

[Share](#)[Follow](#)[Like](#)[About](#)[Media](#)[Contact](#)[Login](#)[中文](#)[日本語](#)[Agenda](#)[Reports](#)[Events](#)[Projects](#)[Communities](#)

Executive Summaries

CONTENTS

Disclaimer: All opinions expressed herein are those of the authors. The World Economic Forum provides an independent and impartial platform dedicated to generating debate around the key topics that shape global, regional and industry agendas.



Rethinking Our Approach to Global Security

Responding Effectively to the Challenges Posed by Increased Radicalization of Religion and Nationalism

Stefanie Babst, North Atlantic Treaty Organization (NATO)

Today's geopolitical landscape is increasingly characterized by religious and nationalistic radicalism that threatens global peace and stability. While this extremism at times involves countries as traditional actors in the international political realm, it is also marked by the rise of non-state actors whose actions cut across national borders. In addition to their genuinely radical beliefs, such actors have instrumentalized religious and nationalistic beliefs as pretexts to obfuscate deeper drivers of conflict, such as economic recession, resource scarcity, social change and political conflict. Responding to the threat posed by these trends in radicalization will require comprehensive solutions that aim towards both developing a deeper understanding of the root causes of the emergence of radicalized groups and their strategies and tactics, as well as putting a premium on the holistic engagement of all actors across society. [Read more...](#)



Reframing the Climate Change Debate

A Pragmatic Approach for Creating a Low-Carbon, High-Energy Future

Jeremy Bentham, Royal Dutch Shell Plc

The energy system is at the beginning of an inevitable transition, driven by numerous convergences such as changes in resource availability, technology and costs. To transition successfully, a broader, more pragmatic climate change discussion is needed – one that is focused not only on reducing CO2 emissions but also on addressing the rising demand for energy, especially in emerging markets. Achieving these aims is both an environmental and a human development imperative. The elements of a more pragmatic discussion will include how to move beyond renewables alone to focus on low-carbon options and having stakeholders collaborate to transcend polarized debate and find middle ground solutions. [Read more...](#)



Demographics and Demand

Global Ageing, the Evolution of Consumer Spending and the World Economy

Wayne Best, Visa Inc.

As wealthy consumers age, they tend to shift their spending from physical goods to experiences and services, notably health-related. Population ageing could, therefore, increasingly influence what is demanded and sold globally, with a range of unexpected implications. These include shifts in geopolitical power, as emerging economies, which rely on exporting goods, could experience declining demand, and widening income inequality, as jobs in service industries tend to be relatively low-paying. Studying the likely shifts in demand as populations of countries age at different rates could help to address issues as diverse as economic growth, youth unemployment and the future course of globalization. [Read more...](#)



A “New Deal” on Green Growth

Reframing the Environment from an externality to a Global Common Good

Jean-Claude Burgelman, European Commission

Currently, most see the environment predominantly as an externality to social and economic development. The looming spectre of environmental degradation and even catastrophe and the realization that the cost of inaction could be greater than the value of investing in “green” products and services could bring about a paradigm shift in which we view the environment as a common good – just as we came to accept poverty reduction and education as such in the past – and a potential driver for economic growth. One conceivable outcome of this shift could be new and novel forms of private/public sector collaboration – what we might call a “new deal” on green growth – that could be as profound for societies as the New Deal was in America in the 1930s and the Marshall Plan in Europe in the 1940s.

[Read more...](#)



Reclaiming Legitimacy in Global Governance

Three Options for the Future of Reform

Jakkie Cilliers, Institute for Security Studies (ISS)

The world is moving surprisingly quickly towards a multipolar devolution of geopolitical power. This is not inherently less stable than having a single, dominant global superpower – that depends on the actions of the currently established powers. There are three options. First, the West could recognize the rapidly dwindling opportunity to initiate pre-emptive reform of global governance institutions while it still has enough influence to set the rules. This seems unlikely. Second, the United States and others could continue holding out in the hope that something will happen to restore Western hegemony. This is the current path. Third, there could be an insurrection from within – Germany, for example, could build an alliance across current global divides for reforming global governance institutions. This could be the best prospect for restoring respect for global governance institutions and international law. [Read more...](#)



A New Space Age

Maximizing Global Benefits

Thomas E. Cremins, National Aeronautics and Space Administration
(NASA)

When the 1958 launch of Sputnik started the first Space Age, a handful of world powers commanded the resources and technology necessary to explore space. Today, a second Space Age is involving varied actors – commercial operators, public/private partnerships and established and emerging spacefaring nations – who together will increase the scope for creating new markets and industrial sectors and unleashing future waves of innovation. These could bring a multitude of benefits, including addressing global challenges such as potentially hazardous asteroids and accessing resources and conducting research on the Moon, near-Earth asteroids and Mars. However, realizing these benefits will require ongoing and expanded national collaboration, including the development of global norms, such as a code of conduct, to ensure space remains accessible, sustainable and a frontier of continued relevance and growth.

[Read more...](#)



Rethinking Ageing

Societal Opportunities Presented by Longer and Healthier Human Lifespans

Kristel Van der Elst

The ageing population is growing in both size and capabilities. This trend, alongside the promise of advances in technology and medicine, invites us to imagine what a world in which people live longer, more active, healthier lives might look like and to shift the context of discussions on ageing from it being a burden to seeing it as an opportunity. This demographic evolution holds profound opportunities, such as: “retiring” retirement and the creation of structures which can meaningfully support the (re-)organization of people’s changing life spans; closing the gender gap as technology might allow us to redesign the biological life cycle such that women could achieve equal outcomes to men in the labour market; and building a society unprecedentedly rich in wisdom as intergenerational dialogue and collaboration might allow for a new social construct in which all generations find purpose. [Read more...](#)



Vox Populi Risk

A Future Where Aggregate Economic Growth No Longer Guarantees Political Stability

Tina Fordham, Citigroup

Fuelled by widening inequality, perceptions of elite corruption and middle-class anxieties about globalization, protests and volatility in public opinion pose ongoing, fast-moving risks to the business and investment environment. In contrast to previous waves of political risk, which were often concentrated in less developed, lower-income countries, this new Vox Populi risk is increasingly manifesting itself in middle-income emerging market and industrialized countries. While, historically, protests have subsided with the return of economic growth, we are seeing that aggregate economic growth may no longer guarantee political stability. Vox Populi risk threatens to fuel uncertainty and may therefore hold back economic recovery, which would in turn reduce the scope for governments to respond to popular discontent. We need to find creative political solutions to break out of this vicious circle. [Read more...](#)



Rethinking the Informal Economy

Promoting Poverty Reduction by Formalizing Traditionally Informal Activities through ICT Innovation

Julius Gatune, African Centre for Economic Transformation (ACET)

In many developing countries, more than 80% of people work in the informal economy. ICT could revolutionize the informal economy, both by enabling new business models and by formalizing traditionally informal activities. New kinds of well-funded entrepreneurs are using ICT to enter spaces which have previously been informal and small-scale, such as slum schooling. Meanwhile, mobile money and microfinance applications are increasingly enabling informal economy players to access financial services and scale up. Traditionally, governments have neglected the informal economy because its growth has been unlikely to increase public sector revenues. As ICT allows for payments to be traced and thus brought into the formal economy, governments can take the opportunity to raise public funds to invest in infrastructure and other types of public goods and services, promoting poverty reduction.

[Read more...](#)



The Age of Conscious-Technology

Can We Envision the Future We Want While We Still Have Time to Shape It?

Jerome Glenn, The Millennium Project

We are moving from the Information Age into the Conscious-Technology Age, which will force us to confront fundamental questions about life as a new kind of civilization emerges from the convergence of two mega-trends. First, humans will become cyborgs, as our biology becomes integrated with technology. Second, our built environment will incorporate more artificial intelligence. Conscious-technology raises profound dangers, including artificial intelligence rapidly outstripping human intelligence when it becomes able to rewrite its own code, and individuals becoming able to make and deploy weapons of mass destruction. Minimizing these dangers and maximizing opportunities – such as improving governance with the use of collective intelligence systems, making it easier to prevent and detect crime and matching needs and resources more efficiently – will require that we actively shape the evolution of conscious-technology. [Read more...](#)



Predictive Analytics

The Impact of Big Data on Security, Intelligence and Democratic Rights

Derrick Gosselin, SCK.CEN

Our growing ability to generate, store and analyse data will profoundly affect society and our interaction with institutions, governments and companies in the decades to come. Predictive analytics, the capacity to make predictions based on analysing patterns of personal behaviour, will become more sophisticated – including in realms such as fighting crime and preventing terrorism. We will have fast-expanding capacity for non-transparent intelligence collection and decision-making about people or groups based on unrevealed behaviour. However, predictive analytics is all about correlation and interpretation, not causality and knowledge; it therefore raises fundamental moral and ethical questions related to privacy and the presumption of innocence. Can we balance the benefits of predictive analytics with the democratic control needed to secure personal integrity? [Read more...](#)



The Potential of the Creative Economy

An Economic Sector to Support the Realization of Inclusive Economic Opportunities and Social Cohesion

Stefan Hajkowicz, Commonwealth Scientific and Industrial Research Organisation (CSIRO)

The creative economy is an underappreciated bright spot of the global economy. The sector continued to expand even during the recent economic crisis and could grow significantly more as technology advances and incomes increase in emerging countries. Such a development could help reduce youth unemployment and poverty, as creative services generate financial returns with minimal production and distribution costs, thereby lowering the barriers to entry into the global economy. Furthermore, creative services could act as an engine of understanding, cooperation and trust between cultures, in much the same way as tourism and trade have historically improved cross-cultural relations. Governments, companies and communities have to find effective ways to ensure that the creative economy's growth realizes its full potential so as to increase the resulting economic opportunities and social cohesion. [Read more...](#)



New Security Challenges Posed by Megacities

Can We Ensure Peace and Prosperity in the World's Fast-Growing Cities?

Kathleen Hicks, Center for Strategic and International Studies (CSIS)

City governance will be severely tested by security issues. By 2040, two-thirds of the world's population will live in urban areas. Two billion of them will live in slum-like conditions. Population density and poverty create conditions for civil unrest and technology enables like-minded people to easily connect with each other. The fast-paced advances in cheap military-like technologies could potentially lead as far as lawlessness taking hold in megacities. And the increasing dependence on "smart" city infrastructure creates new vulnerabilities to cyberattacks. For megacities to become the stable, secure, equitable and prosperous living environments people demand, we will need to craft effective mechanisms of urban governance. [Read more...](#)



Economic Opportunities in the 21st Century

Encouraging a Dynamic and Resilient Work Marketplace Supporting Diversified Livelihood Strategies

Claudia Juech, The Rockefeller Foundation

Good jobs that provide an appropriate living, with decent working conditions and benefits will become increasingly rare. Throughout the world the trend is towards the elimination of these types of jobs – owing to the global mobility of capital, the weakening of organized labour, manufacturing's declining share of global GDP, the declining share of global income going to labour and the automation of routinized work – and may come to be reserved for those with “non-routine, cognitive occupations”, traditionally performed by those with university degrees. To encourage a dynamic and resilient work marketplace supporting diversified livelihood strategies, and to avoid a significant increase in inequality, we must enhance economic security in the face of new realities and shape these changes so that we are better able to provide opportunities to more people. [Read more...](#)



Agile Development

Can Combining New Approaches, New Data and New Coalitions Make Development Organizations More Effective?

Katell Le Goulven, United Nations Children's Fund (UNICEF)

Effectively supporting the “development” of countries with low per capita incomes, poor health outcomes and weak educational systems has never been straightforward. But the challenges faced by development organizations have become even larger as the world becomes more interconnected and volatile. The confluence of three trends could help development organizations better operate in complex and unpredictable situations: using the complexity theory to frame problems; using the “data revolution” to better understand complex situations and measure impact; and partnering in new kinds of coalitions with more diverse actors to deliver solutions. Leadership from within could help mobilize these trends and make development more effective. [Read more...](#)



Ambient Technology in Cities

The Impact of Ambient Intelligence on the Urban Landscape

Chris Luebke, Arup Group Ltd

The emergence of so-called ambient intelligence – electronic environments that are sensitive and responsive to the presence of people – is now providing unprecedented means to understand the city at the unit scale. Soon buildings will “talk” to each other and the outside world, knowing where they are geographically, aggregating news, understanding issues of the day. This will allow us to coordinate city functions and eliminate inefficiencies to allow large metropolises to thrive in a resource-constrained future. While there is potential risk in wide accessibility to such information, we can protect ourselves by understanding the systematic interactions in the networks we configure. In this way, we will advance towards a society in which embedded knowledge revolutionizes our collective wisdom.

[Read more...](#)



Shifting Geo-Economic Power

Rising Powers' Capacity to Economically Adapt to Inadequate Demand Is Speeding Up the Emergence of a Multipolar World

Marios Maratheftis, Standard Chartered Bank

Since the global financial and economic crisis, the main economic problem facing governments around the world is inadequate demand. While emerging markets are showing signs of successfully adapting to this new reality – by boosting domestic demand, thereby reducing their reliance on exports to drive growth – the outlook is less encouraging in the United States and, especially, in Europe. If emerging economies continue to be better at responding to weak global demand than advanced economies, the transition towards a multipolar world could happen more quickly than many had anticipated. Such relative strength of emerging markets could lead to a greater regionalization in trade, investment flows and political cooperation and a shifting geo-economic and geopolitical landscape. [Read more...](#)



Revival of Japan

Forward-Thinking Japanese Companies Are on the Verge of Catalysing a Reversal in Japan's Long-Term Economic Path

Daizo Motoyoshi, LIXIL Group Corporation

Since the 1990s, Japan's economy has been stagnating and its once world-beating companies have been overtaken by rivals from other countries. Although many leaders have tried to reignite Japanese economic growth, efforts at structural reform have been slow. But a new, more dynamic business model is emerging that could catalyse a reversal of Japan's long-term economic deterioration: many forward-thinking Japanese companies are reforming their outdated business practices. These companies could drive growth in Japan – and globally, given that Japan remains a significant player in global economic performance – while serving as a case study for other countries struggling with similar economic issues. These companies could also be a powerful change agent in opening up Japanese society on issues such as gender, meritocracy and acceptance of outsiders. [Read more...](#)



Rethinking Freshwater

Bringing Water Withdrawals Back to a Sustainable Level Is Essential for Future Growth in Prosperity and Well-Being

Herbert Oberhänsli, Nestlé SA

As most water is used in agriculture (70%), energy (10%) and other industry (10%), overuse will increasingly manifest itself as a chokepoint for economic development. Population growth and rising prosperity will see demand rise towards 7,000 km³ annually by 2030 – but only 4,200 km³ can be used sustainably. Over the next 5 to 10 years, we need to devise new mechanisms, whether price or non-price, to bring withdrawals back into line with sustainable supply – a challenge, given water's status as a basic necessity and its perception as a free good given its abundance until 2000. Global principles can give guidance, but all mechanisms need to be local; the cross-border management of river basins offers an opportunity to foster peaceful cooperation and overcome potential conflict among stakeholders.

[Read more...](#)



The Rising Appeal of a De-Growth Future

When Youngsters' "Wandering Society" Desires Become Possible with Technological Advances and New Ownership Concepts

Seongwon Park, Science and Technology Policy Institute (STEPI)

The old Daoist idea of the “wandering society” – people who like to move about aimlessly, looking for new horizons and boundaries – has been largely lost over the years, as industriousness has come to define the modern world. But there is renewed interest in lifestyles that do not prioritize growth. In a survey of more than 2,000 South Koreans in September 2014, more than half said they are attracted to such a future. Proponents argue that to work less and have more leisure time, to conserve what exists rather than to produce more, is an appropriate response to the current global issues of energy depletion and environmental pressures. Technological advances and new concepts of ownership, as seen in the sharing economy, increasingly make this world conceivable on a large scale. [Read more...](#)



The Possible Future of the Economics Profession

Scenarios Relating to the Social Contract Between the Economics Profession and Society

Rafael Ramírez, University of Oxford

The economics profession has long been granted an implicit social contract, whereby benefits from economic expertise accrued for society are rewarded with enormous power over society's everyday affairs. But since the global financial and economic crisis, limits of what economics can do have been made visible, rendering the social contract plausibly susceptible to change. Various scenarios for the future are possible: one is "the official future of economics", where the profession remains adaptive and close to power, with no significant change to the social contract. An alternative depicts the "economics emperor" as having been discovered to wear far fewer clothes, raising interesting questions as to whether "citizen scientists", engineers, machines or even anybody with decent schooling and access to relevant technology could take over many of the tasks that are currently economists' exclusive domain. [Read more...](#)



Improving the Quality of Life in Megacities

Harnessing the Next Billion Brains

Rogério Rizzi de Oliveira, Hewlett-Packard Company

The shift in population from rural to urban areas is creating a new wave of megacities. The growth of megacities poses the challenge of creating urban infrastructure in a world where capital is scarce, where experience in dealing with infrastructure deficiencies is drawn from smaller cities in the rich world, and where the democratic mechanisms of stakeholder consultation mean that implementing new infrastructure is a slow process. How do we ensure that we harness the collective brainpower of the next billion – leveraging exponential technologies – to find solutions to the challenge of drastically improving life in the megacity of the 21st century? [Read more...](#)



The Third Industrial Revolution

Potential Impacts of Technology on Employment

Nouriel Roubini, New York University

We are at the cusp of a third Industrial Revolution, with new technologies spawning a feverish excitement for a radical transformation in industrial production. Technological improvements in robotics and automation, as well as systematic changes in the economy that coincide with this revolution, will dramatically boost productivity and efficiency. However, because advances in technology tend to be capital-intensive, skills-biased and labour-saving, there is a risk that machines will sharply reduce jobs throughout the economy over time. Enlightened solutions to the challenges the third Industrial Revolution presents must first seek to ensure that technology benefits a broader base of the population through education and providing workers with the necessary skills. That most fragile balance – between the freedom of markets and the prosperity of workers – must be sought and found. [Read more...](#)



The Changing Nature of Livelihoods

“Self-Generated” Livelihoods Are Back as Ways of Living Meaningful Lives

Francisco Sagasti, FORO Nacional Internacional

The nature of opportunities to earn livelihoods, i.e. the way in which an individual gets access to the portion of what society produces that they need to realize their potential, will profoundly change due to the convergence of trends in technology, demography, environmental change and biological evolution. The historically recent trend of permanent “jobs”, or being “employed” by a private or public institution earning a steady salary, will fade away. In parallel, partly as choice and partly as necessity, so-called “self-generated” livelihoods will become both more possible with the advent of the “zero marginal cost” economy, and often a difficult imperative with the decline in the regenerative capacity of life-supporting ecosystems. Innovation in social institutions is needed to redirect their purpose towards creating a secure base and an equal opportunity framework for supporting everyone to live a meaningful life. [Read more...](#)



The Next Stage of Individualization

Rethinking Our Growing Dependence on Digital Infrastructure with Significant Monopolistic Power

Trudpert Schelb, Siemens AG

Individualization is about to reach new stages, enabled by new technologies, low entry barriers and new value systems. Technology such as e-commerce platforms allows individuals to produce and consume an increasingly tailored blend of products and services, disrupting traditional business models. In future, further disruption may come from the rise of the DIY economy through 3D printing; a more fragmented energy industry with the rise of affordable solar and wind power; and increased innovation and entrepreneurship with more flexible working models. However, these new stages of individualization may create a dangerous dependence on digital backbone systems, such as IT platforms and smart energy grids, with significant degrees of monopolistic power. As a society we need to rethink how we manage this so that everyone can benefit from these new opportunities. [Read more...](#)



Fundamental Technological Progress Driving Economic Growth

We Are Nearer to the Beginning of Economic Growth than to Its End

Peter Schwartz, Salesforce

There is an active debate today about whether we have reached a structural slowdown in economic growth due to the fact that fundamental technological progress is over. This view reflects a failure of both imagination and analysis. The history of scientific and technological application shows long lead times between research and application. We may therefore only be in a transitional stage between technological leaps, which is resulting in a slowdown in the pace of growth. Current research in areas such as ICT and big data, biological and molecular engineering, and understanding gravity will create vast new technologies, whole new industries and a great many sources of economic growth. We need to think beyond restrictive mindsets and consider how to make this transition as efficient as possible. [Read more...](#)



Progressing Well-Being through Inclusive Growth

A New Economic Paradigm Where Equality Drives Growth and Growth Is a Means to Human Well-Being

Angela Wilkinson, Organisation for Economic Co-operation and Development (OECD)

Inequalities are rising and seem destined to continue doing so. Inequality is a structural, multidimensional phenomenon that not only affects the well-being of society today, but also carries a cost for future growth. Achieving economic progress without structural inequality calls for a new economic paradigm, one that makes equality a driver of growth and positions growth as a means to achieve human well-being, rather than an end in itself. Recognizing that strong per capita GDP does not necessarily signal a healthy economy, Inclusive Growth is the key to accelerating this new paradigm. Progressing Inclusive Growth will involve examining the effects of policies on different groups in society, notably by supplementing GDP with multidimensional well-being metrics. [Read more...](#)



The Impact of Automation on Jobs and Society

What Role Might Governments Play?

Jill Wong, Singapore Government

Technological innovation in recent years has enabled machines to enter the realm once thought to belong exclusively to humans: cognition. Unlike previous technological shifts, this one will affect workers across the entire employment spectrum, from those in low-skilled jobs to those in white-collar jobs. At times, it may seem as if technology is a force greater than humans, forcing workers and businesses to adapt – or perish. Yet governments play a key role in shaping how technology advances. They therefore need to think deeply about how to mitigate the risks and facilitate the opportunities. The sooner governments, in partnership with the rest of society, examine the future impact of this shift, the sooner they can act to ensure the shift benefits society. [Read more...](#)

Disclaimer: All opinions expressed herein are those of the authors. The World Economic Forum provides an independent and impartial platform dedicated to generating debate around the key topics that shape global, regional and industry agendas.

[Back To Top](#)

Committed to improving the state of the world

Communities

Strategic Partners
 Industry Partners
 Regional Partners
 Foundation Members
 Global Agenda Councils
 Global Growth Companies
 Global Leadership Fellows
 Technology Pioneers
 Schwab Foundation
 Young Global Leaders
 Global Shapers
 Women Leaders and Gender Parity
 Civil Society
 Academic Networks

Reports

Global Risks Report
 Global Competitiveness Report
 Global Gender Gap Report

Events

Annual Meeting 2015
 Annual Meeting of the New Champions 2014

Issues

Economic growth
 Environmental sustainability
 Financial Systems
 Health for All
 Social development

About us

Our Mission
 Leadership and Governance
 Our Members
 History
 Klaus Schwab
 Organization
 Careers
 Contact Us
 Open Forum
 World Economic Forum USA
 ä,æ-†
 日本語
 Privacy & Terms of Use

Access

IBC area
 IMC area
 Strategic Partners' area
 Partner Institutes' area

Sitemap

Home
 Agenda
Reports
 Events
 Projects
 Communities
Media
 News
 Videos
 Press
 Fictitious e-mail warning
 Subscribe