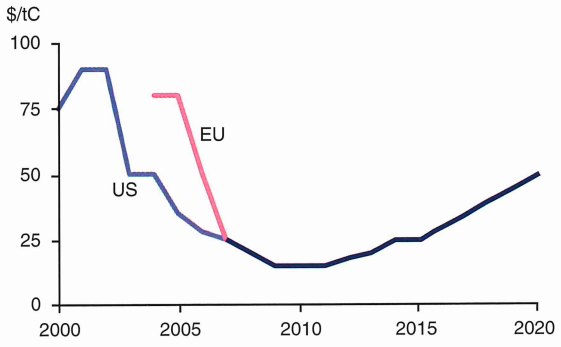
CO_2 Permit Trading

In 2001, the US government, in consultation with the US power generation industry, sets an industry carbon emission budget for the period up to 2012 (the Kyoto budget end-date) and allocates permits to individual firms based on 75% of their 1990 unit emissions, with stiff penalties for non-compliance.

To stay within their budgets, firms can either reduce their own carbon emissions; or they can create carbon credits by investing in carbon offset projects at home or abroad. Investment in low-emission electricity capacity overseas – in China, for example – provides carbon credits if it can be shown to have replaced a coal-based project.

The Chicago Board of Trade and the London International Petroleum Exchange jointly establish standardised carbon permit contracts to allow the trading of permits. Generators with high emission-reduction costs purchase surplus permits from those with lower costs. In some instances, power generators must bid against environmental NGOs who purchase permit contracts and retire them. As more projects are undertaken and experience is gained, the price of carbon falls dramatically, as did the price of SO_2 permits in the 1990s. Permits based on carbon-offset investments in developing countries are often discounted during the early years of trading. Permit-rating agencies, similar to bond-rating agencies, emerge to assess the likelihood that countries will adhere to the terms of investments that establish carbon credits.

Cost of Carbon Permits



In 2004, the power sector permit scheme is expanded to cover the US auto sector, despite a fierce debate between the auto and fuel industries over which sector should be allocated permits. The next year, after EU governments greatly expand emission permit schemes, the international trading of carbon permits grows rapidly, increasing the supply of permits and driving the cost down further.

A New Generation of Vehicles

In *The New Game,* the US Partnership for a New Generation of Vehicles (PNGV) meets its objective of creating breakthrough technologies in vehicle drivetrains, materials, and controls, which achieve near zero or zero emissions at around three times the fuel efficiency of late 1990 vehicles.

Supercar Milestones

"I am proud to be a part of the Partnership for a New Generation of Vehicles (PNGV)-one of the most ambitious and technically challenging research projects underway today. I am certain that its success will provide Americans with enormous economic and environmental benefits... . The vitality of [the automotive] industry is obviously a crucial part of our international competitiveness and economic growth."

Al Gore, US Vice President, 1993

Goal: By 2004, develop environment-friendly vehicles capable of achieving 80 mpg, without sacrificing affordability, performance, or safety.

Other Objectives: Enhance global competitiveness and reduce dependence on foreign oil.

1995 1st Milestone: Narrow competing propulsion system technologies to three:
Mechanical: 4-stroke direct injection.
Hybrid: 4-stroke gasoline direct injection (GDI) or gas turbine.
Fuel Cell: On-board H_2 reforming or direct injection methanol.

1998 2nd Milestone: Concept cars on the road:
Mechanical: Mitsubishi Galant and Carisma GDI, Ford Taurus DI, and Renault F5R.
Hybrid: Toyota Prius, Chrysler Intrepid ESX2, and GM Hybrid.
Fuel Cell: Daimler Benz Necar 3, Toyota RAV4, and Ford P2000.

2002 3rd Milestone: Agree supercar concept vehicles.

2004 4th Milestone: Production prototypes on the market.

2006 5th Milestone: Daimler Benz Necar 6, Ford EDSL, Toyota RAV8, and Lexus hybrids introduced. Sales and orders reach 500,000.

2010 6th Milestone: PNGV II created; 2nd generation supercars marketed.

2016 7th Milestone: 90% of new car sales in OECD countries meet or exceed supercar specifications.

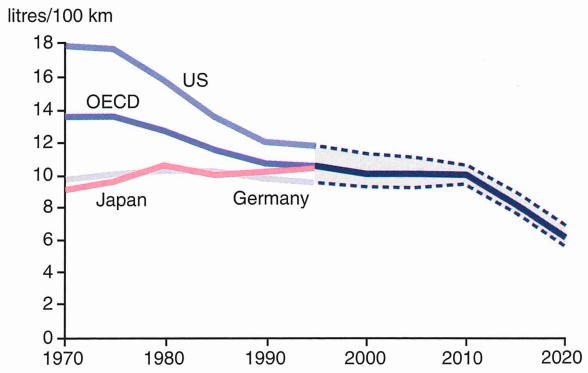
In the late 1990s, auto-makers explore a variety of drivetrain options, including:

- improved internal combustion engines (ICE).
- hybrids that combine mechanical and electrical functions.
- fuel-cells.

By the turn of the century, the technologies begin to converge. Advances in materials such as composites, thermoplastics, and aluminium enable weight reduction of 20%-25%, while increasing safety and durability. In 2003, Ballard, the leader in fuel-cell development, introduces a price-competitive and 'compact' fuel-cell system that runs on methanol. In 2004, PNGV announces that it is on-target in developing a production prototype which is environmentally friendly with three-times fuel efficiency. The cars are aggressively marketed by US automakers as a way of managing their new carbon emission allowance.

In 2006, Daimler Benz, benefiting from its partnership with Ballard, introduces the first commercial fuel-cell A-class car model (called 'Necar 6') into the North American and European markets. The methanol-fuelled Necar 6 meets California Ultra Low Emission Vehicle (ULEV) standards and offers fuel efficiency averaging 3 litres/100 km (80 mpg). Toyota introduces Corolla and Lexus hybrids along with the RAV8 fuel-cell vehicle with similar specifications in Asia. Market take-up of the 'supercars' in OECD countries is high, with almost 500,000 units sold or ordered during the first year of introduction. Developing countries follow suit, perceiving the benefits of lower oil import costs and improved air quality in urban centres.

Average Automobile Fleet Efficiency



With the introduction of these supercars, some of which are powered by new fuels, such as methanol, refining and marketing infrastructures undergo major restructuring to meet changing market needs. A decade after

their first commercial introduction, almost 90% of new vehicles in the OECD are powered by hybrids and fuel cells, with about 50%-60% market penetration for non-OECD countries.

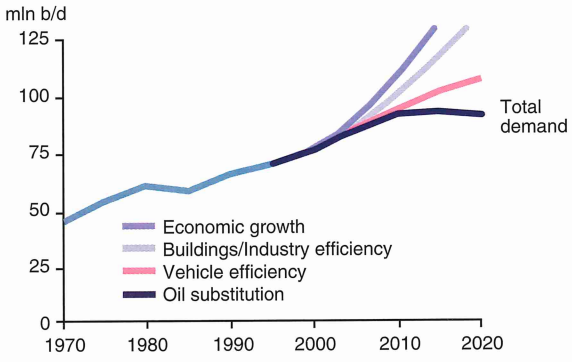
With the astounding success of the PNGV fuel-cell vehicle, government and private sector collaboration continues, further attracting talent and resources towards the development of 2nd- and 3rd-generation fuel-cell vehicles. In 2010, PNGV II is established to include transport, fuel, and electricity companies, with the aim of developing hydrogen storage technologies. By the end of the scenario period, glimpses of the building blocks of a future hydrogen energy system start to emerge.

Weak Oil Demand

In ***The New Game***, oil demand is weakened as a result of:

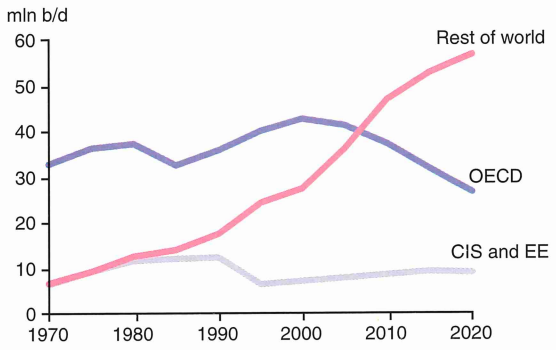
- the introduction of high-efficiency vehicles.
- improved industrial and building energy efficiency.
- substitution of natural gas for oil and coal in electricity generation as a result of carbon reduction policies.

Oil Demand Decomposition

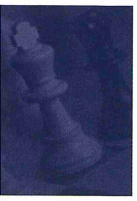


Growth in demand for liquid hydrocarbons remains under 2% per year through 2010. Oil product sales in OECD countries plateau in 2005, and by 2010, sales in non-OECD countries exceed OECD sales.

Oil Demand by Region



With widespread penetration of continuously improving supercars,



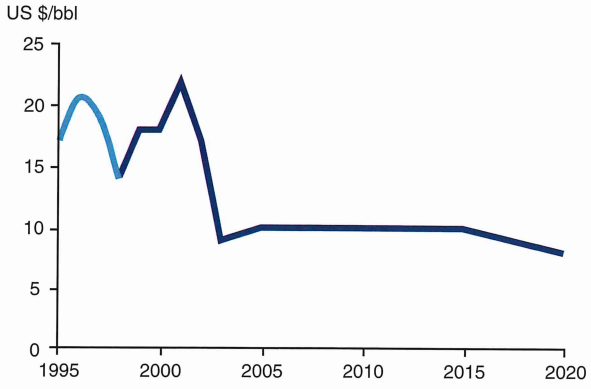
increases in fleet efficiency outpace even the rapid growth of vehicle numbers in developing countries. Consequently, global liquid hydrocarbon demand peaks by 2015 at some 94 million barrels per day (mb/d), and by 2020, has declined to 92 mb/d.

Major Oil Resource Holders Respond

Following the 1998 price collapse, OPEC reduces production, and prices gradually recover to $18/bbl, later peaking over $20/bbl. But the price to Saudi Arabia is high. Despite the increase in liquid hydrocarbon demand from 75 mb/d in 1997 to 80 mb/d by 2002, Saudi Arabia sees its own production fall from 8 mb/d to 7 mb/d. Yet non-OPEC countries, including Russia, Kazakhstan, and Azerbaijan, increase production by 3 mb/d through sharply increased investment. Iraq reaches 2.5 mb/d. The non-Gulf OPEC countries repeatedly breach quota levels and increase production by over 1 mb/d. In addition, steadily increasing gas sales cause NGL production to rise by 1.5 mb/d.

In 2002, Saudi Arabia changes production policy to preserve its longer-term position. Aiming to double its market share from 10% to 20% and to maintain that level in the long term, it increases production in late 2002, causing oil prices to collapse to $8/bbl in 2003. Saudi Arabia offers long-term supply contracts at prices just under $10/bbl and modulates production levels to maintain prices at around $10/bbl. Low prices cause non-OPEC countries' share of production to fall from 60% in 2002 to 40% by 2010.

Oil Price



OECD governments maintain fuel taxes at levels that keep fuel prices relatively high for the consumer. But incentives for producers to develop alternate oil supplies diminish. Some large unconventional oil projects, started at the turn of the century, fail. Oil production in costly production locations, such as Russia, run

THE FINANCIAL TIMES

DECEMBER 16, 2002

Oil prices fall as Saudi Arabia boosts production

By D. Docherty in Riyadh

Oil prices dropped on world markets last night as Saudi Arabia announced plans to double its market share. The decision follows announcements by Iraq, Algeria, Venezuela, and Nigeria that they will substantially increase their production capacity. By keeping oil prices below $10/barrel, Saudi Arabia aims to curtail competition from rising non-OPEC production.

The Saudi Arabian oil minister told a conference in Riyadh that, without an increase in oil exports, the Kingdom's oil revenues could start falling rapidly. "They could decline by 40% by 2020," he said. "We cannot allow this to happen."

A study by Saudi Arabia's Ministry of Petroleum and Mineral Resources shows increasing international compliance with carbon dioxide emission limits agreed at Kyoto in 1997. Fuel-efficient motor vehicles are expected to spread rapidly, while demand for natural gas is growing strongly. Liquid hydrocarbon demand could peak within the next ten years – at some 94 million barrels per day (mb/d) – and then start to decline.

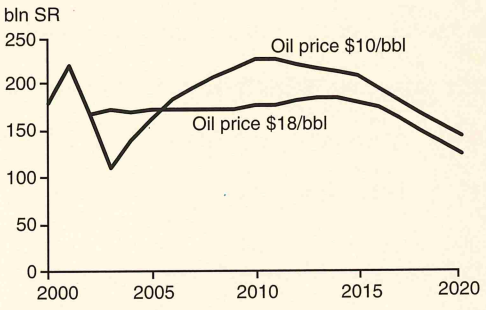
If oil prices remained around $18/barrel, non-OPEC production would continue growing – particularly from the Caspian region – and could reach 45 mb/d by 2010. It would decline only slowly thereafter as the oil industry continued to improve recovery and find new ways of developing reserves. Production of NGLs, heavy oils, and synthetics could more than double by 2020 – to some 20 mb/d – as costs are reduced and gas production increases.

"As producers like Iraq, Algeria, Libya, Venezuela, Nigeria, and Indonesia increase their capacity – perhaps to 17 mb/d from 2015 – the market left for Saudi Arabia and our Gulf neighbours could be as little as 12 mb/d by 2020," the Minister explained. "Our oil revenues could fall from SR200 billion a year to only SR120 billion."

"But our study shows that non-OPEC production will fall if oil prices are kept below $10/barrel. So we are going to increase production immediately. We feel that a fifth share of the market is appropriate in view of the Kingdom's oil reserves."

He said the policy would lead to a loss of about SR100 billion in revenues over the next three years. However, Saudi Arabia could expect to gain an additional SR400 billion between 2006 and 2020.

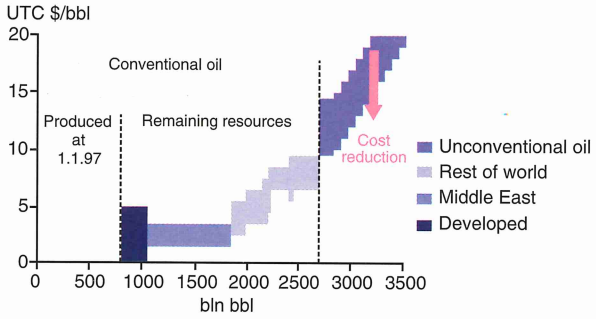
Saudi Arabia: Oil Revenue



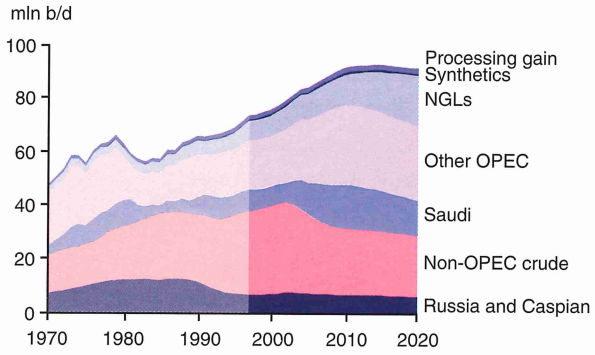
Oil Commission, Riyadh, 2002

into trouble, and a serious contraction of oil activity occurs in Russia and Central Asia. Many Russian oil companies default on loans to international and domestic banks.

Oil Resources



Liquids Production



By 2015, continuous reduction in upstream costs once again makes higher-cost non-OPEC crude sources competitive at $10/bbl. With falling overall demand, oil prices, too, begin to fall. By 2020, prices are at $8/bbl and continuing to fall.

The large expansion of global natural gas supply leads to a near trebling of the production of natural gas liquids and condensates – from 7 mb/d in 1997 to 18 mb/d by 2020. Consequently, the production of conventional oil is little more than 70 mb/d by 2020 – roughly the same level as in 2003, after peaking just below 80 mb/d in 2010.

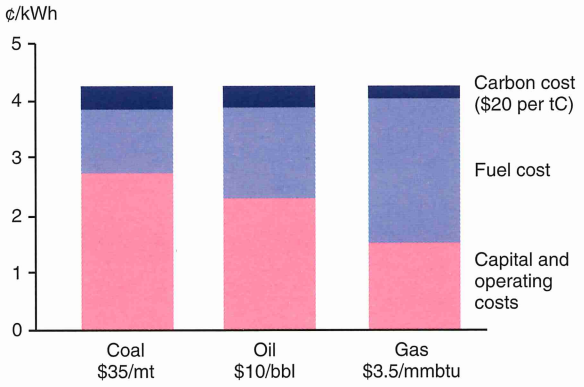
Downstream Turmoil

Severe competition in downstream oil markets forces refiners to minimise costs, reducing exposure to price peaks on the shrinking spot markets and optimising the match between crude characteristics and refining configuration. With supply over-capacity, refiners invite competitive bids from producers for medium-term supply contracts. Upstream, field developments are deferred while developers seek market outlets at economic prices.

Oil producers aggressively market oil into the Asian power and industrial markets. However, even with these low prices, penetration is limited. Asian and

Australian coal producers improve performance and reduce prices to compete with low-cost oil, and by 2015, the international price of carbon permits is driven by the difference in cost between gas-, and oil- and coal-fired power generation in Asia so as to make both oil and coal unattractive relative to gas. By 2020, new renewable energy forms are also able to compete with oil and coal power generation.

New Power Generation Costs Under Binding CO_2 Emission Limits

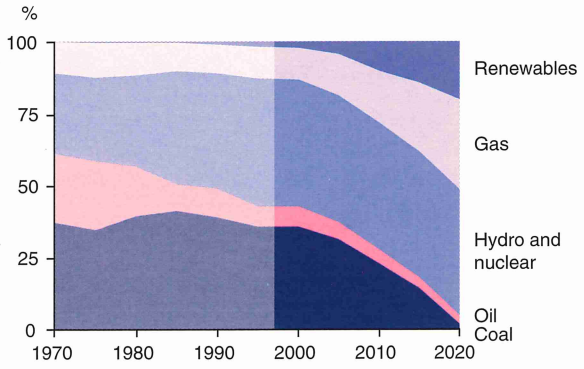


Power and Gas Industry Shake-up

With the price of carbon exceeding $50/tonne in 2002, many utilities in OECD countries initiate programmes to convert from coal and oil to natural gas. And even when the price of carbon falls to under $20/tonne, utilities decide to advance the retirement date of ageing coal power stations and replace them with gas or renewable energy. In 1985, oil and coal met 50% of the fuel requirements in OECD power generation, with gas meeting 10%. By 2020, the position is reversed, with gas and renewables meeting almost 50% of power generation fuel requirements, and oil and coal together less than 10%. The challenge of large gas demand growth is met through intensified gas exploration and development. By 2020, global gas reserves exceed those of the late 1990s.

Nuclear phase-out programmes are deferred in Europe to help meet the climate change commitments, but US nuclear shut-downs continue as licenses expire. Nuclear is simply unable to compete with new gas-fired power generation.

OECD Power Mix

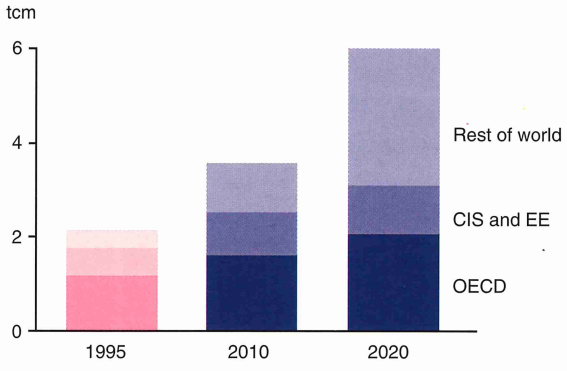


Asian Energy Markets – The Big Energy Game

Energy demand in Asia quickly rebounds from the downturns of the late 1990s and grows strongly through the scenario period. Countries such as Brazil, and, by 2015, China, reach per-capita income levels that drive rapid expansion of commercial energy, first in households and industry, and later in transport.

Because their countries are energy deficient, Asian governments increasingly view energy security as best met by open, competitive markets. The Chinese government promotes and supports the development of long-distance natural gas pipelines from Turkmenistan in Central Asia and from West Baikal, Yakutsk, and Sakhalin in Russia to reduce the need for coal. Not only is imported gas from pipelines in the north and LNG in the south more convenient, it is often cheaper than domestic coal. By 2010, natural gas imports into China reach 50 billion (milliard) cubic metres, rising to 200 billion (milliard) cubic metres per year by 2020.

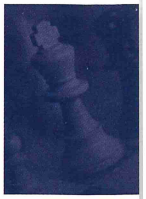
Natural Gas Demand



Major long-distance gas infrastructure is also put in place across South America; from Iran and Bangladesh to India; and into Europe, which pipes in gas from the Middle East. Global natural gas demand increases from some 2.2 trillion cubic metres (40 mboe/d) in 1996 to 6.0 trillion cubic metres (103 mboe/d) by 2020.

But in China, natural gas imports still meet less than 10% of non-transport energy requirements, while successful expansion of domestic gas supply provides another 15%. Aggressive development of nuclear power is also undertaken, driven by growing concern for the health and environmental effects of widespread coal use and the logistical difficulties of expanding coal production.

India and other countries that seem unable to expand energy systems to keep up with growth are keenly aware of the resulting economic costs and increasingly accept and shape globalisation, liberalisation, and technology to their needs. OECD power suppliers, desperate for growth markets and a respite from tough competition at home, provide sufficient competition for these governments to extract low-cost commitments to major infrastructure development. Public, transparent auctions for energy supply concessions are the favoured mechanism for new Asian governments who wish to show they have eschewed cronyism.



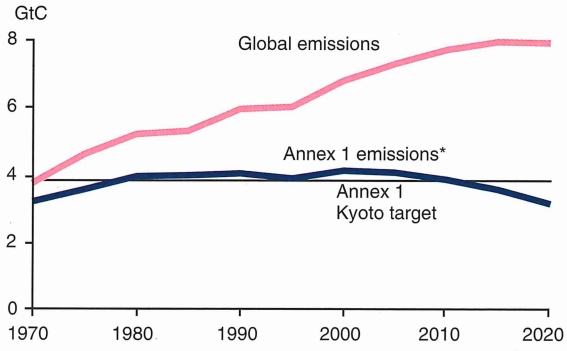
Aggressive development of renewable energy also occurs in non-OECD countries. This development is spurred by liberalisation of markets, the large numbers of energy-deficient rural villages, and the ability to create and sell carbon credits on the international market. Whole villages are electrified, financed by packages from GE and Shell Capital, and patterned on micro-credit schemes pioneered by the Grameen Bank.

The Energy Transition

The combination of declining fuel use for transport, efficiency measures in households and buildings, a large shift in the rate of substitution of gas and renewable energy for coal in power generation, and carbon-saving investments by OECD firms in developing countries, succeeds in bringing the greenhouse gas emissions of industrialised nations below the Kyoto target by 2012. Shortly after 2015, once China and India have joined the Climate Change protocol, global greenhouse gas emissions stabilise.

By 2020, production experience has brought the cost of new renewable energy to levels comparable with conventional electricity supply. These new energy forms take an increasing share of energy supply in high-demand growth countries such as China and

CO_2 Emissions



* Annex 1 countries = OECD, Eastern Europe, Russia and Ukraine

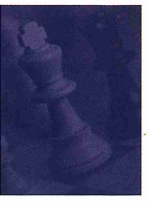
India. Competition is increasingly between natural gas and these new energy forms. On the horizon is rapid development of hydrogen-based fuel-cell energy. By the end of ***The New Game,*** the transition to non-carbon energy is well under way.

The New Corporation: Learning and the Power of Strategic Design

New Players and New Rules

Through liberalisation and globalisation, TINA has introduced new players into the world economy and increased the size and complexity of markets. In ***The New Game***, the forces of *TINA Above* are magnified by the new rules that have been introduced as well. Global rules for the financial and regulatory systems help provide an over-arching framework that encourages fairness, transparency, and competition, and that secures property rights, including rights to intellectual property. While this framework encourages even greater globalisation and liberalisation, it also means that companies are subject to increasing constraints in relation to the environment, human rights, and governance.

Players in ***The New Game*** find that this world offers not only easier entry but an increasing number of entry points. Governments take active steps to allow new players into the game. Most countries, for example, follow the example of the Netherlands in the late 1990s by putting all new service stations out to auction



and, in addition, insisting on rebidding for existing sites after ten years. When auctions for permits and other opportunities are encouraged, costs drop. Governments recognise that opening up markets for competition is best for the consumer and the economy generally – and know, too, that preventing monopoly keeps prices down.

IT: A Driver for Competition

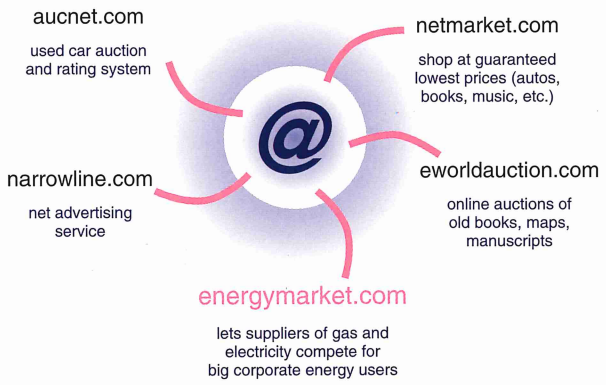
The effects of IT and e-commerce add to the market incentives to unbundle and trade knowledge. Companies must learn to use information technology not just to do old kinds of things faster, but to do completely new things. As long predicted, anything to do with information is caught up in this revolution. Businesses such as wholesale and retail distribution as well as financial services are revolutionised. One such customer – the financial services industry – has found, almost overnight, that IT has disintermediated traditional institutions, such as bank branches. This development is partly the result of home banking over the internet and partly the result of deregulation of financial industries. In energy, IT also allows customers and suppliers to meet directly on the web, without the need for merchants, distributors, or resellers. Across the whole spectrum of business, IT endangers all types of intermediaries, such as book-sellers, retail banking, car dealerships, and insurance salesmen.

IT acts in three different ways: it helps to make markets more transparent; it allows more complex contracts to be written; and, by giving markets the ability to increase in scope, it improves liquidity. The Frankfurt and London stock exchanges, for example, are able to operate together with increased liquidity. In the electricity industry, the ability to introduce fast-changing real time prices, creates, in effect, a new kind of market.

The same type of productivity growth that narrowed the share of agriculture and manufacturing in national economies eventually reduces the number of people needed to provide information services. Distribution networks are reconfigured when general purpose hyper-markets are forced to close because so many people now shop on the internet. British milkmen make a major recovery as they deliver internet

shopping orders to households – or to what used to be purely gasoline stations, but now fulfil various other functions. The IT industry, the biggest industry in history, considers everything and everyone to be a potential customer. IT is also of course an important component of costs for every company or organisation, so that failure to manage it well can create a significant competitive disadvantage.

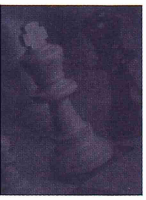
Examples of e-commerce



Source: *Business Week*

Risk Management

Not only are new players entering the game, many new kinds of players are appearing, who would never have had the chance to enter the game before. Because risk is unbundled, it becomes increasingly tradable, so that, for example, any small nation or unknown firm can bid on a project in a politically unstable country simply by purchasing political risk insurance. The unbundling of risk reduces significantly the advantage formerly enjoyed by large firms through their long-standing ties to governments because, in ***The New Game***, anyone can buy insurance against political or currency risk – perhaps at a more competitive rate than the implicit cost that big companies charge in their internal screening criteria. And where there is sufficient transparency, companies must be more efficient than the market in allocating capital and managing risk. Many corporations downsize their corporate centres and dismiss staff previously employed to assess political risk, exchange rate risk, commodity price risk, or other business risks, simply because it is cheaper to purchase analysis and insurance from the market.



Risk as a Business Proposition

Any project is surrounded by risks. Broadly speaking, projects like power generation plants or gas pipelines are subject to construction risk, operating risk, and market risk. Each one of these risks may be subdivided into more 'thinly sliced' risks. For example, construction risk contains risks such as delay, problems with permitting or import of equipment, fire, injury to the workforce or third parties, and defective materials. Market risk may be decomposed into volume and price risk. Price risk may be further broken into risk at particular locations and risk at times of day or season. Price risk also includes the risks associated with collecting payment, which may, in turn, consist of factors affecting proper meter reading, adequate billing, collection procedures, treatment of overdue payments, and so forth.

Maximising Project or Company Value: Explicit Risk Management.

Any project has to deal with these risks either explicitly or by default. In recent years, more and more risks have been explicitly dealt with under project ('structured') finance schemes or in markets for risk that range from the trade in shares of companies to fancy financial derivatives that allow the exposure to weather to be traded. Risks may be managed by assigning them to the parties best able to manage, assess, or simply absorb them.

- **Risk management ability.** Equipment manufacturers often accept the risk of defects in their equipment and provide warranties because this is the risk they are best able to control. For the same reason, construction companies may issue project completion guarantees.
- **Risk assessment ability.** Special intermediaries, like car insurance companies, may be best placed to insure against car accidents, because they can best assess the risk of accidents through the statistical analysis of driver characteristics. Similarly, oil exploration companies are best placed to assess the likelihood of oil finds.
- **Risk-bearing ability.** Rich people may be willing to bear risks that would ruin poor people, and therefore be unacceptable to them. Older people will tend to save more in the form of relatively risk-free bonds, because they are dependent on regular cashflow, while younger people might prefer volatile equity that has stronger long-term earnings potential.

Trade-Off: Risk Allocation vs. Transaction Costs

Any mechanism that more effectively assigns risks improves project and shareholder value. Of course, the benefits from improvements in risk allocation must exceed the transaction costs of risk-sharing arrangements. For example, structured finance deals, such as tanker leases or oil platforms funded on a limited recourse basis, may allow for superior risk allocation compared to a project where the sponsor bears most of the risk. However, the costs of negotiating the deal and closing a transaction involving multiple sponsors, lawyers, and investment bankers may well offset the benefits from better risk allocation.

More Complete Markets for Risk

In recent years markets for risk, such as political risks of various types, have become more complete in the sense that more and more risk can be bought and sold. In many cases, these risks can be bought when a particular risk is allocated, as, for example in the context of a project finance deal for a power generation plant or a gas pipeline. Other risks have become tradable, and can be bought and sold at almost any time at the prevailing market price.

- **Political risk.** The risks of war and insurrection, expropriation, breach of contract, and currency convertibility and transfer are commonly lumped under the label of 'political risk'. In recent years, insurance markets for these risks have developed very rapidly. Today, more than a billion dollar coverage per project can be bought for these risks in private insurance markets, with maturities up to ten years at prices ranging from 0.2 to 15 percentage points, depending on the nature of the particular project-specific political risks.

- **Liquidity.** Sometimes people argue that long-term contracts reduce riskiness. They may indeed do so for one party by shifting certain risks to another party for a long time. For example, the risk of gas demand under long-term take-or-pay contracts for LNG is assumed by the buyer of LNG. Yet, for the value chain as a whole, a system primarily based on long-term contracts, without underlying spot markets, is riskier than one based on spot markets. Consider the market for rented housing. If all rental contracts were for 20 years, it would be hard for people to leave their apartments and find new ones. Similarly, a functioning spot market for gas or electricity allows buyers and sellers to adjust to supply or demand disruptions flexibly by buying and selling in the spot market.

- **Derivatives.** On the basis of the spot markets, longer-term financial contracts – for example, so-called 'contracts for differences' in the UK power market – can provide 'insurance' for parties who do not want to be exposed to spot market risk. The price for such insurance is ultimately derived from the spot market price – hence, the name 'derivatives'. Financial derivatives may be used to lock in long-term supply obligations, or fixed prices for certain periods, or any combination of such features. Most recently, derivatives in US energy markets allow weather risk to be traded, a risk which is a key factor affecting peak loads and, therefore, capacity and investment requirements. Currently, insurance and capital market specialists are trying to make currency convertibility insurance tradable by merging political risk insurance products with currency derivatives.

Risk Management and Cross-Subsidies

Whenever new markets allow value to be added, those who do not use them effectively may lose. Explicit attention to risk management and allocation is becoming a more important factor in maximising shareholder value. 'Excess' risk in one part of a company *de facto* requires a cross-subsidy from another part of the company. As markets for risk become more efficient, such cross-subsidies become more apparent and may be challenged like any other cross-subsidy – for example, through take-over bids.

Better Customer Propositions

But greater attention to risk is not simply a necessary defensive strategy. Better understanding of customer preferences for differing types of risks may enable a company to offer a better product. More sophisticated payment and delivery terms differentiated by customer may hold the key to added value. Small retail electricity or gas customers may desire hassle-free contracts that promise them an agreed reduction in their energy bill. Large corporate customers may appreciate a sophisticated set of contracts with interruptible service provisions dependent, for example, on weather conditions, and containing price caps and floors to render cashflow predictable. More sophisticated risk management makes these customer propositions possible.

Standards Replace Reputation

In a world of enforceable contracts and guarantees, reputation and brand mean less than they do in a world where quality and behaviour are not enforced by rules. Even strategies relying on brand differentiation work less well in a number of areas. Consumers do not care much about brands for many basic necessities. They can be reasonably sure that what they buy conforms to guaranteed standards regardless of who produces it.

Pressures on Cross-Subsidies

The New Game poses a fundamental question for every company: how can it acquire and allocate capital and other resources better than the highly transparent and efficient market? Why, for example, would capital markets reward integrated oil companies with a premium over specialised firms in the energy value chain?

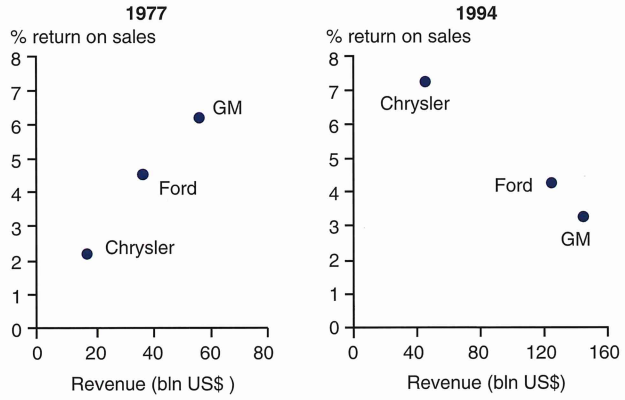
Greater transparency of markets and the ability to price many more individual components of contracts threaten those firms that have not detected and removed the cross-subsidies between their businesses. Companies can no longer allow any of their businesses whose returns are less than the cost of capital to have their losses made up by good profits in another business. When a new entrant competes in an area of a business that is 'taxed' to support other parts of the business, profitability is substantially reduced. Take-over bids then force unbundling and the removal of cross-subsidies in firms that have ignored the imperative to manage costs and risk well.

Under increasing pressure from market forces, firms tend to restructure in order to achieve the flexibility and focus to operate in the most profitable sector of the value chain. Transparency and cost leadership make apparent which parts of a business are cross-subsidising other parts, and firms quickly offload unproductive parts of their business or outsource even such central functions as financial management, recruitment, and media relations. Auto firms, for example, are increasingly outsourcing their manufacturing activities, becoming merely assemblers of components. In some cases, they are even on the way to becoming

Does Size Matter?

In the past, the answer to the question "Does size matter?" would have been a clear "Yes." In terms of profitability, high return on sales followed market leadership and size just as night follows day. Economies of scale in manufacturing and distribution processes were all important. But more recently, customer power, globalisation, and intense competition have commoditised many products, allowing customers to capture scale economies through lower prices. Those companies that show above average returns have identified and exploited zones of high profitability within product value chains, or often within parallel value chains.

Size and Profit



Source: *Mercer Management Consulting*

In the longer term, it is true that great corporations rarely go bust; they just wither away or get eaten up. However, for longer term survival, once a certain size is achieved, being in the right industry is probably more important. Shifts among industries mean that yesterday's large firms will be replaced tomorrow by those in new and growing industries. Currently, the growth industries are pharmaceuticals and information technology.

Of the 100 largest firms in the world in 1912, four-fifths have fallen out of the top ranking today, and nearly three quarters have shown no growth at all. Within the eight original industry sectors, five – textiles/leather, coal mining, mechanical engineering, non-ferrous metals, and steel/iron/heavy industry – have shown negative or zero growth. Branded products have done better, dominated by Procter & Gamble. Chemicals and electrical engineering have also been strong. But the star over the past 80 years has been the petroleum industry.

Top Twelve Industrial Companies

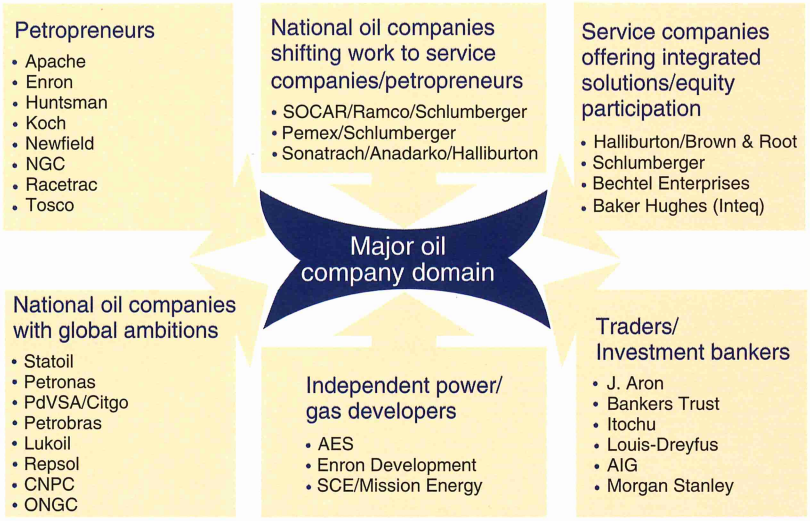
1912				1996		
Rank	Company	Industry	Equity Cap. $m	Company	Industry	Equity Cap. $bn
1	USX*	steel	741	General Electric	finance/electricals	223
2	Exxon*	oil	390	Royal Dutch/Shell	oil	191
3	J&P Coats	textiles	287	Exxon	oil	158
4	Pullman	railcars	200	Coca-Cola	brands	151
5	Royal Dutch/Shell	oil	187	Intel	chips	151
6	Anaconda	copper	178	Merck	pharmaceuticals	121
7	General Electric	electricals	174	Toyota Motor	cars	117
8	Singer	machinery	173	Novartis	pharmaceuticals	104
9	American Brands*	cigarettes	159	IBM	computers	104
10	Navistar*	machinery	160	Philip Morris	brands	101
11	BAT Industries*	cigarettes	159	Procter & Gamble	brands	93
12	De Beers	diamonds	158	British Petroleum	oil	86

** Modern names of these corporations have been substituted for their original 1912 ones: US Steel, Jersey Standard, American Tobacco, International Harvest and British-American Tobacco*

Source: *L. Hannah, "Marshall's 'Trees' and the Global 'Forest': Were 'Giant Redwoods' Different?" in N. Lamoureaux, D. Raff and P. Temins, eds., 'Learning by Doing in Markets, Firms and Nations', NBER and University of Chicago Press, forthcoming 1998*

pure brand managers, because that is where they see their true opportunities for value creation – their profit zone.

The Broad Scope of Atomisation

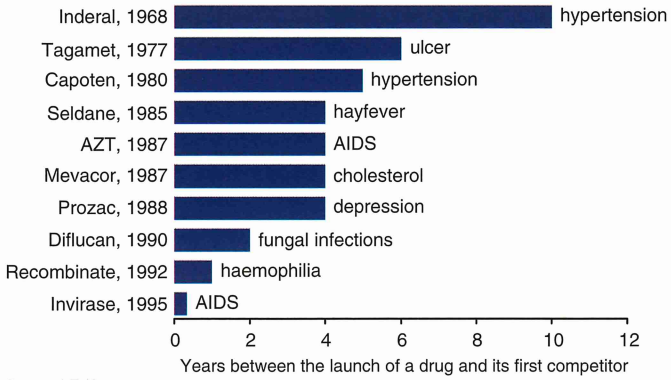


Source: *McKinsey*

Responses to Commoditisation

In the absence of a reason for large integrated companies to stay glued together, atomisation increases, in part driven by market forces that push products and services from the profit zone towards less profitable commoditisation. The life cycle of a product in ***The New Game*** tends to follow a particular pattern. It begins with the introduction into the market of a new idea or a differentiated product or service. Then, as more players rapidly enter the game, competition to become the cost leader increases. And, because the markets in ***The New Game*** are highly transparent and efficient, the product quickly becomes a commodity with a relatively low profit margin. At that point, the choice to increase profit is either to merge with competitors in order to reduce the number of players in the

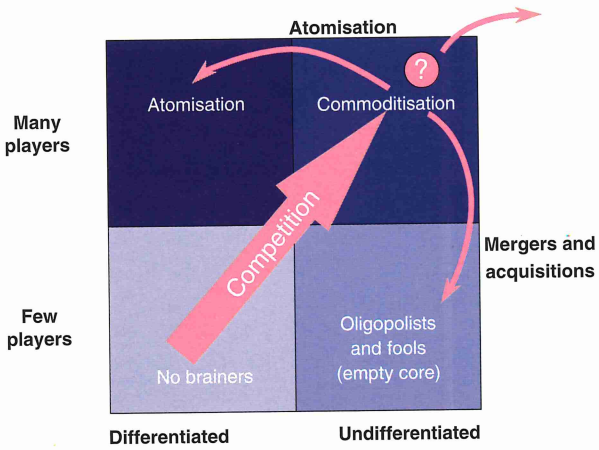
Speed of Competition



Source: *A.T. Kearney*

market and create an oligopolist position; or to redefine niches in order to cherrypick the market. Specialist players can do this cherrypicking quite well – in the energy market, for example, petropreneurs have outperformed majors by exploiting the most profitable parts of the value chain. The danger in the alternative, or oligopolist position, is that it doesn't work. Even a market with only two or three players can be what is called 'empty core' – a zone of no profitability.

Industry Life Cycles



The New Game, with its highly efficient and transparent markets, is particularly hard on capital-intensive industries. These industries have strong incentives to maximise production – but better information and globalisation can mean low margins even when a company is operating at 99% capacity. Companies face a difficult dilemma – to sell up to competitors, or to hope that some combination of increased demand and disinvestment or departure by players will improve returns. But no matter how good they are, assets in weak markets rarely offer acceptable profits.

Being Global

The relentless global competition in *The New Game* means that being the cost leader is critical to survival. Companies search for whatever parts of a business are 'footloose' – that is, not tied down by geography – and move these parts to areas of the world that, for example, offer the cheapest labour or most favourable tax regime. The relentless search for efficiency and the capacity for mobility significantly increase the area of the 'footloose' – though the need for fast and cheap delivery means that marketers still need to be near their markets while resource companies have to produce at the resource site.

Even though this search for efficiency drives companies towards globalisation, finding the best model for globalisation is not easy. In one case, the best model could involve spreading people throughout the world; in another, the best model might involve centralising operations in one city in order to find the best employees or to be near the most sophisticated customers.

Globalisation Models

What is the best corporate model for globalisation? The answer isn't immediately obvious. Take ABB, for example: it has increased its staff in Asia by 60,000 and cut its staff in Europe by 56,000. It has hired 400 researchers in Russia, because they are good and available (and engineers there cost only $2 an hour). Half of its board as well as half of its executive teams come from countries outside the 'parent countries'. It has 2500 managers world-wide with P&L and balance sheet accountability.

Microsoft, on the other hand, has kept its global business focused in one location in the US, where its most demanding customers are, where the best employees and software developers can be found—and where its staff can develop new ideas and products by sparking off each other directly. They consider this to be much more effective than trying to manage such an intellectual effort by distributed working.

Reinvention

Because of the rapid tendency towards commoditisation, the increase in the speed of product cycles, the efficient and transparent markets, and the large number of players, successful companies in ***The New Game*** rely on continuous reinvention, not only of their products, but also of themselves. This is a difficult challenge, requiring a firm grasp of changing strategic control points. And, of course, grasping strategic control points depends on understanding what the company's business model is in the first place. In successful reinventions, success leads to success – for a time. But the key is to know when to start on the next reinvention process.

Just-in-Time Serial Reinvention

Jack Welch, CEO of GE, has staged a number of reinventions. In the first, he sold off any businesses in the corporation that were not number one or number two in their field. But customers drove down prices, so eventually, being number one was not necessarily profitable.

The second reinvention was called 'workout' – absolute cost leadership in every corner of the company. Productivity grew from 2% per year to 4% per year. But competitors followed suit and drove down margins.

The third reinvention was a new approach to customers that introduced CEO-to-CEO selling based on understanding the customers' own customers and often involving the strategic use of GE capital.

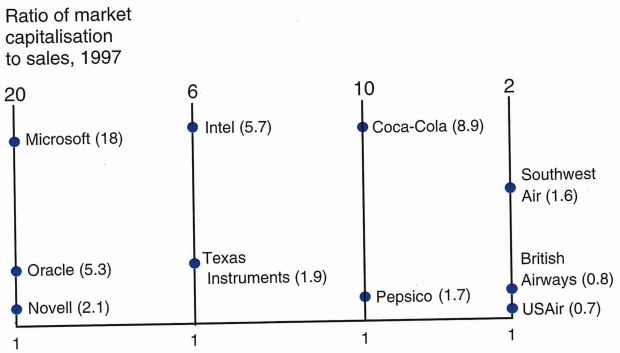
What reinvention might be next?

Learning

Continuous reinvention requires a company to learn more efficiently than its competitors. Creating learning communities would be important in any scenario – but it is particularly important in *The New Game* because the forces favouring atomisation leave very few advantages open for big companies. But one remaining advantage is that corporations have the potential to transfer knowledge more quickly than the marketplace. Expert players in *The New Game* evolve more effective ways to network the groups within their organisations and to encourage the 'natural development' of knowledge management.

In *The New Game*, the best learning organisations – and the companies that are best in any aspect of business – quickly become known because competitive advantage is clearly reflected in market capitalisation. Learning is key because other differences are too easily competed away, and learning to learn is a new art that goes against many behaviours that have traditionally been rewarded in

Success Breeds Success



Source: *Mercer Management Consulting; PXS*

corporations. In this world, the gap between the best and the second-best, while short-term, provides a crucial advantage. It's a dangerous game for anyone who falls behind.

The US Army – Team Learning

"The only real failure is the failure to learn."

Gordon R. Sullivan, Chief of Staff, US Army, 1991-1995

The tragedy of Vietnam provided a major stimulus for the US Army to transform itself into one of the premier examples of a learning organisation. The major learning challenge for the Army is to create a structured way of facilitating learning from complex experiences that are often very ambiguous. The current response to this challenge is the After Action Review (AAR).

AAR – The Core of a Learning System

An AAR takes place after every event of significance. Its purpose is simple: to learn and improve in order to do better the next time. To be effective, the AAR must include:

- an identifiable event, with associated standards, and identifiable players.
- a facilitator (in Army jargon, an 'observer-controller') who leads a structured, open process of non-threatening discussion.
- a good basis for understanding what *actually* happened.
- a good understanding of what *should* have happened.

Typical questions raised in an AAR are: "What happened?"; "Why did it happen?"; and "What can we do to improve?" The AAR is not merely an assessment of success or failure, because the establishment of success or failure, sometimes in a very precise (and painful) way, is only a tool with which to learn. The AAR is not intended to fix blame; it is a process designed to improve performance. To be effective the results of an AAR need to be shared across the organisation.

JULLS – Sharing Lessons Learned

Inside most organisations one of the larger problems is: "We don't know what we do know." Organisational learning, in a broader sense, can occur only when an organisation as a whole is communicating and adopting what is being learned in its various parts. Learning begins in isolation, with one individual or one team learning something of value. Turning that isolated learning into organisational learning requires a mechanism for sharing—such as an open internet system with a culture that encourages everyone to record what they have learned. The Army has installed a knowledge network, the Joint Universal Lessons Learned System (JULLS), to ensure that lessons learned from AARs can be accessible to all.

A Culture of Team Learning

Learning processes, such as the AAR, gaming, simulation, and short-term scenarios, coupled with knowledge systems, such as JULLS, can succeed only in a supportive culture, especially because the cost in time is heavy, considering that there is no immediate pay-off for sharing what has been learned. The effectiveness of JULLS has become apparent only recently, as the shared learning has been translated into measured improved performance. It has taken ten years for the army to form itself into a successful learning organisation.

Finding the 'Profit Zone'

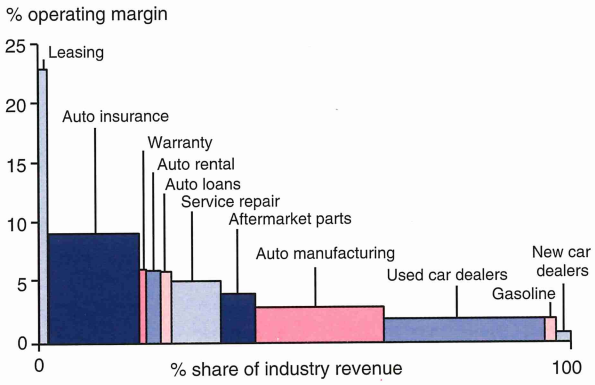
In *The New Game*, the pursuit of cost leadership drives companies to pay more attention to detailed analyses and management of their risk exposures. But even though cost leadership and risk management are important for success, they are not enough. Success depends on identifying the constantly shifting 'profit zone', where customers are prepared to pay prices that allow firms to generate earnings above the cost of capital. Companies need to understand the detailed value chains not only in their own industry, but also in those of their suppliers and of relevant adjacent industries – especially those that might contribute to new 'bundling' opportunities for their customers. *The New Game* is about positioning the company on the emerging and ever changing 'value chessboard'.

"Market power is when other companies withdraw from a market when you announce an intention to invest."

Microsoft Executive

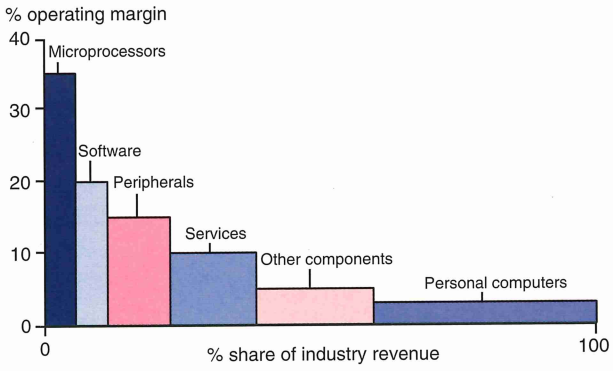
The challenge for a corporation is to create and apply the most successful business models needed in the current environment and to ensure that its systems and procedures are appropriately aligned. Creating successful business models requires the continuous identification and creation of those strategic control points that give it maximum leverage in the market place, for here lies the 'profit zone'. To find such a profit zone is not easy. Commoditised businesses, lacking cost

The US Auto Industry's Profit Pool



Source: *Orit Gadiesh and James L. Gilbert*

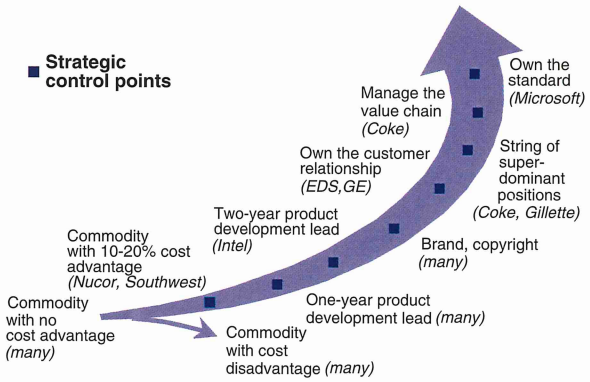
The PC Industry's Profit Pool



Source: *Orit Gadiesh and James L. Gilbert*

advantages, have very weak strategic control points and thus lie at the bottom of the 'upward arrow of profit'; a more profitable strategic control point is achieved through a product development that is a significant advance over the nearest rival. Even more profitable is to own the customer relationship or to manage an entire value chain. The most powerful control point of all is owning the standard – a feat that is very hard to achieve, particularly in mature and competitive industries. Moreover, as in the case of Microsoft in 1998, a move into this particular profit zone arouses the attention of government regulators – and in ***The New Game***, regulators are very effective in eventually thwarting global monopolies.

FInding the Profit Zone



Source: *Slywotzky & Morrison, Mercer Management Consulting*

Innovation and Technology

Successful firms have to innovate to maintain the momentum of success. This need to innovate raises a particular issue around technology development. In commoditised markets, technology is developed by suppliers because they can realise economies of scale that their customers cannot. Examples of this kind of development can be seen in power generation equipment, software, and oil equipment. Companies focus on their own technology development where they can be sure to exploit a potential profit zone, either, for example, through a sustainable lead in technology (as in the case of Intel) or through patents or other guaranteed property rights (as is typical of pharmaceutical companies).

Unbundling the Corporation

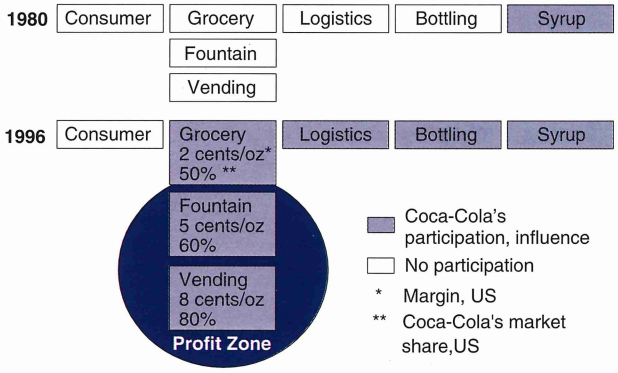
The parenting advantage – the justification for bringing operations together into a single corporation or organisational unit – comes in three forms. First, by taking advantage of economies of scale and by bundling risks, such as political risk and

The Profit Zone: A Case Study

In the 1970s, during the 'Cola Wars', Coke lost much of its market share to Pepsi. Because Pepsi owned many of its larger bottlers, which Coke did not, Pepsi could offer better prices to large customers. In addition, Pepsi had launched a remarkably successful advertising campaign, showing that customers either preferred Pepsi in blind taste tests, or couldn't tell the difference between the two colas. Customers began to buy the lower priced Pepsi, and by 1977, Pepsi had achieved parity with Coke in US supermarkets.

Then Roberto Goizueta, CEO of Coke, took a closer look at the value chain. He saw that while Pepsi was successful in grocery stores, the other two main venues – vending machines and 'fountain' (restaurants) – were more profitable. Consumers pay 2 cents per ounce for Coke in grocery stores, but 5 cents in restaurants and 8 cents from vending machines. In stores, customers have a choice of what cola to buy; but few restaurants offer both Coke and Pepsi. This limitation of choice is even more significant in vending machines, where the customer can choose the brand of the owner of the machine or nothing. The difference in the 'buying occasion' between supermarkets and vending machines allows a much higher price to be charged for soft drinks in vending machines. Goizueta began to acquire Coke's bottlers in order to reduce cost and control pricing; then he began to concentrate on increasing activity in the high-return area of the value chain, buying vending machine licenses and aggressively marketing vending machines in new areas.

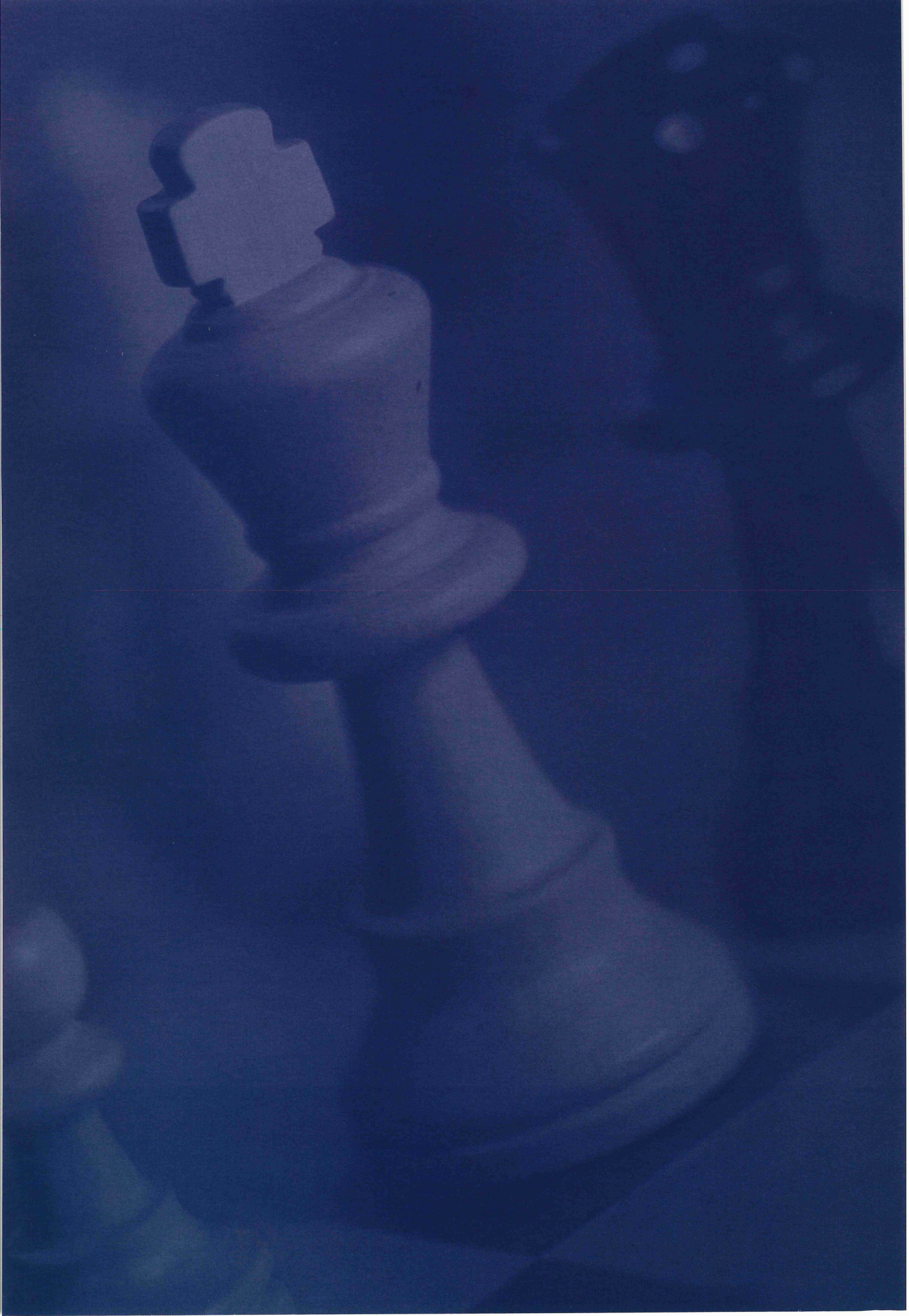
Managing the Value Chain



Source: *Mercer Management Consulting*

business cycle volatility, a corporation can reduce its cost of capital and overhead costs. The second factor is reputation, including branding and relationships with customers, governments, and other stakeholders, in addition to the 'halo effect' that attracts good people to work in the organisation. The third element is the ability to learn and transfer best practice and insights across business boundaries within the corporation.

In *The New Game*, the forces of transparent markets and global standards gradually reduce the benefits arising from the first two of these factors. As these benefits wither, external pressures to lower the costs of bundling begin to intensify, and, in many companies, internal pressures build up to justify these costs or to reduce them. A group of companies good at dealing with governments has no particular strategic advantage because governments matter less in the global economy, and there is, in any case, little scope for negotiation. Brand reputation also matters less because of the increased efficacy of legally binding standards. In *The New Game*, the only advantage of having a group of businesses, with all the overhead involved, is to make use of the management advantages inherent in it, especially the learning advantages across companies. If the leadership of a corporation can't add value, the market itself offers separately everything the corporation can offer as a package – and offers it more efficiently.



Millennium Bangs and Innovations

The Flowering of Diversity

In ***People Power***, *TINA Below* brings significant increases in wealth, choice, and education, and, for the first time in history, large numbers of people across the globe are free to express their own values, and often do so in unstructured and spontaneous ways. Because of this flowering of diversity, events seem extremely unpredictable, and the capacity of institutions to transform themselves lags far behind the changes occurring in people and society. Governments, too, suffer from 'future shock', as demanding and ageing populations insist on the kinds of social services and meaningful work that simply cannot be delivered.

"The hallmark of our age is the tension between related aspirations and sluggish institutions."

John Gardner

An Educated World

Never before have people been so well informed. According to UNESCO, 82% of the world's people were literate in 1995, compared with 59% in 1960. The figures for low-income countries alone are 66% in 1995 versus 29% in 1960. In the US, each person is now educated for over 18 years on average, compared with only 1.75 years in 1820. The forces of globalisation and liberalisation are bringing television pictures from around the world to nearly all parts of the globe, and more people than ever before have access to a TV set.

The volatility and institutional inadequacy characteristic of ***People Power*** inevitably lead to shocks. But what is painful to some is exhilarating to others. Underneath the turmoil and destruction is a blossoming of creativity. In the absence of governmental or institutional solutions, people come up with solutions of their own – innovations, not just in technology or business design, but in ways of working together and meeting social needs. This constant innovation makes ***People Power*** an exciting world of great creativity and accelerating change, where 'news of the new' is rapidly disseminated. But it is a disturbing world for those who like order and hierarchy.

The Millennium Bangs

People Power starts off with a bang – or, more specifically, a series of 'Millennium Bangs', beginning with the Asian currency crisis of the late 1990s. By the turn of the century, East Asia has begun to recover from the crisis, but in doing so, has not thoroughly addressed financial sector weaknesses. Even though leaders from all over the globe warn of more crises to come, IMF resources are not expanded. The US public, in particular, sees no reason to support irresponsible fiscal regimes when there are so many needs at home. Many people are angered that the IMF interventions have restricted local control and that foreign banks are rewarded while the burden of financial restructuring is placed on the newly unemployed and the poor.

Japan's economy does not revive immediately, even with a substantial fiscal and monetary stimulus, because it fails to deregulate its economy and to sort out problems in the banking system. Liberalisation of Japanese financial markets

allows savers to invest in financial instruments abroad and results in a driving up of interest rates, causing yet more pain to companies. At the same time, the Bank of Japan increases the money supply – but this increase is mostly translated into capital outflows, which weaken the yen. Exports are the only hope for the revival of economic growth. But as Japan's trade surplus rises, so does the corresponding US trade deficit. To a lesser extent, Europe is affected, too, with a reduction in its trade surplus.

Angry at Japan's inability to tackle fundamental problems, voters in the US express a growing support for protectionism. At the same time, the inflow of savings from Japan into the US fuels the stock market bubble further. In 2000 the US suffers a deep cyclical downturn, exacerbated by the crisis in tradable goods created by cheap Japanese imports. In response to a collapse in earnings in the tradable goods sectors in 2000, the Dow falls from 12,000 to 6,000. Following its 1987 policy, the Fed tries to cushion the blow by providing liquidity, and, as a result, the dollar weakens.

Investors flee to the Euro to escape the weakening dollar and to benefit from the rise of European equity markets, which are driven by financial integration and the massive shift to private pension systems. The Euro appreciates sharply, in part because the ECB is trying to establish credibility through its tight monetary policy to counteract the tendency of EMU governments to relax fiscal discipline. The combined impact of the dampened domestic demand, resulting from this tight monetary policy, and the growing export weakness, caused mainly by stiff Japanese competition, leads to steeply rising unemployment. Riots in France and neo-nazi attacks in Germany prepare the ground for the re-imposition of trade controls in Europe – for example, anti-dumping quotas – to keep out imports and to protect domestic jobs. European growth slows significantly, and the lower tax revenues and higher claims on unemployment insurance increase the public sector deficit. When fiscal discipline begins to break down in Europe, the ECB responds by further tightening monetary policy.

In 2002-03, the conjunction of relatively tight monetary policy in Japan and Europe, combined with resurgent protectionism, causes the deepest world-wide

Shock Box*: Deflation

The post-war world has been preoccupied with inflation. The mental maps of consumers, firms, politicians, and central bankers, among others, are drawn on the assumption that, overall, prices are bound to rise. But what if they don't? There were periods of falling prices – deflation – throughout the 19th century and in the 1930's. There are some signs of deflation re-emerging:

- Falling prices in Japan.
- In the US, there is worry about 'overheating', with very low rates of inflation (around 2%). An economic slow-down could well make inflation negative.
- Commodity prices, including oil, are deflating (by 7% over the last year) despite buoyant global demand growth.
- Competition is driving down some important prices – e.g., telecoms and computer chips.

Does deflation matter? Surely, if inflation is a problem, then deflation is a cure? Sadly, not. Deflation presents precisely the same problem as inflation: that resources are allocated inefficiently because relative price signals are drowned out by macroeconomic 'background noise'. But a much worse worry is that *deflation may turn into slump:*

- Deflation rewards savers and penalises borrowers because nominal debts become bigger in real terms. In extreme cases, this might trigger large-scale debt default and big problems for financial institutions.
- It is difficult to stimulate the economy using interest rates once interest rates have fallen to near zero (what Keynes called the 'liquidity trap'). So real interest rates could remain high, and therefore deflationary. Japan is in (or close to) this position.
- Workers will rarely accept cuts in wages, so real wages rise when prices fall, even if productivity does not. Workers are sacked. Unemployment rises.
- If asset prices fall along with, or more than, other prices (shares, house prices), there can be a wealth effect: people feel poorer and they therefore spend less. They can also have 'negative equity'. Again, Japan has this problem writ large, as did the UK in the last recession.

If these things happen, serious recession can occur. Keynes showed how to deal with deflation – use government deficit finance. But, as in Japan today, politicians are often frightened to act, *because they operate with the wrong mental map* – they worry about inflation.

Companies as well as governments may need to think about *deflationary accounting*:

- There is an accounting loss from holding stocks.
- Old capital stock may be worth more, in accounting terms, than new equipment.
- Company net debt will tend to grow relative to net income, a situation that can lead to insolvency.
- Rates of return on fixed capital (ROACE) will fall even if real performance is unchanged.
- Target rates of return for projects set in MOD terms will become more demanding and discourage investment.

**Unlike ordinary scenario 'boxes', which focus more deeply on a particular subject, or offer historical background, a 'shock box' describes relatively improbable events which, if they happened, would have a high impact.*

recession in 70 years. Europe, Japan, and the US suffer output losses of 1% to 2% for two to three years in a row. During the same time, the growth of world output is near zero. Elsewhere, economies that are hardest hit include Russia, China, and Brazil. And having just recovered from the 1997 crises, East Asia is pulled back into trouble.

In late 2003, Europe joins the US in loosening monetary policy and working towards settling trade disputes. Europe, however, tries to stimulate its economy, but without tackling structural rigidities, particularly in the labour market. Japan is shocked into serious reform, including deregulation of its protected service sectors such as insurance, retailing, and oil distribution. Only after the losses of corporate and financial institutions are clearly allocated, do banks and governments stop throwing good money after bad, and by 2004, the world economy starts to recover.

The New, Bottom-Up Global Financial Regime

In ***People Power*** the world financial regime is not an identifiable set of relatively clearly defined institutions, but a highly decentralised system which creates its own order. It combines disciplines that hark back to the past – such as greater accountability and no deposit insurance for banks – together with modern systems such as global electronic transfers and the opportunity for individuals to settle even micro-transactions in any currency under any jurisdiction they choose.

The recessions of the early 21st century lay bare the key problem underlying financial volatility and regulated markets – that safety nets create an unacceptable level of moral hazard (people taking greater risks than they should). And as institutions and governments learn this lesson, investors and depositors also learn that in the new global financial markets, there is no effective safety net.

Several currency crises drive the lessons home. In Russia, where unsustainable capital inflows have been accompanied by a rising current account deficit, a political crisis in 2006 triggers a currency outflow. The pattern is repeated in

Brazil, where a boom based on currency inflows turns into a bust when doubts about Brazil's fiscal policies lead to a currency crisis in 2008-09. Not trusting the effectiveness of global safety nets, India and China try to maintain capital controls, focusing on the deregulation of domestic markets. But barricades are no longer an option. In particular, electronic currency markets enable just about anybody, not just the rich, to take advantage of capital flight.

In coming to grips with the new realities – absence of financial safety nets and uncontrollable capital flows – countries in ***People Power*** pursue their own solutions to recurring crises. Individuals in many countries feel a certain resentment towards the 'capitalist superpowers' – which include, in the popular mind, the US, the EU, and the IMF. In response to this resentment, populist governments are elected and try 'alternatives' to the world market system, including many discredited ideas from the past, like protectionism, capital controls, and socialism. As these policy experiments are tried, governments begin to experiment with trade and currency areas: US-Western Hemisphere; EU with its neighbours (some of them, such as Eastern Europe, with currencies pegged to the Euro); and Japan-ASEAN. Smaller countries outside these areas are hit by recurring currency crises – unless, like Chile, New Zealand, and Taiwan, they pursue tough, resilient financial policies.

But being part of an important currency area is no panacea. Because EMU states fail to deregulate their labour markets and to roll back fiscal commitments, their unemployment rises higher and higher. Europeans are shocked to experience widespread rioting in Europe's heartland, with France and Italy as the main crisis centres. Hoping to avoid this chaos, the UK chooses to link to the dollar. Within Europe, people prefer using a mix of stable currencies, especially the dollar – a shift made possible by the popularity of secure and cheap electronic transfers. As a result, parallel regional economies begin to emerge, notably in the Baltic area, Lombardy, and the Rhône valley. By 2015, economic growth in Europe is becoming strongest in 'peripheral' areas like the Baltics and the Iberian peninsula.

Smart Money – a *People Power* Parable

In the world of ***People Power***, several multinational companies grapple with the problem of adapting businesses to a host of special local situations, while drawing strength from their operations in many countries. One of the exciting new product developments is spearheaded by a coalition of a major diversified oil company (Dolphin, Inc.) and an expanding world-wide retail chain (Cornerstore, Ltd.). The eventual business proposition emerges almost as a chance development.

Dolphin is worried about its retail station business which is threatened by the onslaught of retail chain competition. Cornerstore is afraid of the end of supermarkets resulting from internet shopping. Together they come up with the idea of a new joint delivery system anchored around 'entertainment venues', especially cafés, cinemas, and speciality malls, where people gather to enjoy leisure time. At the venue, say the café, the valets take the client's car, fill it up, and perform maintenance. They also load the car with purchases ordered via the internet, while clients enjoy themselves.

While developing the one-stop service idea, Dolphin is also moving into electricity markets, mainly in developing countries. While customers in many such markets are willing to pay up to 50 or 60 cents/kWh for basic electricity service, payment discipline is often a problem. (In the 1990s, pre-payment meters for electricity became quite popular, even in Africa.)

Dolphin's smart-card division integrates the pre-payment feature with the Dolphin smart-card used at retail stations, at Cornerstone venues, and for purchases at facilities of selected partner organisations. The smart card has debit card features and has, for a long time, enabled customers in several countries, such as the US and the UK, to withdraw cash at the time of purchases.

Meanwhile, Dolphin expands investments in the developing world, particularly in the renewables business; Cornerstone does the same with new types of locally adapted venues. To raise funds for these investments the alliance agrees to offer smart-card owners in selected countries incentives to use debit card options to the maximum limits possible. First, interest on cash balances is offered. Because deposit rates in many countries are artificially low, it is easy to attract customers. At the same time, lending rates in the same countries are high or inaccessible for many regular borrowers, because credit flows to cronies and privileged parties. The alliance finds borrowing directly from its customers a highly advantageous way of funding its expansion plans.

Then it occurs to the marketing staff to combine loyalty schemes in new ways with the fledgling finance business. Instead of crediting local currency balances to customers, who deposit local currency on their smart-cards, they offer to credit 'Dolphin fins'. 'Fins' are pegged to a basket of high-quality currencies. In this way, the alliance, *de facto*, establishes exchange rates and convertibility between high-quality and low-quality currencies, which are not easily tradable because of exchange and payment restrictions. Ordinary people in many countries love the sudden opportunity to store their wealth in stable currencies – an opportunity previously available only to the wealthy. The alliance is able to set highly advantageous *de facto* exchange rates because people are willing to pay a lot for the security the system offers.

The alliance is thus able to raise more funds than necessary for its rapidly expanding business and slowly starts to operate lending schemes linked to the development of its rural energy business. In rural energy, Dolphin has started working with local trades people, money-lenders, and mushrooming micro-credit schemes to distribute its products, including solar panels. Distribution arrangements often include financing for the intermediaries used to distribute products. The deposits raised through the smart-cards are channelled more and more into all sorts of small credit schemes, which, by 2010, are the most profitable part of the highly competitive world of finance.

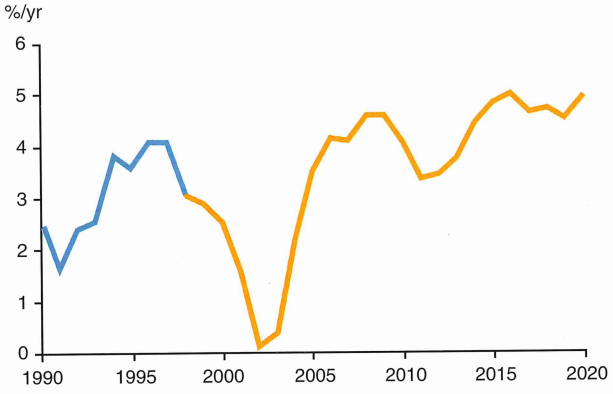
Given that the alliance can move and use funds in multiple currencies like few others, it starts offering convertibility insurance and is able to develop tradable products in currencies that were previously hampered by capital controls. The use of the fin turns out to be a way of dealing with a number of formal currency restrictions, and many monetary authorities turn a blind eye to the developing currency market because it is immensely popular, including with employees of various central banks. Most important, politicians can point to the investments brought to their countries by the alliance and others benefiting from its credit schemes.

By 2020, fins have become currency for cross-border trades, particularly among many developing countries. Areas such as West Africa, where traders once used the Naira across countries, are now heavy users of fins. Dolphin has been able to issue new fins and has leveraged itself significantly. Managers of the alliance realise that they have actually created private money. After all money is 'simply' debt of a money-issuing institution. Fins are currently of higher quality than many official currencies, a situation that reflects the trust and credit of the alliance. Management is now grappling with the opportunities and risks resulting from issuing a serious currency. In particular, new opportunities arise when liquidity problems allow very profitable loans in fins to be made to borrowers who are solvent, but short of liquid funds. The alliance is thus pondering how to become a lender of last resort without succumbing to the risk that liquidity problems turn into solvency issues.

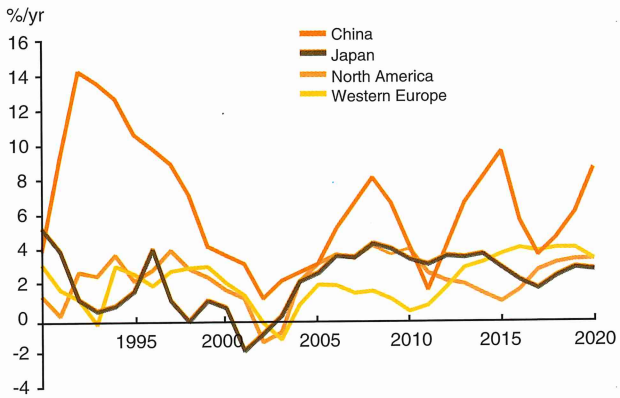
By 2020, a new global financial regime is evolving. Key principles are competition among jurisdictions, free flow of capital, self-reliance, and resilience. Russia becomes a tax haven – the 'Euro market of the 21st century'. E-commerce and currency trading are now fully developed and have substantially eroded capital and trade controls. In ***People Power***, currency trade and capital flight are options for everyone. Money is essentially denationalised, leaving monetary authorities with very little power. In many parts of the world, private money is considered a better store of value than the national currency.

Successful financial institutions operating in these unregulated markets have to develop strong reputations. They maintain high capital adequacy levels (20%-30%), similar to those of banks in late 20th-century Hong Kong. No open-ended lender of last resort or deposit insurance systems exist – only clearly defined systems that are pre-funded through fees and that have strong in-built incentives for monitoring of risks. Once moral hazard has been driven out of financial systems, self-organising banking systems fund accelerating growth from 2020 onwards. In ***People Power***, while periodic crises of financial institutions continue to erupt from time to time, they eventually come to have minimal systemic effects and are regarded as similar to the 'normal' bankruptcies of companies. By the end of the scenario period, growth is faster than it would have been under a more co-ordinated system that included a lender of last resort and other cushions.

World GDP Growth



GDP Growth



For the rich economies, where scientific and organisational progress is unhampered by restrictive norms and agreed practices, productivity growth has accelerated to an average of 2%, higher than the productivity growth of the last 150 years. The rest of the world finds it a bit harder to catch up with this frontier, in part because markets in countries such as China and India are not integrated into world markets. Also, political risk remains an issue because many countries do not enforce private contracts very well. However, over time, cross-border

financial flows increase as e-cash allows investors to evade most government restrictions. Any country that is able to establish a reputation for reasonable treatment of investors can attract ample foreign investment. Overall, the world GDP grows at an average of 3.5% per year, and is reaching 5% by the end of the period.

This volatile and uneven financial structure – or lack of one – encourages the most enterprising entrepreneurs to find niches of advantage and to create new ways of doing business. It also rewards those who realise that their own human capital is their major asset and who act on this realisation through continually learning and making themselves resilient in response to economic and business shocks.

Growth and Innovation

The key to the economic resilience of ***People Power*** lies in the way growth is generated. Today, many economists argue that well-designed policy and well-functioning markets and institutions are essential for solid growth. But the world of ***People Power*** shows that what matters for growth is new ideas and competitive pressures to develop and apply them. The search for the perfect market or for ever-increasing efficiency gains is secondary to the encouragement of new ideas. Of course, basic social peace and protection of property rights are important. But smoothly functioning markets and institutions are not essential, even though their presence might cushion economic shocks. In the world of ***People Power***, creative destruction is far more productive than orderly control.

The European Miracle

A historic case, which makes it plausible that a ***People Power*** world might actually outperform a world like ***The New Game***, is the contrast between China and Europe at the end of the Middle Ages. In the technologically more advanced China, the Mandarins were in control. They guided society, never really experimented, and did not apply new knowledge to gain power and riches. In Europe, competition among mini-states and religions allowed for a fairly free flow of ideas and provided incentives to produce innovations that the relatively unregulated merchants transformed into growing wealth.

The Surprising Resilience of *People Power*

The US economy is complex, open, and innovative. Complex systems defy predictions based on simple cause-and-effect analysis. Suppose, for example, that you were writing scenarios for the US in 1978 and you knew that the following would happen. What picture would you have painted for the US in 1998?

- An actor will become president of the United States and will preside over the biggest budget deficits in the nation's history.
- The deepest recession since the 1930s will occur in 1981-1982.
- Nearly 20% of the work force will be unemployed at some point during the period.
- There will be another recession in 1990-1991, in which that high percentage will again be without jobs.
- A huge stock market crash will occur in the fall of 1987.
- There will be a war in the Middle East, with the United States leading the charge.
- A new plague – AIDS – will crop up around the world, and there will be record droughts, floods, and hurricanes.
- There will be a collapse of the dollar, scattered depressions in various states, a record number of personal, bank, and savings-and-loan bankruptcies, and numerous criminal convictions on Wall Street.
- Crime will appear to be virtually out of control in many major cities, and a riot in Los Angeles will turn out to be the most expensive in history.
- Some of the largest corporations in America will lay off employees 10,000 at a time.

In any case, shocks reveal the presence of underlying 'lumps of risk' which can then be addressed. Better policy does not simply make these risks disappear. Rather, in their multiple roles as consumers, investors, employees, and taxpayers, people have to bear the risks of society. Shifting these risks around does not reduce them; on the contrary, insulating groups of people against risk tempts them to take on excessive amounts of risk and leads to unproductive gambling.

In the world's most advanced countries, growth is driven by scientific and organisational progress. Such progress is generated by people experimenting with new combinations of products and services, or new teams of diverse people, or new ways of doing things. In this sense, life is a never-ending set of experiments. In *People Power* there are no effective limits on experimentation. Some country or group of people or corporation, or some individual will always

be trying out things that others disapprove of or find too risky. Electronic communication and cheap travel allow people to move across the globe to pursue their dreams and to join with like minds in the pursuit of those dreams.

Some of the most interesting scientific innovations come out of Russia, where a frontier atmosphere and a limited reach of law come together with the vast talent and cheapness of Russian scientists. From India and China come new and highly effective business organisations for the financially resilient, networked world – organisations based on Indian and Chinese extended family structures. Like Chile in the 1970s and 80s, some of the most fruitful government policy experiments are created in states facing crisis.

People Power is thus a world of 'no limits' in the sense that somebody, somewhere in the world, will try out anything – shocking ideas, unusual scientific experiments, outrageous personal lifestyles. Diverging views, culture clashes, and gridlock in institutions make for a rocky ride, but the power of innovative ideas fully blooms.

Economic growth patterns are volatile at first, but over time, it becomes clear that financial resilience is required in order to survive the inevitable shocks. After a while people are under no illusion that there will be massive safety nets. Individuals give up any hope of leaning on public assistance for support, and companies no longer expect to be bailed out of their difficulties by forgiving governments. The 'moral hazard' of irresponsible risk-taking and thoughtless gambling, so characteristic of a fail-safe economy, is almost completely absent from the world of ***People Power***, in which economic consequences follow causes without the caretaker behaviour displayed by some governments in the past.

Unresolved Problems

Old certainties are challenged in ***People Power***. The ageing of advanced societies pits the interests of the old against those of the young. Through the first two decades of the 21st century, cross-border investments by pension funds and insurance companies remain limited. The world is just too volatile and uncertain.

Because the old cannot be sure that investments in the rapidly growing economies, like China, will not be confiscated, they look to their own communities to support them and vote for high taxes in their own slower-growing societies. The young, understandably, resent this imposition. Companies move to low-tax economies, pushing up unemployment in rich countries – though this effect is somewhat mitigated in the US, where tax rates are adjusted to encourage companies not to move their operations abroad. In response to high taxes and labour costs, black markets in the advanced economies grow rapidly, reaching an estimated 30% of output in countries such as Germany, France, and Italy. The eroding tax base in OECD countries undermines the ability of governments to pay for previously unfunded pension schemes and forces many old people to seek work again.

The Critique of Progress and the Angry Fringes

For the most part, economists agree about what promotes growth. But in ***People Power***, this agreement among technocrats does not necessarily drive decision-making in the political sphere. In a world of diverse values and the active expression of those values, people do not always act rationally to promote their own best economic interests. In many cities in the US, for example, a 'no-growth' policy, designed to protect the environment and the quality of life, makes it very difficult for new industries to expand or move, or for new building permits to be obtained for housing or offices. New advances in biotechnology that might increase the food supply or improve public health are sometimes resisted for fear of dangerous consequences. But because they are resisted in some places and not in others, the attempts to stop technological progress in these new realms is remarkably ineffective. The rich can always find a place somewhere in the world where, for example, the genetic alterations they want will be done, no matter what moral reservations others might have about certain procedures of genetic engineering.

People Power and Rational Behaviour Theory

The conceptual foundation for ***People Power*** is based on a number of empirical findings that cast doubt on the effectiveness of designing institutions based on expectations of standard rational behaviour.

- People often do not really know what they want. They start finding out when they are forced to for some reason.
- People often make rational choices in transparent situations – but violate axioms of rational choice in non-transparent situations.
- Decisions can depend crucially on the way the questions are framed, thus violating the most basic principle of rationality, that of invariance. For example, one group in society (childless or unmarried people, for example) might pay more tax than another. If we express this by saying that the first group has been charged extra, we would expect the response that both groups should be charged the same, lower rate. But if we say that the second group has been given a tax break, the normal response is that this break is acceptable.
- Not only can we find clear instances where people's behaviour does not follow our basic assumptions about rational behaviour, we also find cases where people do not learn over time that they are making mistakes. For example, racetrack punters commonly underestimate the probability that the favourite will end up in second or third place. This means that the market for win bets is efficient, whereas the market for each-way bets is not – an effect large enough to sustain a contrarian betting strategy.

In the world of ***People Power***, there are relatively few equalising forces. Inequalities within countries occur between identifiable groups of people, reflecting a continuing focus on specific communities or ethnic groups – African Americans and white Americans cannot seem to settle ongoing differences in priorities for social services, and Turks in Germany are often the objects of ethnic hatred and occasional outbreaks of violence.

It's the same the whole world over,
It's the poor wot gets the blame,
It's the rich wot gets the gravy,
Ain't it all a bleedin' shame.

"She Was Poor But She Was Honest," sung by British soldiers in the First World War

The weakening of traditional social institutions increases the volatility of ***People Power***. Although the world is wealthier in some regions, the gap between income levels, even within the middle class, is felt more keenly than the rising tide that is lifting all boats. People do not necessarily *feel* wealthier. In addition, many

people feel that the march of economic progress is threatening what they value most: the small communities that nourished family values, or, increasingly, the unspoiled environment. Some work very hard to build up their local communities; others focus their energies on the forces they feel are threatening their values. Anger flares up, from road rage outbursts in the 1990s to the turn-of-the-century 'fat cat attacks' – scratching gas-guzzling cars or splashing paint on the doors of corporate executives' homes. These attacks are seldom organised or sustained,

The Idea of Progress

"The implicit confidence in the beneficence of progress that during the last two centuries marked the advanced thinker has come to be regarded as the sign of a shallow mind."

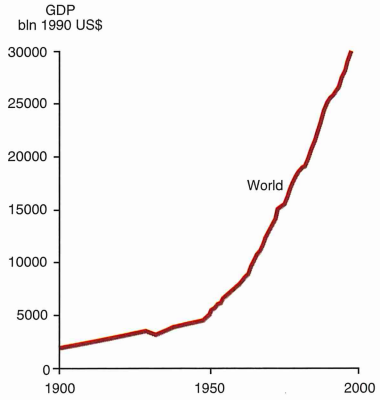
Hayek, The Constitution of Liberty

In almost every major area of human development that can be measured, we seem to be making progress: in literacy, wealth, scientific papers published, rights of minorities, life expectancy, infant mortality, deaths from infectious diseases, availability of labour-saving devices, democratisation, and so on. For the last 100 years, world GDP has been rising fairly steadily at around 3% per year. But, at the same time, many people in developed countries feel that while material progress continues, in other dimensions, we may be losing ground. An international survey of a few years ago of more than 37,000 people in 40 countries found that Asia was the only region of the world where more people were optimistic than pessimistic about the future – and that was before the Asian monetary crisis. In 1995, 74% of Americans, noted for their belief in the idea of progress, thought that achieving the American Dream would be harder in the next ten years.

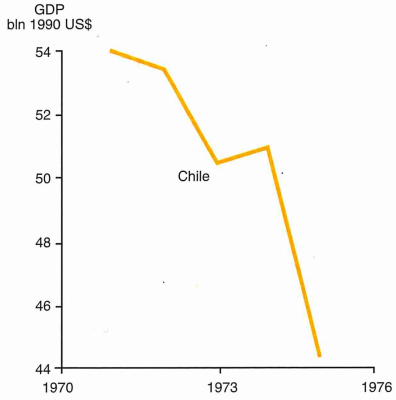
Why this feeling of pessimism in an era of unprecedented prosperity? Three main reasons could be offered.

First, progress is uneven. While *TINA Above* shows a smooth line of growth, the view from *TINA Below* can look quite different. Individuals do not live in the world at large, but in very specific regions at very specific times.

The View from Above



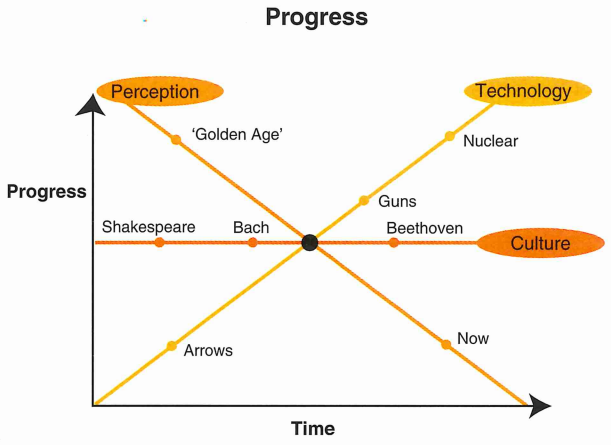
A View from Below



Source: *Angus Maddison, Monitoring the World Economy 1820-1992; DRI World Economic Outlook*

Second, while the arrow of progress seems always to move in one direction in relation to technology, for example, it does not necessarily move forward in relation to art or ethics or a general feeling of well being. In addition, technology is morally neutral; nuclear warheads are technologically more advanced than guns, but do not necessarily represent an advance in the history of humankind.

Third, for reasons that many have speculated about, people have often postulated that a Golden Age existed in the past that humans have never reached since. The ancient Greeks literally called it a "Golden Age"; for Christians, it was the Garden of Eden; for many environmentalists, it was the earth before the forces of the Industrial Revolution began to usher in pollution and the destruction of habitats. Some theorists have argued that this is simply a projection of individual psychology on the world: a memory of the carefree days of youth as compared to the burdens of adulthood so that the past is seen in a kind of golden haze, and the decade of one's youth the apogee from which ensuing decades have declined.



Recent commentators have noticed the decline in popularity of the idea of progress. Some have even warned that 'progress' is such an important idea to the west that recent attacks on the idea as being a kind of 'cover' for imposing western economic values on the rest of the world are damaging to the long-term prospects of the western way of life.

and often their intent is confused or unclear. But sporadic outbursts of anti-social behaviour are characteristic of the world of ***People Power***.

Patchwork Solutions

In spite of the volatility and unsettled nature of ***People Power***, things get done, sometimes in surprising ways. While shocks are an integral part of this world, the shocks themselves result in learning. A more settled world with well functioning institutions might produce a step-by-step improvement, or lead to gradual change – but ***People Power*** can produce social change almost overnight. A city may suffer

extreme traffic congestion, for example – and then, one month later, an unexpected upsurge of feeling coupled with a media-wise campaign by an ad hoc alliance of environmental NGOs may result in a move to ban cars in the centre of that city, in spite of the upheaval caused to retail businesses, restaurants, and commuters.

This is not a world in which government policies are made behind closed doors and then sifted down through layers of bureaucracy, but one in which selected leaks by government officials seek to feel out public opinion or lay the groundwork for new legislation – government, increasingly, by 'leak and spin'. A media-rich world can create a public opinion groundswell over an issue in a very short time. As politicians and special interest groups become more adept at measuring and manipulating public opinion, the difficulty of separating true political debate from extraneous 'noise' becomes acute. Decision-making in the public domain is often determined by who takes the spotlight first and how the issue is framed for public consumption.

Collective Decision-Making: The Condorcet Conundrum

Condorcet was an 18th-century philosopher who pointed out a significant difficulty in collective decision-making – a difficulty that helps to explain the unpredictable nature of ***People Power***. Even when individuals know their preferences and behave rationally, they may reach different outcomes, depending on the rules that govern the aggregation of preferences. In the absence of standardised rules or of strong mediating institutions, the collective decision reached may simply depend on the order in which the votes were taken.

Take the issue of taxation levels, for example. Suppose the population consists of three basic groups of voters: 1) *young voters*, whose primary aim is to enter the job market; 2) *middle-aged voters*, whose primary aim is to support their family; and 3) *old voters*, whose primary aim is to secure their pensions.

If a collective decision has to be taken about the level of taxation and the extent of unemployment and pension benefits, the young may prefer good unemployment benefits (A) to low taxes (B) and those to high pension benefits (C): A>B>C. The middle-aged may prefer low taxes (B) to high pensions (C) and those to high unemployment insurance: B>C>A. The old may prefer high pensions (C) to high unemployment benefits (A) and those to low taxes (B): C>A>B.

Thus, two groups prefer low taxes to high pensions; two groups high pensions to high unemployment insurance; and two groups high unemployment insurance to low taxes:

Young voters: A>B>C

Middle-aged voters: B>C>A

Old voters: C>A>B

Summary: A>B>C>A

Decision: ?

If two groups voting together win against a single group, then the overall outcome depends, for example, on the order in which alternatives are put to a vote. This is the paradox of Condorcet. It is often impossible to aggregate preferences without some sort of arbitrary rules or dictatorial intervention.

In ***People Power***, environmental and social NGOs are extremely influential. At one level, they challenge the legitimacy of action of established institutions; at another level, they operate through those same established institutions to try to reshape public agendas in line with their own objectives. Because their reach is global, they can bring enormous pressure to bear on whatever institution they are seeking to influence. And sometimes this influence reaches far beyond the original intent. It is not difficult, for instance, to draw the connection between the environmental degradation of South-East Asian forest land, with its effects on human health, and the system of crony capitalism, with its political abuses and its business favouritism, which underpins the whole attitude of environmental disregard. In the early years following Kyoto, environmental groups often act as pro-democracy forces in Asian countries.

By 2010, the degree of functioning democracy in China has increased, especially at the regional level. And while some parts of the world, such as Europe, which have depended on strong institutions, are not growing as quickly as they would like, other parts of the world have discovered that local solutions deliver on promises in ways that governments never did. People in many poor countries, for example, have taken matters into their own hands, building their own small generators or water purification systems rather than waiting for government to provide; the internet allows many small entrepreneurs to get a foothold in global

business; and communications technology has become so cheap and development capital so readily available that almost anyone with a good idea can find a way to develop it or to sell it to a company.

Experiments multiply that embrace the principles of the Grameen Bank, which, in addition to providing small business loans to women in Bangladesh, began, in the 1990s, to take advantage of the high population density of the area to provide a number of women with cellular phones so that they could provide phone service, for a fee, to their neighbours. The opportunity for individuals in ***People Power***, even in the most out-of-the-way places, is immense. The poor are galvanised, and in many countries are both angrier and more hopeful.

The Rise of Human Capital

The long winter in which individuals were defined solely by their race, tribe, and gender is over. Freed from the bonds of poverty, authoritarianism, and conformity that bound them in the past, individuals in ***People Power*** construct complex identities using many elements from their personal and tribal history, but also from cultures and philosophies from around the world. The search for identity in a world of many possibilities is both painful and affirming. Some people move towards religion as a bedrock of stability in this volatile world, and new sects spring up both in rich and poor countries; other people manage a complex portfolio of identities, belonging to many different groups; still others highlight the nationalistic threads of devolution, creating national movements that, in some cases, such as Scotland, lead to independence.

There are natural assets, produced assets, and human capital. The share of human capital in total world assets = about 70%.

Political life in this world is extremely complex, with shifting alliances, multiple loyalties, and a confounding degree of diversity. Like politics in India, people are characterised by many dimensions of belonging, and multiple complex and overlapping political parties develop in China, Russia, and other countries. Even

in developed countries like the US, attitudes towards political proposals cannot always be predicted simply because people have so many conflicting interests. The multiple dimensions of belonging works well in large societies like India or the US, where the "salad bowl" of nationalities allows for a great deal of diversity. But smaller societies, like Sri Lanka, or Canada, where there are only two basic groups, are much more troubled by divisions.

Indian Politics: Dimensions of Belonging

Indian politics presents a collage of beliefs and identities, tugging at individual loyalties along diverse dimensions of belonging – caste, subcaste, religion, language, class, and region. India is home to the world's largest electorate, and the political competition is complex and vigorous. In Uttar Pradesh, for instance, the national Bharatiya Janata party (or BJP) contends for power with the leftist Samajwadi, which plays to regional Muslim or backward caste identities and the Bahujan Samaj party (or BSP), which also has localised caste and class affiliations among the landless, who are also mostly Scheduled caste Dalits ('untouchables'). Within the Uttar Pradesh political melange, we also find the Janata party, the Loktantric Congress, the national Congress party itself, and other groups. This crowded political field may seem chaotic in its diversity – until we take into account that Uttar Pradesh has an electorate comparable in size to Germany and France combined.

An example of political factionalism, in contrast to the effects of diversity, is provided by the southern state of Tamil Nadu, where politics was long dominated by parties representing local Tamil concerns against the perceived Hindu interests of the centre. The DMK leads the state government, but the AIADMK (a splinter group from the DMK) is a key constituent of the winning coalition put together by the BJP national government at the political centre. Yet the AIADMK has a purely local agenda – indeed a personal agenda of its exotic and very complex party leader Jayalitha. The alliance with the BJP is entirely a marriage of convenience. Meanwhile, three other splinters have formed separate local 'DMK-type' parties. And the BJP itself, Janata, Congress, and the TMC (a Congress 'breakaway' group) are also active in the state.

With this babble of rival voices thrown up by open political competition, building a winning coalition requires establishing a broad-based alliance across four dimensions – regions, social classes, castes, and religions – as well as co-opting local allies in areas where the nationally-oriented party is weak. The AIADMK is a case in point in that it is a local party that is, at the same time, pivotal to the BJP's hold on national government.

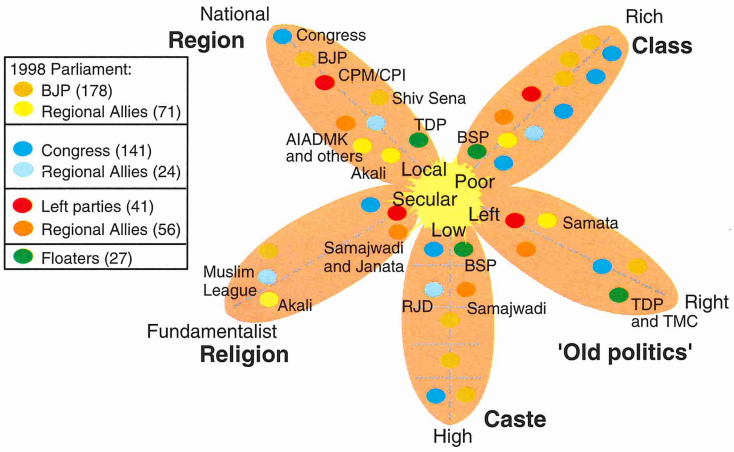
As the variegated patterns in the kaleidoscope of India's political map keep shifting, the smaller parties provide the bits of coloured glass which come together to shape new political patterns. And as national parties join forces with the new regional parties, they become more accountable to voters, while individual states acquire a range of economic and political powers. Increasingly, it is 'Power to the People'.

The new emphasis on individuality does not necessarily mean self-indulgence. People work very hard – including many older people who in earlier times would have been relaxing on retirement pensions. As old safety nets disappear, people fall back on self-help and seek support from traditional and new communities. Some communities imitate the London borough of Islington in the 1990s, which introduced its own currency in order to keep business inside the community.

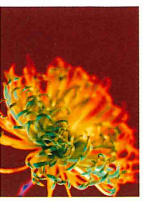
This blossoming of political parties may lead to inconsistent and damaging policies, which slow progress over the longer run. Yet another lesson for Indian democracy becomes apparent in light of the closed authoritarian rule of Indira Gandhi's emergency period in the 1970s, which almost tore the country apart. The openness that democracy fosters, by contrast, provides channels for diverse voices from below to vent their energies – sometimes powering the country forwards and sometimes pulling it back, but effectively holding India together.

Indeed, as the political process has opened up in recent years, poverty reduction has

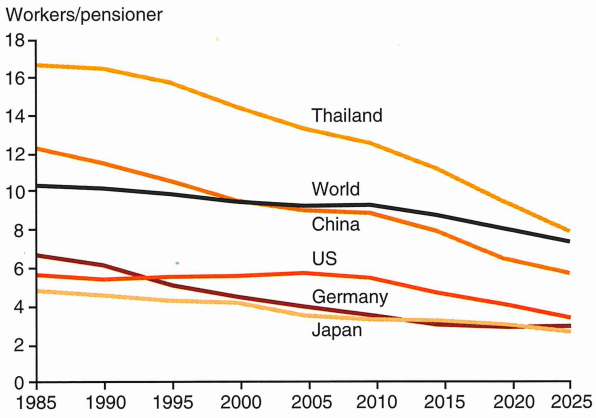
Indian Politics – Dimensions of Belonging



become more palpable and social mobility more apparent, as people from lower castes and poorer social classes become empowered and increasingly shape political agendas. The Indian economy has accelerated from its much-castigated 'Hindu rate of growth' of around 3.5% per year, to a significantly higher growth rate of around 5.5% per year in the last two decades. This improvement in GDP reveals a native economic entrepreneurialism that greater political openness has helped to foster.



Pension Problems



Source: *World Bank, World Population Projections 1989-90 Edition*

Mutual help schemes proliferate, from day care to care for the sick. Different groups experiment with differing lifestyles, creating an upsurge in specialised communities, especially retirement communities. In the US, edge cities and gated communities multiply. Some communities try to find a better mix between consumer and producer cultures. Instead of pampering people in their role as consumers and subjecting them to relentless pressures when they produce, more flex-work systems evolve, many of them inspired by the Dutch experience with part-time work.

In ***People Power***, even though clashes between rich and poor and among different ethnic groups continue, the world is open enough to allow people to

US Edge Cities in the 1990s

Edge Cities (like Santa Ana Freeway / Anaheim or the Dallas Galleria / LBJ Freeway Area):

- Make up the top 13 spots for median 1990 household income in the US.
- Form 18 of the top 40 largest job centres in the US.
- Have the bulk of the nation's population.
- Create the majority of jobs.
- Have less crime.
- Are safer and more comfortable.
- Are the standard residence of choice for most Fortune 500 headquarters.

Q: How many downtowns in the US are the size of Orlando, Florida? A: 40.

Q: How many Edge Cities are larger than Orlando? A: 190.

Source: *Joel Garreau, Edge City: Life on the New Frontier, as quoted in Frank and Weiland, eds., Commodify Your Dissent*

escape from their group or their situation and make a success of life. Rich entrepreneurs come from every ethnic group and every class and geographical background. For many people, this escape comes through education. As the cradle-to-grave security of the welfare state in advanced countries comes under pressure, people everywhere seek to obtain the best education they can. They realise clearly that of all investments, their own human capital is most important. The immense demand for education is met by more and more effective new education methods. Multimedia, learning teams, and support groups help people learn more subjects faster, and 'virtual lab practice' underpins the study of facts and principles. Electronic media enable everybody to benefit from the best teachers and materials all over the world. Companies like Hughes Electronics, Sony, Philips, IBM, and Motorola become major education providers.

At the same time tax systems do not raise enough revenue to fund education systems in several countries, particularly because pensioners vote for pension and health payments and against education and defence. The result is that even Germany begins to allow private companies free entry into education systems. Traditional schools are often taken over by the new education companies and taken out from under their old industrial and even agrarian models to systems that better prepare students for the working life of the 21st century. Entirely new education delivery systems develop. The most dramatic impact is in developing nations, where growth rates start ratcheting up as educational levels leap forward. ***People Power*** is a world that works because people themselves are the most complex adaptive systems on earth.

"The number of residential communities with defended perimeters that have been built by corporations went from 1,000 in the early 1960s to more than 80,000 by the mid-1990s."

Robert Kaplan

Energy, the Environment, and Consumer's Choice

The Customer is King

In ***People Power***, three forces drive the energy business: sophisticated, diverse, and demanding customers, the widespread use of information technology, and the many experiments in tailored service provision unleashed by the liberalisation of energy markets. In a world of growing diversity, a global energy market does not develop. Within and between markets, customers differ in their energy service needs and expectations.

What Do Customers Want?

A 1998 Survey of US Utility Customers concluded that customers wanted five particular services, in the following order:

1. To have accurate and easily readable bills
2. To talk to a real person when there is a problem
3. To be served on time
4. To have high quality people provide services
5. To be charged the lowest price competitors offer

Some customers, especially industrial and commercial customers, are concerned primarily with *low* cost. Multi-national customers, including large buyers on behalf of groups of retail customers, demand supply contracts with single national or multinational suppliers so as to achieve cost savings. Many of these customers require energy suppliers to absorb some of their business risk through flexible pricing schemes, thereby lowering their overall cost exposure.

Other customers are simply concerned with whether suppliers provide *reliable energy* at a reasonable cost, with minimal hassle, and are available for immediate response to problems. Saving a few cents is of less concern than being able to talk to a real person when there is a problem or having an accurate and easily readable bill. Large remote suppliers must assure such customers that they really understand these desires and can respond to them.

"I'm sick of all the competition, I just want to make a simple phone call and not worry about it."

Bell Atlantic customer

A significant number of customers are intensely concerned with the *environmental or social impacts* of their energy sources. In ***People Power***, many varied supply packages are developed for these consumers – from pure renewable, to low carbon, to locally produced energy. These customers rely on a host of third-party agents to certify and verify the quality and source of their supply.

But no matter what their interests or needs, these customers demand action. If the energy markets or suppliers can't or won't move fast enough, they do it themselves. Some produce their own energy; others adjust their lifestyles and find other technologies, products, or services to meet their needs. Corporate customers with large energy bills simply relocate to regions where markets are more responsive.

Many energy companies, in the habit of telling their customers what they can have rather than discovering what they might want, do not survive. But some 'old dinosaurs' find the shock a stimulus for revolution in their attitudes and behaviour.

PG&E Energy Services

	Energy Mix Clean Choice 50™	Energy Mix Clean Choice 100™	Energy Mix Wind for the Future™
New Renewables	13%	25%	10%
Existing Renewables	37%	75%	65%
Non-Renewables	50%	–	25%
Price over current rate	1.6 ¢/kWh	2.3 ¢/kWh	n/a

Reputation Matters

While all energy markets liberalise, the outcomes of liberalisation are often very different. India, for example, is unable to persuade all states to adopt a standard set of rules for their energy sectors. Consequently, India, like many other federations, operates under a patchwork of energy regimes. Region-specific rules and conditions make it difficult for energy firms to gain scale economies in service offerings across the whole country. But this patchwork of rules means that in ***People Power***, reputation really matters. Customers cannot simply rely on authorities to ensure quality standards.

Information Technology and Tailored Services

Energy marketers in ***People Power*** aggressively exploit new information and communication technologies to collate customer preferences and promote a greater range of products and services in order to distinguish themselves. As was seen in the telecommunication industry, the capacity to differentiate according to time and occasion-of-use, demography, location, and even attitude creates an explosion of new bundled energy services. IT also allows a faster response to customers, leading to greater experimentation and volatility in the half-lives of products and services. The increasing ability of financial markets to

"Think about what happened in telecommunications. Only 20 years ago we didn't have call-waiting, call-forwarding, voicemail, cell phones, modems, and even answering machines were a rarity. I think we'll see a similar evolution in energy, with all sorts of interesting new products."

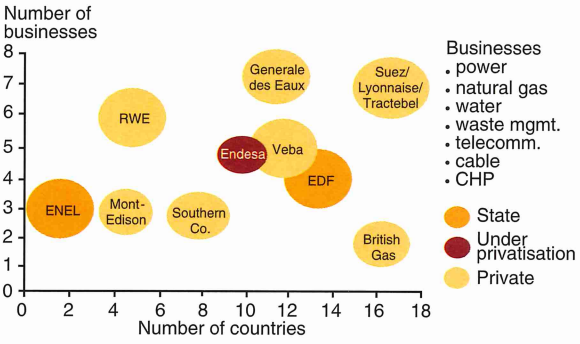
Scott W. Gebhardt, President and CEO of PG&E Energy Services

segment and price specific risks, such as weather, allows further tailoring of service offerings.

Because of the cost savings in providing multiple end-use services over what is in effect a common distribution channel and the desire of many consumers for simplification, some firms offer a wide range of bundled convenience packages of energy and other services: for example, gas, power, water, and security; energy and office equipment management coupled with fuel services; and many others, with new offerings introduced at a dizzying rate.

But some experiments in providing customer service simply fail. Customers carefully weigh whether the bundled service on offer is worth the risk of putting too much power in the hands of one provider. Suppliers are rarely able to meet the needs of all customer segments and have to make choices about what services and products to offer. Some customers, for example, simply will not purchase 'green electricity' from a supplier who also produces 'dirty electricity'. In addition, firms have to spend hundreds of millions of dollars trying to create brand awareness. Loyalty schemes abound as firms try to hold onto customers.

The Largest Aggregators in Europe, 1998

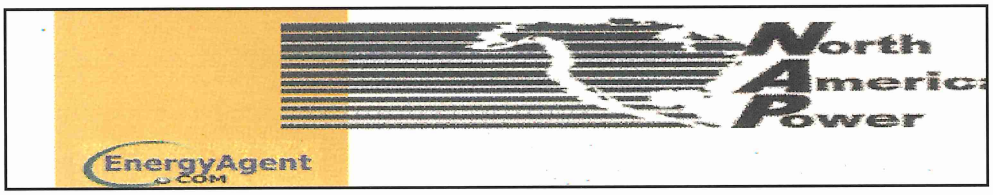


Source: *CERA, The New European Energy Utility, 1998*

For many customers, however, energy marketers become an irrelevant impediment between themselves and the supplier. Smart appliances decide when to operate and purchase energy, based on real-time market prices. In 2004, Microsoft succeeds in establishing an appliance protocol that allows energy equipment to have direct communication over the internet, thus enabling automated, on-line energy purchases.

People Power: On-line Energy Markets

http://www.energyagent.com



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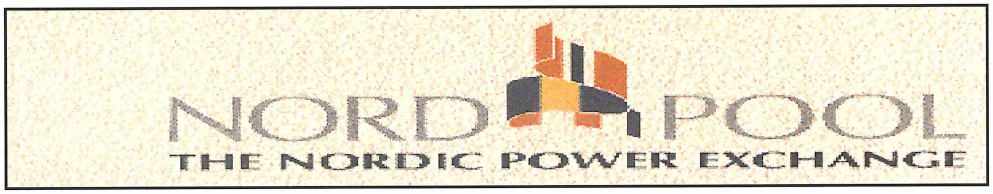

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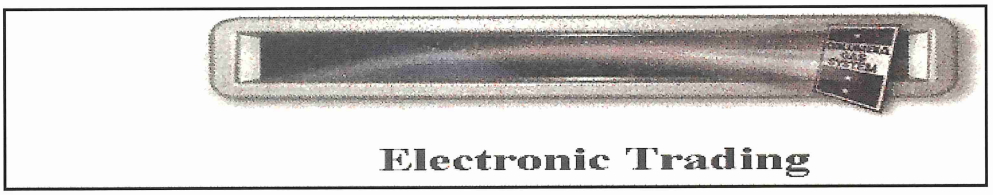

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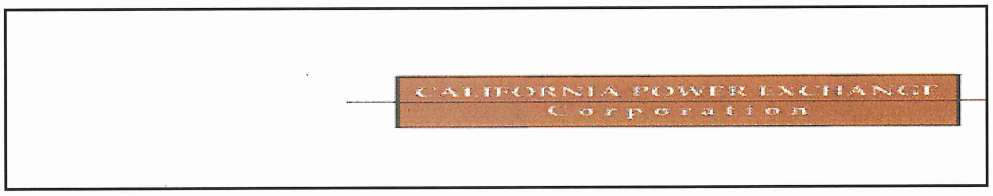


http://www.ucm.com

Environment – Other Priorities

Following the Millennium Recession, unemployment is high, and concern for the environment recedes. Those opposed to the Kyoto climate-change agreement find it easy to stop things happening – and governments have higher priorities. Taking special care not to affect economic recovery, most OECD countries offer half-hearted policies to meet the Kyoto agreement, usually in the form of higher road transport charges, gasoline taxes, tax incentives for renewable energy (which are rarely taken up), and exhortations to use energy more efficiently. The auto industry vigorously opposes new auto efficiency standards, and, in any event, citizens are far more concerned with local air quality issues than with efficiency.

The US Congress fails to ratify the Kyoto agreement – how could it without the participation of key developing countries, who seem determined to 'steal jobs', while wrecking the very environment the US is being asked to save? The costs are simply too high – carbon mitigation, for example, will cost over $200/tonne, representing a doubling in primary energy costs and unacceptable economic hardship.

Government programmes, such as the US Partnership for a New Generation of Vehicles (PNGV), are scaled back in the face of the difficult economic conditions and as more pressing transport concerns, such as congestion, become apparent. Automakers see little advantage for themselves in strongly supporting the program. The European Car of Tomorrow Programme, without substance to begin with, never gets off the ground. Non-OECD governments, waiting for OECD governments to take the lead in emission reductions, are not interested in taking on actions of their own – even though by 2010 their combined emissions exceed those of the OECD countries.

"There are those who are unwilling to see China progress and who are trying to contain its development by pointing their fingers at the world's environmental problems."

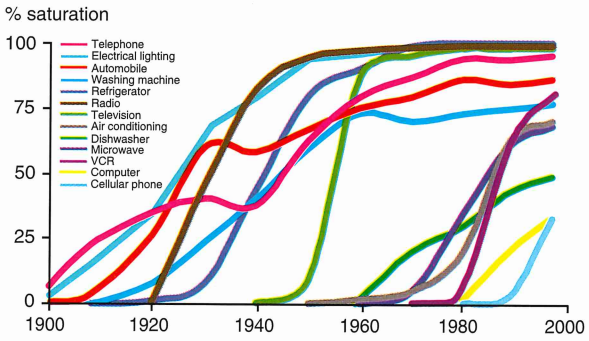
China Daily 1997

Demand Explosion and Saturation

Following the Millennium Bangs of 2002, global energy demand falls for the first time in two decades. Three years later, as economies recover and consumer confidence grows, demand begins to grow strongly, rising by 3% per year from 2005 to 2010, and by over 5% per year in non-OECD countries. In middle-income countries like Brazil, the demand for commercial fuels outpaces economic growth.

In OECD countries, however, energy demand growth does not recover strongly after the recession, increasing only with population growth of just under 1% per year. The on-going economic shifts from industry to services, and efficiency improvements in households and industry both serve to dampen energy growth. But the bigger factor is that major energy needs – heat, light, motors to substitute for physical activities, and mobility – have already been met, and people prefer to spend increases in disposable income on entertainment, health, and personal services rather than on superfluous appliances. Even in developing countries, where end-use penetration proceeds more rapidly than in the countries of origin, basic energy needs for wealthier households are largely met. With no major new energy end-uses introduced in OECD countries in over three decades, and with new electric goods largely substituting for other energy-using goods, the fight for energy market share becomes intense.

US Saturation of Household Energy Uses



Source: *Federal Reserve Bank, Dallas*

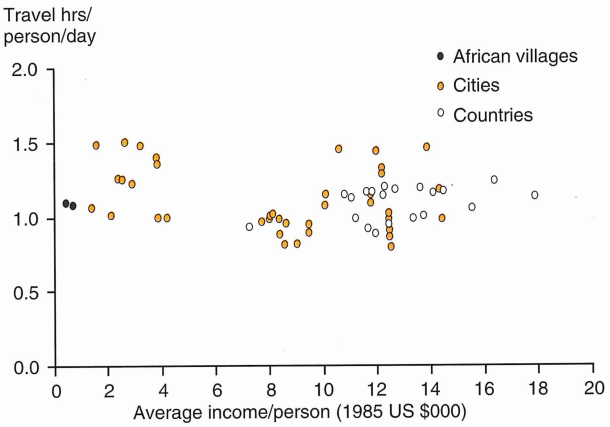
Mobility Services

In ***People Power***, it is customer end-service that really matters. Consumers seek out services that make their hectic lives easier and help save the scarcest resource – time. But as road congestion continues to worsen in major urban centres of North America, Europe, and Asia, and as road infrastructure starts to hit physical

Transport Time and Zahavi's Constant

Research indicates that people allocate a constant share of their time for travelling. While there is substantial individual variability, on average, people everywhere, regardless of social or economic status, are unwilling to spend more than about 1.0 to 1.5 hours a day for travel – 'Zahavi's Constant'. People in African villages spend the same 1.0 to 1.5 hours of time travelling per day as people in Japan, Singapore, Western Europe, and North America. Historic studies have found similar results – while people today travel much further, they still devote the same share of their day to travel as their grandparents did.

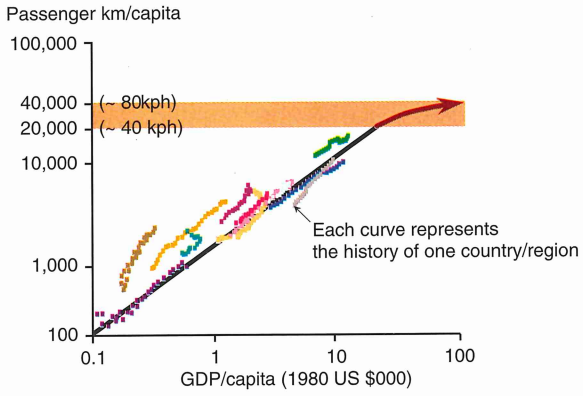
Travel Time



Source: *Schafer and Victor, The Past and Future of Global Mobility*

Given Zahavi's Constant, increased mobility can come about only through higher speed or more efficient forms of transport. But competing uses for land and resources are making expansion of roads and mass transport systems more difficult. Congestion may soon start to hinder further increases in mobility, especially in urban centres in Asia, Europe, and North America, where traffic has slowed to almost 'turtle-pace' speeds, and where average travel time is beginning to exceed Zahavi's Constant.

Mobility Saturation



Source: *Schafer, IIASA*

In a world of congestion, people will try to reserve their available travel time for 'quality' travel, such as leisure, and will look for alternate ways of meeting more basic needs, such as shopping and commuting. Zahavi's Constant seems to point to an inevitable increase in such substitutes for physical travel as tele-shopping and tele-commuting.

limits, drivers have to give up more of their time in daily travel. While there is strong public clamour for governments to address congestion issues, land constraints limit road expansion, and government budget constraints make it difficult to develop alternatives such as efficient mass transport systems.

In London, citizen groups like 'Reclaim Our Streets' succeed in their campaigns to increase the number of 'car-free zones' in the city. Flexible working hours and tele-commuting become pervasive in New York. In Bangkok, the public responds to road space limitations through the use of ingenious car pooling schemes. But overall, these measures have marginal impacts. By 2010, travel time in major urban centres becomes unacceptable, averaging over three hours a day. This is well above what people are willing to allocate to daily travel, regardless of the mode of transport.

Patag Cybershop, Manila 2005

A young electronics company executive visiting Manila for the first time is astonished that the ten-mile trip from the airport to his hotel takes three hours even though it is Sunday, when most offices and shops are closed. He wonders how people cope with such congestion.

While stuck in traffic, he notices people of all ages entering a small shop and coming out empty-handed. He also notices that most people coming out of the shop are on foot.

After checking his luggage at the hotel, he visits the nearby 'Patag Cybershop'. Inside, in one corner, a small group of men are chatting over a bottle of 'San Miguel' beer, while at another table, teenagers are having a *balut* (duck-egg)-eating contest. In another corner, kids play in a mini-children's playground. The atmosphere is very festive, and the *lechon* (roasted suckling pig) smells great.

Towards the other wall of the shop, people are sitting around a dozen computers. He approaches an elderly lady at one of the computers to see what she is doing. With the help of her four-year old granddaughter, she is clicking icons on a screen grocery list. When she is finished, she simply enters her password to complete the transaction and leaves the computer for the next person in line.

Curious, the executive sits down and sees that the cybershop lists more than 100,000 items, from bath soaps to wallpapers to bread. Taking advantage of the opportunity, he orders toothpaste, shaving cream, a box of floppy disks, and a souvenir for his wife—all at very reasonable prices, and all guaranteed for delivery to his hotel before breakfast the next morning.

As a result, consumers seek alternatives to enhance mobility and productivity. On corners in most major cities, cybershops pop up, where consumers can buy a wide range of day-to-day household items and groceries using the internet. Rather than waste hours driving to shops, consumers turn to information technology for solutions.

With the commercialisation of high bandwidth video-conferencing in 2006, companies increasingly require strong justification for physical travel, given the overwhelming cost savings from virtual meetings. In the world of ***People Power*** anything that can be digitised, generally is.

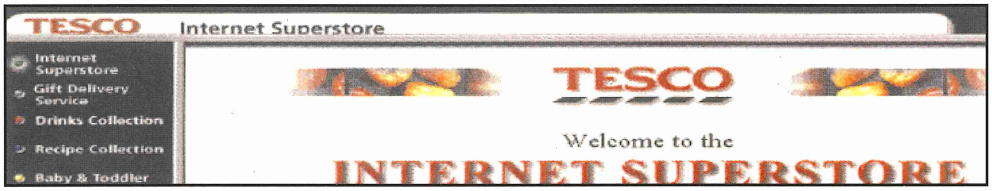
The Supercar – False Promises

In 2004, to meet the PNGV target date, automakers bring a variety of supercars to the market, with claims of dramatic improvement in fuel efficiency and, in some cases, radical new fuel and engine systems. Because costs are high, manufacturers have hedged their bets, often producing uneasy compromises. While many consumers are excited, most are confused by the wide variety of new vehicles, some of which require special fuelling facilities. Many of the vehicles also perform badly, having been rushed to market in order to meet the PNGV timetable. Like diesel cars in the US, which were introduced with great fanfare in the 1980s, but then sank without trace, the new vehicles have a negligible overall impact on fleet efficiency.

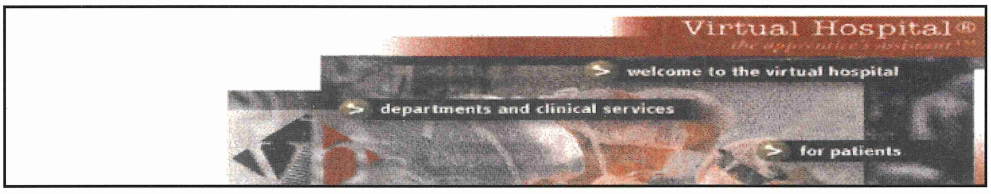
Nonetheless, the California Air Resources Board (CARB) maintains its tough stance against vehicle emissions and continues its program to require near zero emission vehicles. Links between fuel suppliers and 'green' car manufacturers increase to meet these demands for improved local air quality and to establish premium niche markets through supply of special 'designer fuels'.

People Power: On-line Shopping

http://www.tesco.co.uk

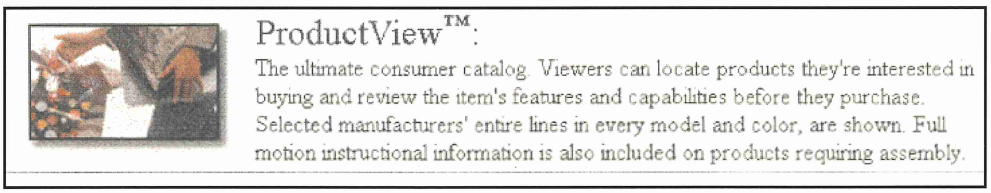


http://www.vh.org

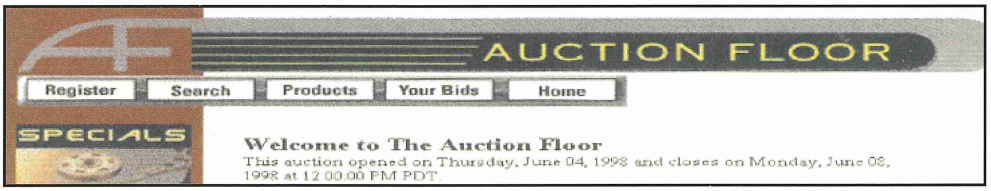


http://www.traderonline.com

http://www.vdat.com



http://www.auctionfloor.com



Energy Supply

Until 2010, the focus for OECD power and gas suppliers is simply on survival. Stagnant demand following the recession in 2002, and intense competition to establish shares in newly liberalised markets, leave most incumbents in difficult financial shape.

"Gas is difficult to sell because it's one of the most boring things on earth. You can't see it. You can't touch it."

Caroline Harper, Managing Director of Gas at Amerada Hess

Because little new electricity capacity is required, development of renewable energy is slow. Renewable energy niches reach 5% market share by 2010, although in a growing number of wealthy regions, such as California, where customers are willing to pay a premium for a clean environment, the share reaches 10%.

Following the recession, many non-OECD governments move to a hasty liberalisation of markets, creating a complex and fluid patchwork of regimes. Foreign companies flood into these energy markets, but only those with the capacity to withstand a high degree of volatility can succeed. Companies find, for example, that contracts are cancelled and then reinstated with surprising frequency. Consumers in these volatile markets look for those companies that can hold on for the ride, and so select their energy providers on the basis of reputation and resilience.

Concerns in Asia about energy security and on-going disputes over regional resource ownership periodically threaten to escalate into conflict. After the financial shocks of 1997 and the recession of 2002, Asian governments and those in Russia and Central Asia are pre-occupied with local matters, and despite the signing of numerous protocols to develop energy trade between Central Asia, Russia, and Asia, no natural gas pipelines or electricity supply projects are completed by 2010. The political will to complete the complex negotiations needed to support these projects is lacking. Only LNG imports provide any serious competition to domestic energy sources. Not until 2015 are the first major gas and electricity export projects to Asia completed.

Distributed Energy

The only growth area for electricity supply in OECD countries is distributed power supply. While sales of fuel-cell vehicles find limited success, due to consumer concerns about fuel supply, sales of natural gas-based fuel cells for buildings grow rapidly. Many consumers want greater control over the quality of their heat and power supply; others simply want to lower costs. The largest uptake of distributed power occurs in commercial establishments such as office towers and schools, which are able to sell surplus power to the grid during peak periods. Growth in distributed energy supply exacerbates excess capacity problems for grid-based power suppliers.

2010 – Environment Back on the Front Pages

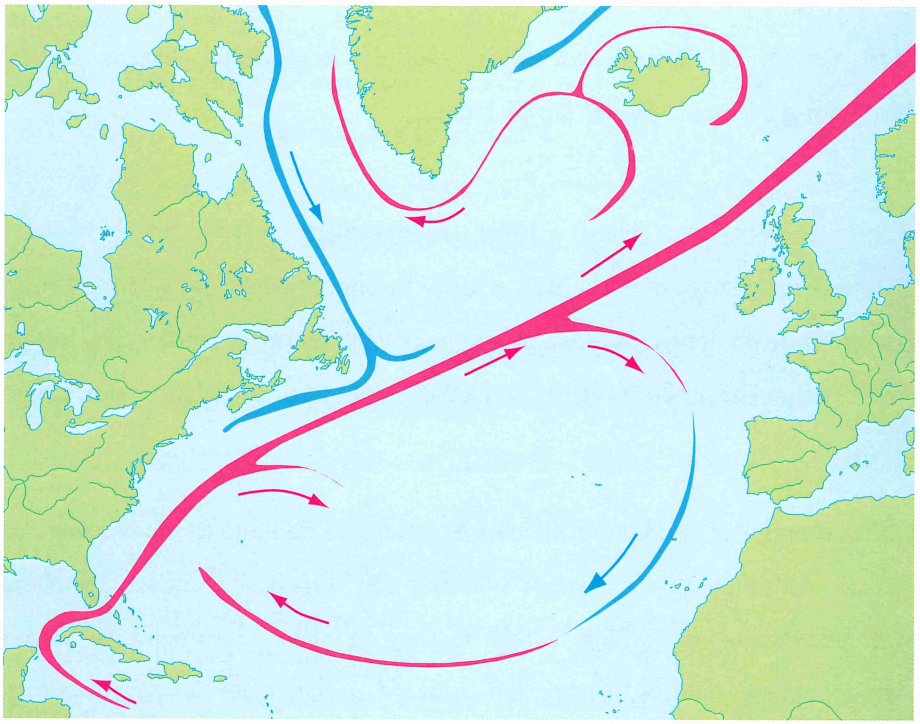
While climate change is not a high priority for most people early in the century, NGOs continue to lobby against inaction on the Kyoto protocol. The original commitment period ends in 2010, and OECD countries are clearly not meeting their targets.

In 2010, a series of violent storms causes extensive damage to the eastern coast of the US. Although it is not clear whether the storms are caused by climate change, people are not willing to take further chances. The insurance industry refuses to accept liability, setting off a fierce debate over who is liable: the insurance industry, or the government. After all, two successive IPCC reports since 1995 have reinforced the human connection to climate change.

Further evidence has also grown on the health impacts of particulates, partly due to the knowledge gained from completion of the Human Genome Project. More people are aware of the impact of particulates as they experience the rapidly worsening congestion on the roads. Although cybershops have helped ease congestion by eliminating the need to drive for mundane activities such as buying groceries, local air pollution resulting from growing numbers of cars continues unabated, particularly in Asian cities, where cases of respiratory ailments and eye and skin diseases increase. By the time the great storms hit the US east coast, public sentiment in many parts of the world has been growing in favour of doing something about the environment.

Shock Box*: A New Ice Age?

The temperature of the surface of the sea has a profound and complex effect on the weather. This temperature is itself strongly influenced by the ocean currents that mix cold and warm water together. The slow wrestling amongst the different ocean currents, a wrestling that determines the El Niño phenomenon, is linked to features as subtle as the 22-year sunspot cycle and as coarse as the temperature differences between the equator and the pole.



The North Atlantic Current

One area of particular concern is the northern loop of the North Atlantic Current. In the 19th century, the relative warmth of the Eastern Atlantic countries was noted: Norway, on the same latitude as Alaska, is around 10°C warmer. Indeed, people in Europe can live 15° further north than people in North America or Asia, because the North Atlantic Current bears warm water north from the tropics and around the European coastline. As it cools, this water sinks into the sea before sweeping

southwards as a deep, silent, salty torrent. This gigantic conveyor has shut down many times in the past, with far-reaching effects: Europe became colder, as did the rest of the world, for reasons which are not fully understood. The most recent occurrence came when humans were carving their first monuments: Scotland was glaciated, the North Sea was frozen, and Finland laboured under an estimated eight kilometres of ice.

For most of the past 250,000 years, average temperatures around the earth have been substantially cooler than they are now. There was a warm 'bubble' of 13,000 years, which occurred around 130,000 years ago and which was, perhaps co-incidentally, associated with the appearance of homo sapiens. The world then plunged into a period of cold, unstable climate, which continued until around 8,000 years ago, when a second period of exceptional stable warmth began. This period coincided with the development of settled agriculture, urbanisation, and complex societies. The oceans themselves warmed and expanded, rising around a hundred feet, and creating islands, such as Britain, while also flooding dry basins – to form the Black Sea, for example. Perhaps this period of rising oceans contributed to the many legends of gigantic floods and dry-land passage across seas.

The warming that brought civilisation came abruptly. Ice core records show a 13°C increase that occurred within 50 years: roughly the difference that exists today between Britain and Borneo. Before this increase, abrupt warmings were succeeded by cool periods which lasted centuries or millennia. As we are now discovering from ice cores, sea bed sediment, and pollen records, changes in temperature of at least this scale had occurred hundreds of times in the preceding quarter of a million years. Studies on glaciers in the Andes and in Antarctica show that these 'flickerings' of the Northern European climate were mirrored by events around the planet.

We now understand something of the mechanism by which these catastrophes occurred, but we can only guess whether our own warm contemporary bubble is likely to be pricked by it. Ocean currents – and, in particular, the North Atlantic Current – are the key agencies. One theory is that such a failure of the North Atlantic Current could be triggered by increased volumes of fresh water – whose density and freezing point differ from those of salty water. And global warming might bring additional fresh water through the melting of glaciers around Greenland, for example.

Thus, paradoxically, global warming could lead to a sudden and catastrophic return of an ice age.

**Unlike ordinary scenario 'boxes', which focus more deeply on a particular subject, or offer historical background, a 'shock box' describes relatively improbable events which, if they happened, would have a high impact.*

Following the storms, a coalition of environmental NGOs brings a class-action suit against the US government and fossil-fuel companies on the grounds of neglecting what scientists (including their own) have been saying for years: that something must be done. A social reaction to the use of fossil fuels grows, and individuals become 'vigilante environmentalists' in the same way, a generation earlier, they had become fiercely anti-tobacco. Direct-action campaigns against companies escalate. Young consumers, especially, demand action.

OECD governments, under intense pressure from citizens, decide they must also act. Accelerated development of renewable energy commences, along with plans to develop a new generation of nuclear power stations in Europe. Strong new CAFE type legislation is hastily drawn up in 2011. The power, auto, and oil industries see billions wiped off their market value overnight.

Consumers react in a variety of ways. In many areas, small, efficient luxury vehicles become fashionable, like the VW Beetle II, fifteen years before. In some European cities, only 'small and compact' cars are allowed to enter within city limits, while in some Asian cities, private cars and light trucks are totally banned from entering the city at certain times of the day. The new generation of vehicles, brought out badly by the auto industry in 2005, but now vastly improved, finds an interested market, particularly in developing countries. Global oil demand starts to level off.

Oil Volatility

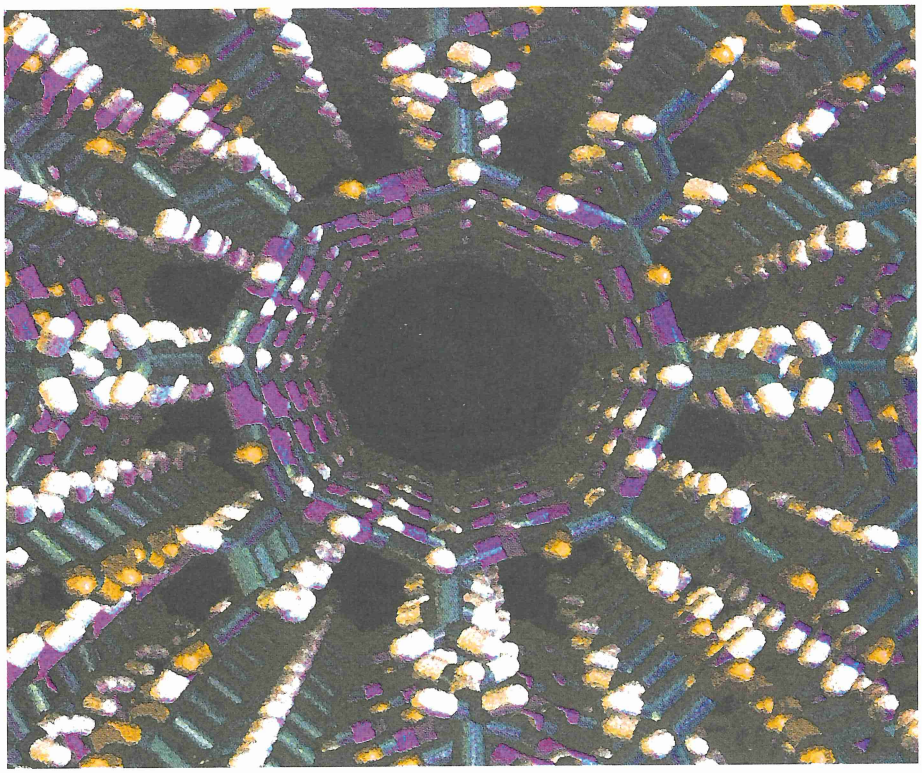
Oil price volatility is characteristic of ***People Power***. OPEC enjoys periods of cohesion followed by disagreement and unexpected interruptions to production – and all of these factors contribute to oil prices that fluctuate within a broad band of $10/bbl to $30/bbl.

Because OPEC members cannot take concerted action to limit production, oil prices remain weak through to 2000, hovering in the $12/bbl to $16/bbl range. Stagnant demand during the 2000-2002 Millennium Recession further weakens prices.

Shock Box:* Energy Storage

By 2015, the late 1990s discovery that massive amounts of hydrogen could be stored utilising nano-technologies fundamentally changes the structure of the energy supply and distribution system. Solid fuel cartridges, capable of powering a fuel-cell vehicle 1200 miles between replacements, or of providing heat and power to a household for one year, eliminate the need for fuel-filling stations and gas and power distribution systems. Retailers simply monitor fuel cartridge sensors and deliver replacements to homes and businesses when necessary.

Hydrogen production costs also fall dramatically as the full range of renewable energy sources start to be utilised: solar, wind, wave, biomass, and run of river hydroelectric. These developments, combined with ubiquitous satellite communications, also break the bounds of centralised energy supply and distribution systems, allowing much wider dispersion of human settlements.

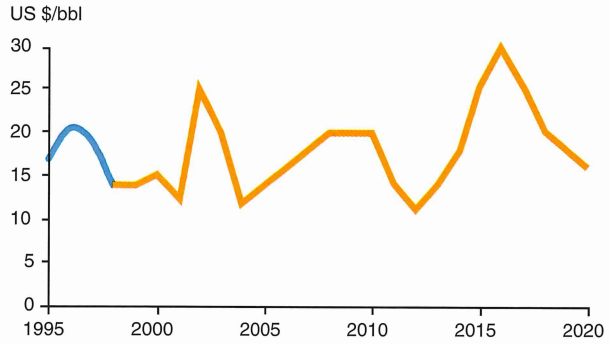


Nano-tube storage

**Unlike ordinary scenario 'boxes', which focus more deeply on a particular subject, or offer historical background, a 'shock box' describes relatively improbable events which, if they happened, would have a high impact.*

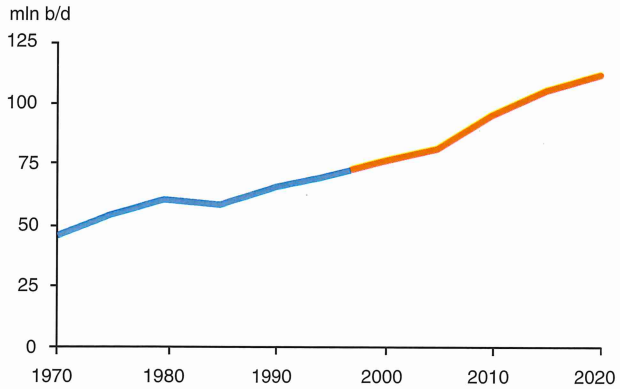
In Nigeria, reduced national income as a result of lower oil prices in 2002 has exacerbated unrest. Following riots and looting in Port Harcourt, the military again seizes power, despite warnings of sanctions from the US. The EU and US immediately place an embargo on the import of Nigerian crude. In Algeria, unrest and rioting cause the temporary closure of export terminals. The sudden loss of 3 mb/d production from world markets causes prices to shoot up to $26/bbl in 2002. In this volatile environment, National Oil Companies look for partners with proven track records in rapid project realisation and in enhancement of recovery through advanced skills and technology.

Oil Price



With economic recovery following the global recession, demand picks up strongly, and by 2008, growth rates are approaching 4% per year. Although demand growth is high, it is not sufficient to absorb rapidly increasing production from Central Asia and other parts of the world. Again, prices fall, but stabilise when OPEC members manage to come together to restrain production. Russia, although not a member of OPEC, also agrees to a quota limit.

Oil Demand



Shortly after 2010, as concerns over the environment spread, growth in oil demand moderates to 1.5% per year. In spite of relative OPEC cohesion at this point, over-capacity weakens prices. However, after a decade in which oil prices have averaged some $18/bbl, non-OPEC production is at a maximum of 45 mb/d, with a gradual decline in resources now clearly seen. Similarly, non-Gulf OPEC countries are either nearing their peak production

potential or, as in the case of Indonesia, are in decline. The Gulf States, with a 35% share of production and over 50% of remaining conventional oil resources, see an opportunity to achieve high prices through limiting production, as other producers would be unable to respond by raising production. They co-ordinate production, achieving prices of over $30/bbl for the next two or three years.

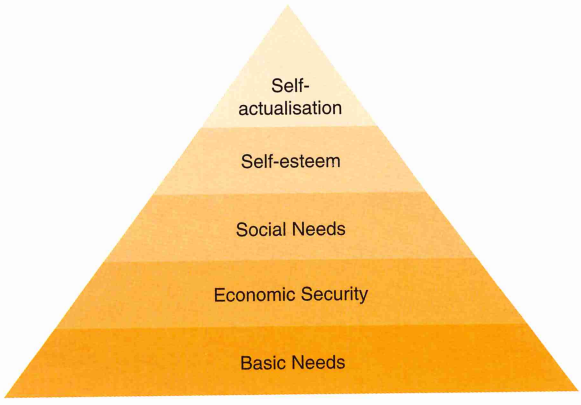
However, improved technology over the past decade has reduced the cost of exploiting unconventional oil resources to the $10/bbl to $15/bbl range, effectively increasing remaining oil resources from 1 trillion barrels to 2 trillion barrels. Bio-fuels are also widely available at under $13/boe. As these new sources of energy are commercialised, oil prices are gradually pushed to below a new ceiling of $15/bbl. By 2020, total demand for liquid hydrocarbons has plateaued at just over 110 mb/d.

The New Corporation: Core Purpose and the Power of People

Beyond Basic Needs

As people become wealthier and better educated, and as their basic needs for economic security and safety are met, they seek to fulfil needs at a higher level – needs for self-esteem, for example, or for 'self-actualisation'. So many people are moving beyond the mere daily struggle for existence that what could be taken for granted in the past about the behaviour of people in the aggregate can no longer be depended upon to predict consumer or employee behaviour. It's not simply that people are more complicated than they were in the past, but that they have the opportunity to express themselves through their choices rather than simply follow the crowd or accept what is on offer.

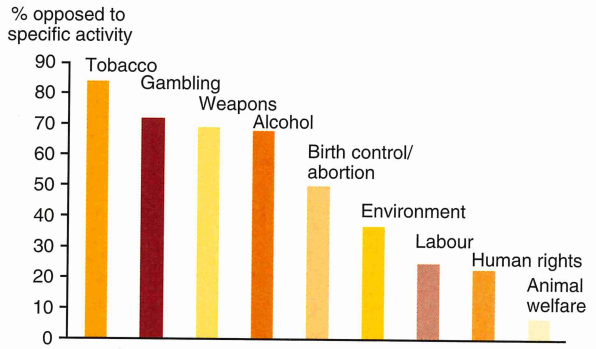
Maslow's Hierarchy of Human Needs



There is considerable evidence that in the wealthy OECD countries, economics is beginning to play a significantly lower role in determining people's attitudes and behaviour. In the UK, for example, the correlation in opinion polls between voting intentions and economic optimism is now close to zero. In Germany, there has been a steady increase over many years in the number of people saying they prefer leisure to work.

One result of this mass migration up the hierarchy of human needs is that in making choices, more customers are beginning to express their values, not just to meet their needs for convenience or the lowest cost—for example, 40% of European consumers claim to have boycotted a product as a mark of their disapproval of the product or company involved. Ethical investment is another means by which people attempt to influence a corporation. In 1997, for the first time, more than $1 trillion of assets in the US were under management in socially and environmentally 'responsible' portfolios. This represents 9% of the $13.7 trillion of investment assets under professional management in the US. In the UK, the funds managed by ethical unit and investment trusts – although smaller, at £1.5 billion, or about 1% of all UK unit and investment trust funds – are also growing rapidly, having more than doubled in three years, while the total funds increased by only about 50%.

US: Ethical Funds



Source: *Social Investment Forum, 1997 Report on Responsible Investing Trends in the United States*

Behaviour that reflects choices based on values rather than price makes the customer appear more complex and even irrational. The old market segments that used to explain customer preference or voter choice no longer apply. One reason is that the boundaries between roles are becoming blurred. Employees, in addition to belonging to citizens' interest groups, such as environmental or animal rights organisations, are increasingly becoming investors. When

pensions are included, the average US citizen, for example, now has a bigger investment in stocks than in his or her house. Share option schemes, too, are gradually muddying the distinction between employee and owner: US households now own an estimated $800 billion-worth of such options – ten times as much as in the late 1980s. In the past five years, the percentage of major companies granting stock options to employees other than top managers has almost doubled to 11%.

The portfolio of identities that defines individuals in ***People Power*** contains not just roles – worker, family member, citizen, investor, volunteer, and consumer – but attitudes and values that can now be expressed. To serve these new, self-actualising customers poses many daunting challenges for businesses.

Consumer Goods: A New World

Some of the items used in calculating the 1947 UK Retail Price Index

Ox liver. Rabbit. Cooking fat. Candles. Golden syrup. Rolled oats. Corsets. Perambulator. Table mangle. Tennis racquet. Gramophone record. Tin distemper. Hard soap. Soda. Wireless license. Ticket to football match.

Some of the items used in the 1997 RPI

Fromage frais. Tea bags. Mineral water. Frozen chips. Burgers. Ethnic takeaway. House price index. Credit card fees. BT charges. Private education fees. Tinned dog and cat food. Jeans. Calculators. Internet charges. Indigestion tablets. Condoms. Delivered flowers. Eurotunnel charges. Colour TV. Portable CD player. CDs. Computer disks. Camcorder. Satellite TV subscriptions. Computer games.

Reputation: From Trust to Care

In a world of agreed rules, impartially enforced, consumers simply expect all companies to behave according to the same standards. But ***People Power*** is a world of patchwork rules and no over-arching framework, so reputation is key to success. Reputation has many facets, which are usually the responsibility of different parts of a corporate organisation. But to a customer, or indeed an employee or shareholder, these facets are seen as indivisible.

The most obvious facet is the product quality itself. Another consists of the service elements that the customer experiences – sales, or maintenance, for example. Brand includes these and other aspects of the customer experience, and customers expect particular brands to guarantee a certain quality of goods and services.

But increasingly, people also look to the reputation of a company in terms of its behaviour in relation to the environment, human rights, and other community values. To position the brand and gain value from reputation is a difficult task in a world of political consumers. But many companies are already positioning themselves to take advantage of these shifts. Axel Johnson, who have extensive retailing outlets in Sweden, carefully research changing customer experiences and stock their shops accordingly – bananas that are less chemically farmed, for example, or domestic meat from well-cared-for animals. This kind of action has resulted in increases in market share and profit for the company.

Large, powerful companies with solid reputations have an advantage in dealing with governments in ***People Power*** because governments prefer to deal with a few players who can be trusted and who have demonstrated a concern for the countries within which they operate. Other companies, too, often prefer to deal with companies who have established reputations, for example, for technical leadership, efficiency, and integrity.

But there is a disadvantage, too, in being visible, because consumers in this world often politicise their purchase decisions. Many 'vigilante' consumers organise into groups or join larger environmental or social action groups for 'anti–' campaigns. And the campaigns themselves are more effective as people become increasingly savvy about public relations and the use of the media. Media outlets are cheap and ubiquitous, and the internet provides easy access to large numbers of like-minded consumers. Big companies make good targets for the new consumer interest in values. For large integrated companies, there is an added risk that an event in one business can damage the reputation of the overall company and affect outcomes in a different business of the company. So reputation

The Fox

In a small town outside Chicago, industry polluted the Fox River in the 1970s to the point that all the migratory birds went away, and the fish got cancer. Local environmental groups tried to put pressure on the companies along the river who were dumping toxins and pollutants, to no avail – until a masked figure appeared on the scene. Modelling himself on the television hero Zorro, who appeared in black with a mask, a sword, and a cape, 'The Fox' dressed in black and dumped garbage on the front entrances of all the industries polluting the river. He naturally got into all the newspapers and became a local cult figure. Everyone knew he was a local person – a businessman or a teacher, perhaps – but very few knew his actual identity. He brought such attention to the problem of pollution in the river that local ordinances were passed, and the companies were forced by a mixture of law and public outrage to reform their bad practices. Today the river is clean again, the birds have come back, the fish jump in the evening, and foxes live in the wetlands, their kits playing on the grass in the twilight. The river scene is idyllic – all because one activist fired the imagination of ordinary people.

becomes more and more inseparable from brand, and more and more difficult to isolate in one part of the business.

In a world where the rules are not clearly set out, companies are also subject to increasing pressure from legal actions. Even large companies can be brought down if their mistakes generate sufficient interest from class-action lawyers, who behave like piranhas when they sense blood in the water.

Beyond Basic Products: The Corporation and Society

As customers, investors, and employees change, corporations, too, must change their approach to doing business. They can no longer succeed if they are isolated from their environments as worlds unto themselves. They must become active parts of their surrounding communities and of society as a whole, not only because it is expected of them in ***People Power***, but because in order to succeed, it is necessary to be very close to the customer and the customer's concerns, even if the particular business does not deal directly with the end-user.

Only a few years into the 21st century, successful corporations have gradually begun to take on a new role in addition to their traditional one of making profits:

Reputation, Social Responsibility, and Human Assets

16 Reasons for a Firm to Expend Effort on the People Dimension of Business

1. Liability. Texaco paid over $100 million in a class action suit by black employees who were able to show that Texaco had no effective complaints procedure and that blacks were systematically underpaid. Texaco had tried to stay apart from 'pro-diversity' policies; but Mobil was more activist, and it was, in part, figures Mobil collected about overall black promotions in the oil industry that were used in the class action suit against Texaco. In some countries – the US, for example – liability is limited if 'reputation-maintaining' procedures are in place.
2. Insurance costs. Insurance companies are increasingly aware of a company's environmental and social reputation and factor these into its costs.
3. Hiring and retaining creative staff. The man who invented beta-blockers for ICI left the company not because he wanted higher pay, but because he wanted to be given more freedom as a creative worker. He moved to Smith, Kline and invented anti-ulcerants, one of the most profitable pharmaceuticals of the century.
4. In a service economy, companies can't afford to have customers dealing with dissatisfied workers.
5. Diversity pays. Narrow, homogeneous boards can easily miss insights that wider boards would see – for example, UK Sock Shop or Tie Rack thinking US rail stations were as low-crime as UK ones.
6. With global comparisons available, there is an increasing tendency to 'level up' to best practice in many areas. For example, an Italian firm recently failed in it's attempt to obtain a New York Stock Exchange listing because of its payments for bribes in Italy.
7. Consumers easily boycott a disliked firm. In a 1995 UK Survey of 30,000 retail customers, 35% answered yes to the question: "Have you boycotted any product because you are concerned about animal rights, the environment, or human rights?"; 60% answered yes to the question: "In the future, would you boycott a shop or product because you are concerned with these issues?"
8. NGOs increasingly target choke points in the distribution chain. For example, Greenpeace is working against logging of first-growth forests in British Columbia by persuading UK retailers to cancel Canadian imports of hemlock

they are seen to be one of the key institutions in making the world 'a better place' by spreading market capitalism, encouraging political pluralism, providing employment, and modelling cultural diversity and environmental concern wherever they go. These new expectations cannot be ignored: the business of business in ***People Power*** is more than business.

and cedar that do not meet the standards of the Forest Stewardship Council, which support sustainably produced timber.

9. Pollution controls put in place early on can yield more productive processes and help avoid dangerous spills, as Dow discovered in 1993 when it measured the savings from a Waste Emissions programme begun in 1986: $140 million through raised efficiency.

10. Prototyping the full consumer-use cycle of a product can save costly errors. P&G invested in long-term studies of a particular cleaning chemical and discovered it was too harsh. Unilever skipped this step and introduced its clothes-munching Persil, with disastrous results.

11. Regions that prefer socially responsible corporations can award contracts on that basis – thus, British Airport Authorities, which had spent a lot on good employee relations and environmental 'sensitivity' in the UK, was chosen for a major Australian contract because of its reputation for social responsibility.

12. Companies attract excellent employees when they have goals those employees respect. For example, one reason top researchers are attracted to join Merck is that people believe Merck is really sincere when it says it is trying to produce products for the good of mankind – after all, it 'lost' profit by producing and then distributing for free a drug for a tropical disease.

13. Activist pension funds are insisting on more open governance and socially responsible behaviour.

14. A large ICF Kaiser study found that, all other factors being held constant, firms known for responsible environmental activities had easier access to capital.

15. Firms with a good reputation can readily enter fields where brand transfer is based on trust. People will pay a premium for reputation – for example, lower interest rates from high-reputation financial institutions.

16. Current social attitudes increasingly demand that firms lower barriers to access, especially access to internal information. Many California firms produce governance details on the internet. Reports on society and the environment are rapidly becoming the norm. A survey carried out by the International Institute for Industrial Environmental Economics at Lund University showed that in 1993, 15% of Europe's largest companies produced an environmental report; two years later, 23% did so.

'Tailorism'

In the early 20th century, businesses learned how to mass-produce products in the most efficient way – 'Taylorism'. But now businesses must go beyond cost leadership to a new relation to the customer, one that is shaped by the desires and needs of the customer and that requires businesses to design individually tailored solutions in response to these needs. This new 'tailorism' relies on knowledge not only of the customer's present needs, but of the customer's values in order to predict

future needs. One of the most common of the values that drive 'tailorism' is the concern for time. People like smart products that require less human intervention and that adapt to their environment in order to save time and to improve the quality of life. E-commerce is ubiquitous. Complexity offers opportunities to bundle and thereby to simplify for the consumer – thus adding value. But it's also easy to place wrong bets on what customers will want in this world.

In order to design well tailored solutions to customers' problems, businesses have to understand not only the customer and the customer's business, but the buying occasion – for example, most consumers find it easier to buy a new rug or a car stereo in the context of buying a house or a car rather than separately. Businesses must discover when and why the customer is willing to pay a premium for service or for convenience or for embedded values, such as no animal testing on a product. Companies must make much sharper distinctions between individual customers – and this skill requires a closer understanding of and relationship to the customer, with lots of listening and the ability to ask the right questions. Companies such as industrial fuel suppliers, which do not deal directly with end customers in the market, must also respond to 'tailorism' as their customers attempt to meet the ever-changing demands of a diverse set of markets. In ***People Power***, successful corporations learn new ways of meeting customer needs, in many cases by figuring out how to help their customers meet their own customers' needs. This kind of focus on the 'customers of our customers' is characteristic of the highly specialised world of ***People Power***.

Resilience

Corporations in ***People Power*** need a resilient financial structure designed to withstand shocks and to adjust to changing conditions. Companies must take advantage of volatility, not merely survive it. While big companies have a global infrastructure advantage when it comes to resilience, not all of them are capable of combining their size with the necessary speed and creativity required in ***People Power***. In addition, companies must have the diplomatic capability to deal with heterogeneous, often-changing rules and systems. These diplomatic skills are

quite different from the entrepreneurial skills needed to relate effectively to the customer. However, in the world of ***People Power***, relationships with both customers and governments are important, and companies must find ways of developing both entrepreneurial and diplomatic skills. Highly geared or narrowly focused companies may have a customer advantage, but in an extremely volatile business climate, will not survive.

Creativity and Learning

In ***People Power***, success lies in good ideas, and the value of invention is crystallised almost immediately. Scientists are no longer content for companies or universities to profit from their inventions – they want the money, and they want it sooner rather than later. And in this world, the expectations of future profits from a company's business ideas are reflected very quickly in the company's market value. For example, in 1998, Ballard – a small Canadian company with proprietary low-temperature fuel cell technology suitable for use in vehicles, but with no real market – had a stock market value that was greater than US Steel.

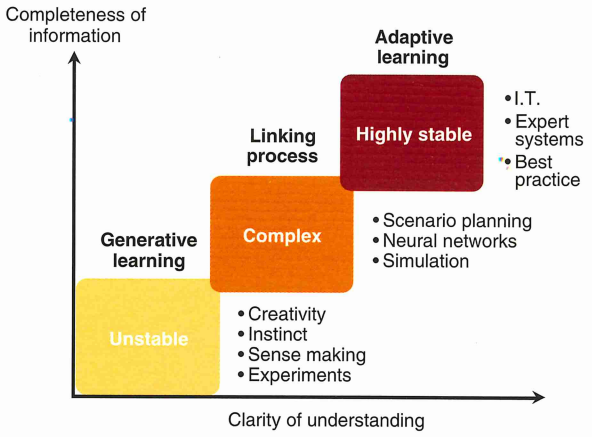
"Two management movements – management by objectives and performance-related pay – became universal cults. Bureaucratic information-based reward systems are now a booming business. Yet their underlying assumption is false."

Prof. John Hunt, London Business School, March 1998

Successful companies in ***People Power*** recognise that different areas of business require different types of learning and are able to manage this diversity. Where, for example, there is incomplete information and lack of clarity, a type of learning must be encouraged that involves creativity, instinct, and many experiments. For example, when Chrysler first came up with the concept of the People Carrier (Mini-Van), the initial market research was highly discouraging. However, putting its faith in one man's gut feel, Chrysler continued to develop the project, which was eventually so successful that the fortunes of the whole company were transformed. Where, on the other hand,

there is clarity and relative completeness of information, a quite different form of learning is appropriate, involving highly stable expert systems and a good knowledge of best practice. The complex processes of scenario planning, neural networks, and simulation come into their own in situations between these two extremes. In ***People Power***, a single organisation will face many different types of business circumstances – and so it must be able to tailor the most appropriate organisation, and the most appropriate planning system, as well as the most appropriate competency profiles for each situation.

Learning: Tailored Solutions



Source: *Monsanto*

Empowered Front-Line Entrepreneurs

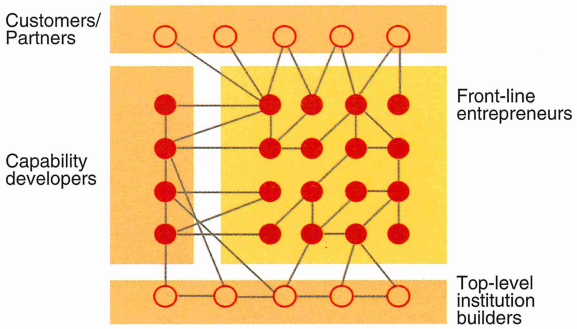
Skill at managing knowledge and relationships is necessary in the business world of ***People Power***. Only people close to the customer can understand their needs – but they must be empowered to meet these needs as well. Successful firms are good at setting global guidelines that support significant variations by local companies.

Success in ***People Power*** comes from bringing together the most talented people, under leadership that both designs the broad objectives of the organisation and supports the staff in the pursuit of these goals. Empowering individuals is necessary because this is a world in which the most competent people are looking not just for basic economic security but for opportunities to grow and increase their own personal 'capital'. In addition, enough financial capital is available in this world to back entrepreneurs with good ideas, so companies that want to hire such people have to offer a similar kind of backing for individual growth and experimentation. Corporations must build cultures that can harness the assets of diversity rather than pouring diverse people into the same mould.

Leadership that Guides and Supports

The increasing emphasis on empowered front-line entrepreneurs means that it is insufficient for the top management of a corporation to be merely efficient managers or to make tough decisions. They must, in addition, now lead through vision and inspiration. Instead of simply focusing on operating decisions, corporate leaders now act as venture capitalists, allocating capital to sections of the business that have the capacity for success or for significant experimentation. In addition, they assume a new role as coaches, inspiring individual initiative and creativity, and leveraging pockets of entrepreneurial activity by building learning systems.

A New Organisational Model



Source: *Ghoshal & Bartlett, The Individualised Corporation*

Where specialised functions, such as marketing, business environment analysis, or legal affairs, are still undertaken inside the organisation, they are increasingly carried out by internal consultancy teams, separate from the running of the businesses themselves. These 'capability developers', who sell their services to clients across the organisation, must demonstrate that their understanding of the context of the company's business is sufficient to justify their continued presence inside the organisation.

The three different roles of leadership – guide, entrepreneur, and specialist – require three quite different sets of skills and personalities. No successful organisation in ***People Power*** would attempt to construct one template for all its employees. For selection and development of staff, as for so many aspects of ***People Power***, effective tailoring is key.

Powerful and Useful Core Purpose

What guides the empowered front-line entrepreneurs is not only their targets, but also the corporation's clarity of identity, purpose, and values. Leaders work to organise teams around a core purpose that is so powerful that it not only attracts the best people to the organisation but also provides a guiding beacon to employees and customers in a world that is increasingly complex and continually changing. Such leaders also clearly establish the boundaries of activities and clarify the style and way these activities are carried out.

"All we can do is bet on the people whom we pick. So my whole job is picking the right people."

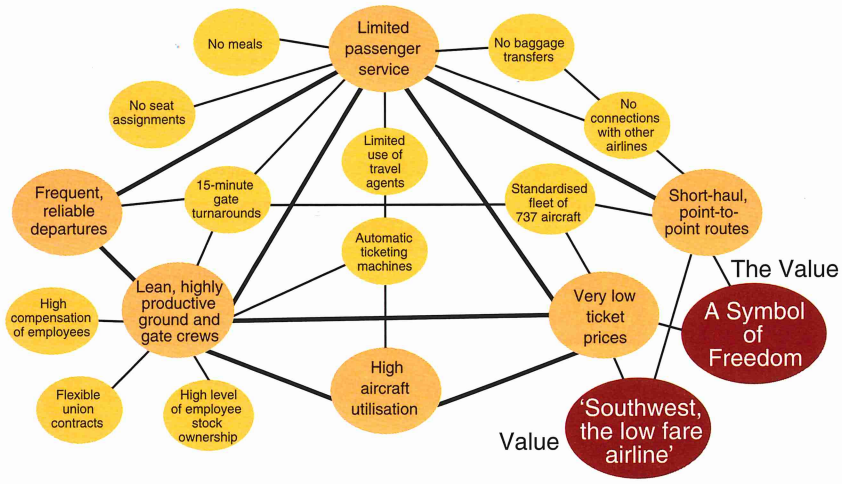
Jack Welch, CEO GE

Organising such teams requires companies to learn what the relevant intangibles are and how to measure them, especially because in ***People Power***, human capital is the key to corporate success. Being the cost leader is not enough in this world – the products and services themselves must speak to the values that consumers increasingly bring into every part of their lives.

Core Purpose as Competitive Advantage

Southwest Airlines is an example of a company that has succeeded in organising itself around a clear core purpose – in this case, providing low cost, dependable service. This purpose has led the company to make a number of unorthodox

Southwest Airlines' Activity System



Source: *What Is Strategy?, Michael Porter, Harvard Business Review*

decisions. For example, it offers no baggage transfers, no connections with other airlines, no meals, and no seat assignments. Although it is a low-cost airline, its wages and opportunities for employee stock ownership are among the best in the industry. It pioneered ticketless travel. Customers know that when they fly with Southwest, they will receive highly efficient, no-frills service; there will be a 15-minute gate turnaround; and if they miss one flight, there will be another soon. The entire delivery system is built around the core purpose of providing low fares and dependable service. This is the *value proposition* offered by Southwest Airline; but the *value* it promotes and that it uses as a badge of its identity is 'freedom' – connected with everything from low fares, which allow almost everyone to fly, to ticketless travel, to a spirit of creativity that manifests itself in the varied and entertaining safety instructions performed by the flight attendants.

If you have enjoyed the scenarios, you might enjoy the following ...

Diamond, Jared. *Guns, Germs and Steel.*

Foreign Affairs. 75th Anniversary Edition, September/October 1997.

Fukyama, Francis. *The End of Order.*

Fukyama, Francis. *Trust: The Social Virtues and the Creation of Prosperity.*

Ghoshal, Sumantra and Christopher Bartlett. *The Individualized Corporation.*

Landes, David. *The Wealth and Poverty of Nations.*

Slywotzky, Adrian J. and David J. Morrison. *The Profit Zone.*

Yergin, Daniel and Joseph Stanislaw. *The Commanding Heights: The Battle between Government and the Marketplace that is Remaking the Modern World.*

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