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**EXPO 2000 / OECD FORUM FOR THE FUTURE  
21st CENTURY ECONOMIC DYNAMICS: ANATOMY OF A LONG BOOM**

**KEY POINTS of the Discussions**

**Frankfurt, 2-3 December 1998**

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**EXPO 2000  
OECD FORUM FOR THE FUTURE**

**Conference 2 on**

**“21st CENTURY ECONOMIC DYNAMICS: ANATOMY OF A LONG BOOM”**

*Frankfurt, 2nd and 3rd of December 1998  
Hosted by the DG BANK Deutsche Genossenschaftsbank AG*

**KEY POINTS  
of the Discussions**

Looking to the future on the threshold of a new millennium, the conferences in the EXPO 2000 OECD / Forum for the Future series on "People, Nature and Technology: Sustainable Societies in the 21st Century" consider four key areas of human activity: technology, economy, society and governance. The conferences explore possible trends in the key variables and analyse different development paths in order to expose some of the main policy options likely to be effective in shaping the future. Each conference will only provide a partial analysis of underlying trends and policy directions. However, taken as a whole the conference series is intended to provide a comprehensive foundation for assessing the critical choices facing citizens and decision-makers at the beginning of the next century. (For more information: <http://www.oecd.org/sge/au>)

## **Executive Summary**

*After a day and a half of discussion, conference participants concluded that the world stands on the threshold of a tantalising opportunity - the possibility of a sustained long-boom over the first decades of the next millennium. A confluence of forces -- particularly the transition to a knowledge society, the emergence of a global economy, and the pursuit of environmental sustainability -- could come together to propel huge improvements in wealth creating capacity and wellbeing worldwide.*

*The transition to a knowledge economy and society over the next few decades opens up the possibility of massive productivity gains. Equally significant stimulus for a long-boom could emerge from the creation of much more deeply integrated global markets for goods, services, capital and technology. Finally, the long-boom could be sustained by a co-operative push to redirect the path of humanity's relationship to the environment -- a change entailing massive investments in new, less resource-intensive patterns of consumption and methods of production. Unleashing these dynamic forces was seen as hinging on two basic policy thrusts.*

*First, economic dynamism in general and a long-boom in particular will demand exceptional efforts – nationally and internationally – to encourage continuous innovation and high levels of investment. This likely means the introduction, beyond the familiar orientation of macro-economic and structural adjustment policies, of a range of initiatives aimed at establishing the rules and frameworks appropriate to the transition to a sustainable global knowledge economy. National and international laws will need to address protection of ever more diverse forms of intellectual property and grant universal access to secure payment systems so that even the smallest local supplier and most remote consumer have easy access to global markets. Transparency of financial, commercial and environmental standards will have to be pushed to a level that not only allows full market integration, but also creates the incentives that accelerate the shift to less resource intensive forms of production and consumption.*

*Second, with the prospects for a long-boom contingent on the realisation of a leap in the levels of international co-operation -- be it for knowledge diffusion, market integration or environmental transformation -- decision makers will have to consider bold new approaches to negotiating and reconciling conflicting interests and divergent needs. Making choices for the planet as a whole rather than in the interests of just one nation or region will demand institutional innovations – locally and internationally - that can inspire allegiance and involvement by the billions of people affected by the decisions. Applying the technological and organisational solutions of the knowledge economy to broader social needs, easing the resistance of the various regional and generational losers when markets integrate, and diluting the sovereign power to pollute are all initiatives that can only move ahead if there are more effective means for global governance.*

*In conclusion, the anatomy of a long-boom revealed in clear detail both its plausibility and how to make it happen. Such a vibrant development trajectory could make the best of the possibilities open to humanity on the eve of the 21<sup>st</sup> century. But chances are not always grasped. The last few decades have also witnessed much deepening of inequality and exclusion. Reversing these trends could be one of the greatest benefits of a long-boom and one of the main reasons for making the exceptional economic and social policy efforts required.*

## **Introduction**

One of the most promising and commonly evoked vistas of the future centres on the dazzling potential of new technologies. From this perspective many of today's profound problems, like unemployment, malnutrition, disease and global warming could be solved through the clever application of breakthroughs in computer science, genetic engineering, nano-device construction and new materials creation. These hopes are not unlike those of a century ago, when the development and diffusion of technologies like electricity, the radio and the internal combustion engine promised a new era of human well being.

Only, with the benefit of hindsight, it is clear that realising the potential of late 19th century new technologies required major economic and social transformations. Extending breakthroughs beyond the inventor's lab, imagining new applications, realising broad diffusion of initially unfamiliar technology and achieving deep integration of cutting-edge techniques, all of these processes were both protracted and difficult. In the end, it meant changing many landmarks, from where and how people lived to what and how firms produced. This, in turn, entailed the overthrow of old patterns, entrenched expectations and accepted "common sense" notions, not to mention established management theories and hardened political realities.

What is striking is that similarly dramatic transformations -- economy and society-wide - seem once again to be a realistic prospect. This is the noteworthy conclusion of the last two Forum conferences. Although there have certainly been periods in the past when the outlook for humankind was filled with promise, participants at both conferences were of the view that the current conjuncture constitutes one of those rare moments when a confluence of diverse and numerous developments generate new, potentially radical opportunities. This is not because of the rather arbitrary turning of a date on a calendar, but because the historical conditions appear ripe. Far from being a forgone conclusion, for the necessary policies are highly ambitious and only just on the horizon for decision makers, humanity stands before the opportunity of reaping huge rewards if ready to undertake equally significant changes.

Reaching such an unconventionally strong conclusion can largely be accounted for by two factors - one is methodological and the other conjunctural. First, the method that Forum conferences adopt to explore long-term possibilities is not partial, nor linear as is common and justified for shorter-term forecasting. A systemic and inter-disciplinary approach is essential for identifying the opportunities for more radical evolutionary and intentional transformations. Adopting this methodology in the present conjuncture is the second source of the Forums' striking conclusion. Some may attribute the sense of exceptional opportunity to end-of-Century jitters and obligatory optimism by governments at the launch of a new millennium. Such scepticism is only natural and is in part what motivated the Forum's analytical agenda. However, the final assessment confirms a powerful convergence of technological, economic and global possibilities. The historical door does seem open to both a dramatic wave of socio-technical dynamism and the rapid pace of expansion that characterises a long-boom. Still, as the deliberations emphatically concluded, grasping these opportunities will take unusually effective policy efforts and a good dose of luck.

Details of the promises and perils of 21st Century technologies can be found in the publication that emerged from the previous conference. The following pages offer a summary of the proceedings of the second conference that explored the possibility that a long-boom might push the pace of economic development above the historical average over the next couple of decades.

## **Anatomy of a Long-Boom**

Long-booms are exceptional events. There have been relatively few in the history of human economic development. For example, the two rapid growth periods of the last 130 years - one in the latter decades of the 19<sup>th</sup> century and the other after World War Two - made major contributions to pushing the long-run historical average to a higher level. An anatomy of these past booms reveals two basic features. First, that a boom's above average pace of development is part of a longer, century -spanning flow. This powerful tide provided by long-run economic dynamism is a distinct phenomenon that should not be confused with the shorter cyclical expansions and contractions that fluctuate around the historical trend. Second, that there is an inter-dependent constellation of diverse forces that work together in a specific historical conjuncture to spark the unusually fast rates of socio-economic change and productivity growth that characterise a long-boom. Looking to the future, conference participants concluded that these two primary features which make up the anatomy of a long-boom appear to be present in the current context.

### **Long-run economic dynamism - systems harmony and dissonance**

Certainly strong growth in investment, in the capabilities of the labour force and in trade is crucial for very long periods of sustained economic development. But the dynamic element that drives change forward is the systemic chemistry that either catalyses the process or stifles it. Recent events cast the role of system functionality or dysfunctionality into stark relief. The dire consequences of systems failure are evident, for instance, in the demise of Soviet command planning or the post-1970s plunge of many "debt crisis" countries into even deeper poverty. As for the immense benefits of system functionality, it can be seen in the post-World War Two convergence of Europe and Japan to American income levels and the significant economic take-off of many Asian countries over the last two decades.

Conference participants argued that the historical record shows that long-run economic dynamism is orchestral. Like the single notes and chords of a melody that are then woven into a polyphony, a dynamic economy arises from a constellation of factors that together create a symphonic system. And, as with the multiple threads of polyphonic music, there can be harmony and dissonance as different melodies change, inter-twine, catch-up and fall behind. Thus the current "Asian crisis", with its dissonant chords confirms rather than denies the contention that economic dynamism arises from the combination of many distinct and diverse technological, institutional and cultural elements into a functioning system. Indeed, the ongoing development of an innovation driven economy and society depends on a process of falling-behind and catching up, a kind of disequilibrium amongst and between scientific breakthroughs, social structures, organisational models and value systems.

Taking this systems perspective also reveals the specific attributes that were essential for sustaining economic dynamism over almost two centuries and many short- to medium-term crises. The basic characteristics that militate against stagnation and renew the capacity and desire to change over time can be grouped into three areas: the aspirations and imperatives that emerge from the co-evolution of democracy and a competitive marketplace; the capacities to innovate and adapt that are allowed to flower when there is pluralism, transparency and openness; and the range of cultural values such as a respect for both civil liberties and societal obligations that facilitate a perpetual search for ways of balancing co-operation with competition, security with risk taking. Succinctly, long-run economic dynamism is sustained by combining adaptability and innovation with good information based on clear and efficient incentives and signals. All of these traits are, in turn, shaped by the myriad institutions, explicit laws and tacit rules that set parameters for everyday behaviour.

Of course, systems that are hierarchical, closed and riddled with intolerance are capable of short bursts of development, particularly if the technological, organisational and social structures are imposed from

above during wartime and/or a period of forced industrialisation. But, as the record of this century shows, these are not dynamic systems capable of sustaining long-run economic development. Furthermore, as is gradually becoming apparent, the uniform and hierarchical formulas of the past are not only less desirable but are also likely to be much less efficient in the future. Meeting a diversity of demand is breeding an ever-greater diversity of supply, which in turn depends on the encouragement of initiative, customisation and a relaxing of centralised controls. In fact, as many conference participants emphasised, the ways of realising the characteristics that sustain long-run economic dynamism change over time. 19th century democracy and trading institutions offered tremendous scope in that era, as did the organisations of mass-production, mass-consumption and mass-government that have dominated the 20<sup>th</sup> century. However, these institutional and organisational forms are hardly adequate to the conditions and tasks of the 21st century.

End-of-the-millennium sentiment has led some people to declare the triumph of a single model of economic dynamism over all other approaches. This perspective overlooks the rich diversity of specific economic models and mistakes the common attributes of long-run economic dynamism with the distinct methods for achieving it. A related error is to assume that a dynamic economy will necessarily give rise to the above-average growth rates of a long-boom. This confuses the pre-conditions for higher-than-average rates of economic development with the specific catalysts and constraints that will determine actual outcomes. Conference participants were quick to underscore the difference between their relatively sanguine expectation that the economic dynamism of this century would continue into the first decades of the 21st century and their assessment that a new long-boom is plausible but would require an exceptional effort by policy makers.

### **Catalysts and constraints of change**

Sustaining the prevailing tide of long-run economic dynamism is the necessary but not sufficient condition for sparking a long-boom. A confluence of historically specific technological, economic and social factors need to fall into place. On this score conference participants concurred that it is imaginable that such a combination of factors could come together so that the global average rate of per capita income growth could be pushed over the 3% mark for the next few decades. To reach this target sufficient progress will need to be made in three critical areas: the emergence of the knowledge economy and society; a much fuller integration - at a global level - of goods, services, capital and technology markets; and the need to avoid excessive environmental costs. That the combination of these three factors could trigger and sustain a long-boom was not in doubt. What is much less certain is the extent to which progress in each area will be sufficient and sufficiently complementary to produce a long-boom. Here the outcomes will depend on the strengths and weakness of the various catalysts and constraints to change.

Regarding the first set of forces, the transition to a knowledge economy and society, conference participants did not question that this transformation was already well underway. A clear parallel was drawn to the powerful growth-inducing impact of this century's transition to mass-production, mass-consumption and mass-government. Similarly, changing to an economy dominated by the production and consumption of intangibles could ignite sufficient socio-technical dynamism to propel the above-average growth rates of a long-boom. The more difficult question was whether or not the catalysts would be sufficiently strong, not only to overcome the constraints but also to drive change rapidly and broadly enough. Just the prospect of laboratory breakthroughs and product innovations offers no assurance of wide diffusion or profound reorganisation of the ways in which people work and live. Furthermore, as is well known, the spread of information technology has so far failed to produce a productivity take-off.

Still, momentum appears to be building. The Internet and the explosion of electronic commerce are drawing attention to the enabling frameworks that will be essential to making a deeper and faster transition. If the global infrastructure for resolving problems like the lack of privacy safeguards, universally accessible secure payment systems and appropriate intellectual property laws is put in place, then there is a chance that even more decentralised market competition and knowledge diffusion will accelerate the transition process. However, improving the ease with which people and firms can enter markets - both on the demand and supply sides - is only part of the solution. Constraints such as limited access to easy-to-use "appropriate technology" and out-dated methods for creating, assessing and valorising human capital threaten to slow change or render it too shallow. Furthermore, if advances towards the intangible economy's radically new organisational patterns of production, consumption and human settlement remain modest it will also be harder to find ways to provide the compensation needed to overcome people's fear of both unfamiliar technology and the prospect of disruption to existing economic and social structures. From this perspective the transition to a knowledge economy and society is indeed likely to be one of the central forces behind the realisation of a long-boom.

The second set of changes that could power a long-boom revolve around the possibility of an accelerated and much fuller integration of global markets. The historical record and conventional economic theory point clearly to the catalytic potential when, for instance, the creation of a national or regional space allows the free flow of goods, services, finance and technology. Extended world-wide such integration offers huge scope to improve both the efficiency with which resources are allocated and competition of ideas that is the key ingredient for leveraging an innovation based economy. Blocking the way are numerous constraints from the on-going difficulties of resolving trade disputes within existing frameworks, through the slow progress in gaining coverage of investment in the multilateral system, to the difficulty of reforming or inventing institutions that can manage the volatility of global financial markets. In addition, the rapid and much fuller integration of markets required for a long-boom is unlikely to be politically feasible without mechanisms for compensating losers and introducing minimum standards regarding both human and workplace rights. Here social values play a decisive role. Negotiations to fully merge markets and establish much higher degrees of transparency, swiftly confront issues like the value attached to preserving national sovereignty or the willingness to tolerate other people's and new social norms. Certainly progress has been made, initially with the emergence over the last two centuries of national markets as integrated spaces and more recently with the gradual reduction or elimination of international barriers to trade in goods and services. But there is still a good distance to go. Ushering in a long-boom will require picking up the pace and widening the agenda, a challenge that is equalled only by the potential gains.

A third factor that could contribute to sparking a long-boom over the first few decades of the next century is the pursuit of environmental sustainability. This factor is unlike the other forces driving the long-boom where change occurs primarily through the search for new, unconstrained opportunities. Here, instead, it is the transformative role of coping with the constraining goal of significantly reducing human demands on the ecological carrying capacity of the earth that might provoke major changes in almost every aspect of daily life. What is exceedingly difficult from a policy perspective is to craft the environmental agenda so that it dovetails with the macro- and micro-level changes involved in moving towards a globally integrated knowledge economy and society. Reducing the future ecological footprint of wealth creation compared to today's industrial societies could, if the policies are designed appropriately, spur the development of a digital economy where most value added comes from intangible ideas circulating through vast global networks. Ecological policies that accelerate the diffusion of decentralised technologies, like fuel-cell power generation, and new infrastructure, like digital networks, could play an important role in improving overall productivity.

However, there were some who worried that aggressively moving towards an environmentally more sustainable economy and society might turn out to be more of a constraint than a catalyst. Using economic incentives to change behaviour and investment may be highly effective, as the oil shocks demonstrated, but the adjustment costs could be prohibitively high. These costs could end up compounding the drag exerted by trying to use global institutions that are still somewhat immature for the daunting task of negotiating the attribution of rights and the redistribution of income that would have to be part of a new form of global ecological citizenship. Nevertheless, most conference participants concurred that it is plausible and desirable to introduce policies that are conducive simultaneously to environmental sustainability and the long-boom's take-off.

Above and beyond the difficulties of activating the catalysts and overcoming the constraints, the prospects for a long-boom also hinge on the impact of systems harmony and dissonance, convergence and divergence. The implications for a long-boom are difficult to untangle because, on the one hand, there are times when the sharp conflicts of dissonant systems (e.g. US versus USSR) or harmony (e.g. integration of the EU) can help to propel experimentation and above average expansion. On the other hand, there are times when systems dissonance (e.g. civil war) or harmony (e.g. cartels) can cripple dynamism altogether. Similarly, alternate phases of convergence and divergence across and within systems can be an important mechanism for spurring dynamism by opening up learning, innovation and investment opportunities. Unfortunately divergence, as is evident from the unevenness of development and the growing inequality between rich and poor, is not automatically self-correcting. Closing the gap requires active and effective responses. Here, as in other areas, the key to the realisation of the long-boom will turn on making major policy breakthroughs.

### **Policies for Provoking a Long-Boom**

The anatomy of the long-boom showed that its prospects depend, first on the nature of the underlying "motor" systems, and second on the historically specific possibilities that serve as fuel. On both counts, the prospects for a long-boom would improve significantly if inter-systems harmony and convergence were to reign. Not because harmony is always superior to dissonance when it comes to moving systems forward or that convergence is possible without prior divergence, but because of the singular importance of the global diffusion of knowledge, institutions and objectives to realising a long-boom in the early 21st century. Provoking a long-boom will depend on policies that first, lead to an exceptionally strong and enduring period of systems harmony and convergence, and that second, succeed - at a global level - in simultaneously leveraging rapid technological progress, deep market integration and a productivity enhancing reorientation of micro-economic choices towards environmental sustainability.

Conference participants tested the feasibility of this ambitious policy agenda with a number of scenarios where - with slightly different policy mixtures - all of the various pieces might fall into place. Particular attention was paid to three trajectories: "growth leader", where a booming United States drives the world forward; "growth shift", where the world-wide diffusion of economic dynamism promises a swift convergence of much of the developing world with the developed; and "growth clusters", where a densely connected network of innovative metropolises and regions spur far-reaching global change. Common to all the scenarios is the expectation that there will be little divergence from the prudent macro-economic, fiscal and structural adjustment policies that are essential for creating a predictable and flexible investment context. Where the scenarios differ is in the policies - both national and international - that set the forces behind a long-boom in motion.

In the first scenario, uncontested and invigorated American leadership pushes the technological frontier forward at a fast pace worldwide. Innovation is unleashed along with hyper-competitive pressures and the

rapid creative-destruction of unconstrained economic flexibility. In policy terms, global frameworks for protecting intellectual property rights and foreign direct investment play an important role, but the primary focus is on national initiatives for facilitating radical changes in economic and social organisation in the pursuit of innovation based productivity and profits. New international institutional arrangements are not essential for success, leaving the negotiation of initiatives aimed at improving environmental sustainability on a slower track. There would, however, have to be a continuation of existing trends towards fiscal and monetary policies aimed at macro-economic stabilisation as well as increased liberalisation of trade in goods, services and finance. Economic incentives and social inequality could become even sharper than today.

The second scenario sees the emerging economies of Asia, Latin America and perhaps Russia jumping on a rapid convergence track to the productivity and income levels of OECD countries. Here the integration of world markets combines with the opportunity for developing countries to adopt global best practices. This, in turn, opens the door to a highly productive international division of labour. Most OECD economies prosper by focussing on intangibles and the adjustments to ageing, while the rest of the world leapfrogs along the industrial path to catch-up with the most advanced productivity levels. The policy key is at the international level, where the free flow of goods, services, finance, technology and skills enables the kind of investment and knowledge transfer necessary for take-off in the developing world. At the same time, with the deep inter-twinning of interests, it could become much easier to get the co-operation needed to effectively pursue global financial stability, environmental sustainability and improve the chances of the world's poor and excluded.

The third scenario envisions a long-boom powered by the dynamism of networked growth clusters - world spanning urban and regional hotspots of innovation and communication. Here business and local governments work in tandem to develop the infrastructure and connections that catalyse a high-growth cluster. In this scenario, productivity growth explodes as the efficiency enhancing impact of information technology finally pays-off. Geographic advantages that arise from proximity, like in Silicon Valley, work in tandem with the advantages of the virtual communities springing up on the Internet. Competition and innovation are fierce as knowledge sharing and access to inexpensive technology lowers start-up costs on the supply side and helps inform consumers on the demand side. Facilitating electronic commerce in ways that lower both entry and transaction costs will entail policy breakthroughs in the areas of global anti-trust, privacy, intellectual property and payment regulation and enforcement. Sustainability objectives could be served by the acceleration towards less resource intensive economic activity, but modest requirements for international co-operation under this scenario may limit progress on issues like climate change and global inequality.

Overall, the success of any of these scenarios will depend on the continuing spread of the basic systemic attributes that have underpinned two centuries of long-run economic dynamism in OECD countries. Indeed, this is likely to be the easy part since the three sets of generic attributes that played such a crucial role in the past do seem set to spread. More parts of the world are expected to grapple with the potent mixture of economic drivers and political expression that comes from combining democracy and competitive markets. The pluralism, transparency and openness that underpin the capacity to innovate and adapt are also spreading wider roots, albeit with considerable difficulty. Lastly, with respect to culture, there are signs that in the future people will not only accept but actively pursue and desire ways of creating a more densely networked world capable of finding a workable balance between co-operation and competition, identity and integration. Civil society around the world is on the path, albeit slowly and often at high cost, to getting better at seeking diversity and combining security with risk taking. These issues will be explored in greater depth at the third conference, 21<sup>st</sup> Century Social Dynamics, that is part of the Expo 2000 - OECD Forum for the Future series.

### **Traditional and innovative policies**

Still, pushing growth to the above-average rates of a long-boom has more stringent requirements and calls for a degree of policy initiative that goes well beyond current thinking. Initially, the need for global systems harmony and convergence puts a premium on the policy-makers' difficult task of articulating common goals and creating shared frameworks. This is a job that will be made even more challenging because a long-boom involves very high levels of experimentation and diversity that will, of necessity, generate gaps between the successful and failed projects. Bridging these divides will, in all likelihood, demand approaches towards encouraging risk taking and change that go beyond the traditional economic and social policy frameworks of the mass-production, mass-consumption and mass-government era. Innovative policies at the local, national and global levels will be essential in order to spur creativity in all domains, from the emerging markets of the knowledge economy to the virtual enterprises and communities of a fully networked world. But, unlike the protracted process of introducing the property and labour laws that underpinned industrialisation, launching a long-boom will require a rapid burst of enabling legislation covering everything from fine-tuning the protection of ever more diverse forms of intellectual property to the economic incentives for introducing environmentally less harmful energy systems. Policies at the top of the agenda for encouraging a long-boom will need to draw on the most promising opportunities that arise as real-world changes inter-mingle elements of the growth-leader, growth-shift and growth-clusters scenarios.

One way of coming to grips with the scope of a long-boom's ambitious policy agenda, at both the national and international levels, is to distinguish those areas where continuity is likely to be sufficient from those areas where innovative breakthroughs are probably necessary. Considering the national level first, there are a number of existing policy priorities that will continue to be important. Efforts to maintain macro-economic stability will continue to make an important contribution to reducing uncertainty, while on-going reforms meant to facilitate structural adjustment promise better functioning product, labour and capital markets. Both of these traditional policy thrusts will help create the conditions conducive to the very high levels of investment and resource reallocation required for a long-boom. Similarly, a continuation of the shift in government's role from direct provider of often uniform products and services towards a regulator of more diversified, decentralised and market driven provision will help trigger and sustain a long-boom by enhancing general economic efficiency and flexibility. Continued emphasis on reforms that help companies and governments to overcome the rigid, hierarchical methods of the past will also play an important part in spurring the introduction and invention of new products and services, new processes and technologies, and new ways of organising work and daily life. From this perspective, encouraging a long-boom involves persistence and vigour in the application of current policies.

Getting the long-boom up and running will also entail less familiar, seemingly radical initiatives in domestic policy. For instance fairly dramatic changes may be needed in areas such as social support systems where the old ways of balancing risk taking and security tend to stifle the much higher levels of adaptability, creativity and diversity that are essential to fuel the knowledge economy and society. In education, finally making the leap to lifelong learning will probably demand a breakthrough that pushes beyond the domination of existing educational institutions towards new ways of validating what people know regardless of how they have acquired such knowledge. In addition, developing new forms of risk sharing and social solidarity will require major advances in the networks, work rules and incentives that facilitate co-operation, particularly at the local level. Perhaps the largest leaps for national level policy will be those that occur in response to the challenge of reallocating responsibility. Such reallocation needs to occur not only between public and private organisations but also across local, regional and global levels.

Indeed, at the international level the primary breakthrough may involve moving beyond reasoning from national considerations towards a logic that embraces the interests of the planet as a whole. Thinking of the earth in its entirety does not in any way diminish the importance of continuing with the hard task of extending and deepening the multilateral processes aimed at: liberalising trade, investment and technology flows; improving corporate governance and financial transparency; and controlling various dangers such as infectious diseases and toxic chemicals. Only, a long-boom will require accelerated and often more ambitious, planet-wide approaches to a number of key challenges. For instance, realising the full potential of the information and communications technology, electronic commerce and the Internet will demand global solutions to such issues as consumer protection, safeguarding privacy, secure payment, verifying identities, attributing intellectual property rights and ensuring competitive market conditions.

Speeding up the intricate negotiations that pave the way to fuller market integration will push to the forefront debates over the most effective and acceptable solutions to the economic and social tradeoffs. Without consideration of both efficiency and distributive issues political success is probably unattainable. On the environmental front everything from global warming and bio-diversity to management of the world's fish stocks and oceans more generally will call for planet-wide perspectives and mechanisms capable of making policy choices that are both efficient and politically acceptable. Finally, nations are being asked to leap past old modes of thinking when it comes to the global application of the rule of law in order to achieve goals like reducing corruption and drug trafficking, prosecuting crimes against humanity or evaluating the attainment of the environmental goals spelled out in international treaties.

Overall, this is not a modest policy agenda. Provoking a long-boom will undoubtedly necessitate combining as many of the available catalytic forces as possible. The most promising paths are probably those that encourage: the openness and creativity of entrepreneurial exuberance; high degrees of international co-operation to facilitate the rapid development and diffusion of the know-how and technologies that underpin economic convergence; and dense global networks which both intensify competition and foster the joint undertakings of business, government and individuals. Such a vibrant development trajectory could make the best of the possibilities open to humanity on the eve of the 21<sup>st</sup> century. But chances are not always grasped. The last few decades have also witnessed much deepening of inequality and exclusion. Reversing these trends could be one of the greatest benefits of a long-boom and one of the main reasons for making the exceptional economic and social policy efforts required.

**LIST OF PARTICIPANTS**

**Chairman**

**Donald Johnston**  
**Secretary-General**

Fernando ALVAREZ  
Director of Economic Studies  
CEMEX  
Mexico

Walter BRINKMANN  
Senior Vice-President  
Coca-Cola Greater Europe  
Belgium

Paul A. DAVID  
Professor of Economics  
Stanford University  
United States

Frederik von DEWALL  
Chief Economist  
ING Group  
The Netherlands

Emilio FONTELA  
Professor of Economics  
University of Madrid  
Spain

Robert GOEBBELS  
Ministre de l'Economie, des Travaux Publics  
et des Transports  
Luxembourg

Orhan GÜVENEN  
Sous-Secrétaire d'Etat à la planification  
auprès du Premier Ministre  
Turkey

David HALE  
Global Chief Economist  
Zürich Insurance Group  
United States

Martin HUEFNER  
Executive Vice President  
HypoVereinsbank  
Germany

David HUMPHREYS  
Chief Economist  
RIO TINTO plc  
United Kingdom

DeAnne JULIUS  
Member of the Monetary Policy Committee  
Bank of England  
United Kingdom

Alain LIPIETZ  
Centre d'Etudes Prospectives d'Economie  
Mathématiques Appliquées à la Planification  
France

Richard LIPSEY  
Professor of Economics  
Simon Fraser University  
Canada

Maria LIVANOS CATTALDI  
Secretary General  
International Chamber of Commerce

Wolfgang MICHALSKI  
Director, Advisory Unit  
to the Secretary General  
OECD

Herbert OBERHÄNSLI  
Vice President, Economic  
Studies and International Relations  
Nestlé  
Switzerland

William PFAFF  
 Writer on Contemporary History and Politics  
 The International Herald Tribune  
 The Los Angeles Times Syndicate  
 France

Kari TAPIOLA  
 Deputy Director-General  
 International Labour Organisation  
 I.L.O.

Christopher PLEISTER  
 Member of the Board  
 DG BANK Deutsche Genossenschaftsbank AG  
 Germany

Jitsuro TERASHIMA  
 General Manager  
 Mitsui & Co., Ltd.  
 Japan

Peter SCHWARTZ  
 President  
 Global Business Network  
 United States

Bernd THIEMANN  
 Chairman of the Managing Board  
 DG BANK Deutsche Genossenschaftsbank AG  
 Germany

Robert J. SHAPIRO  
 Under Secretary for Economic Affairs  
 Department of Commerce  
 United States

Heiko THIEME  
 Chairman  
 American Heritage Management Corp.  
 United States

Horst SIEBERT  
 President  
 Kiel Institute of World Economics  
 Germany

Ignazio VISCO  
 Head of the Economics Department  
 OECD

Friedrich-Leopold von STECHOW  
 Member of the Board  
 DG BANK Deutsche Genossenschaftsbank AG  
 Germany

Martin WOLF  
 Associate Editor  
 Financial Times  
 United Kingdom

**OECD Secretariat  
 Advisory Unit to the Secretary-General**

Barrie STEVENS  
 Deputy Head

Riel MILLER  
 Principal Administrator

Pierre-Alain SCHIEB  
 Principal Administrator