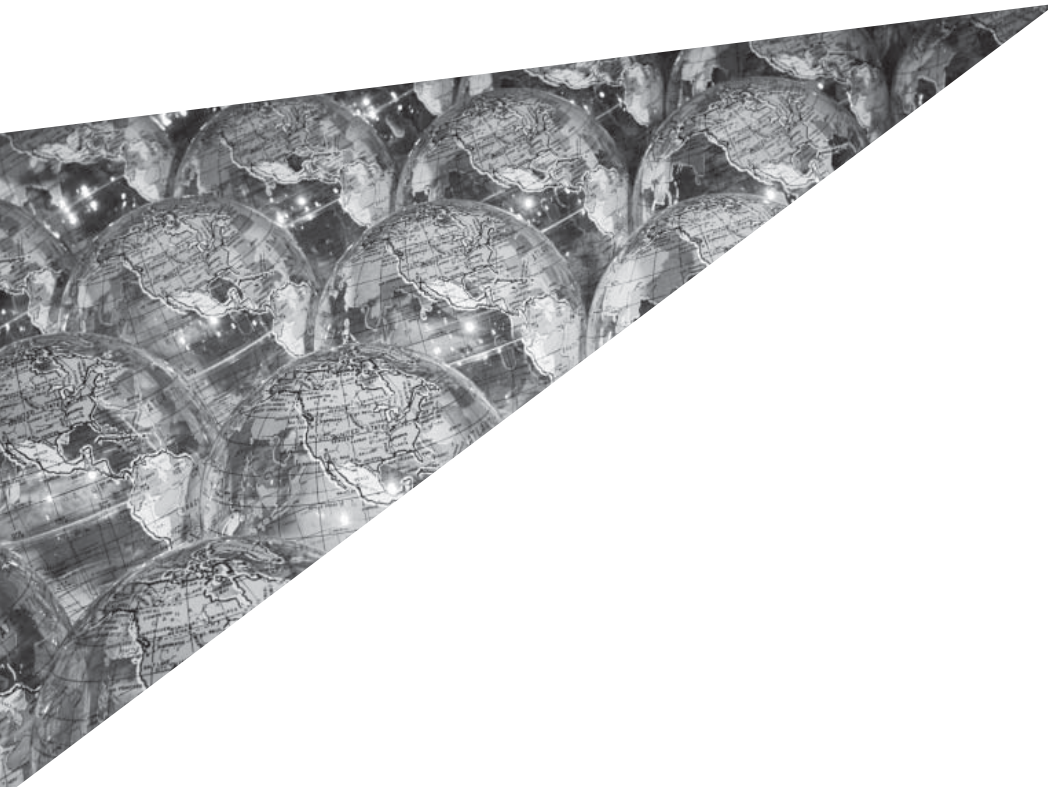


Global megatrends 2009



Purpose of this document

This document presents an Ernst & Young perspective of some of the most significant trends we see today in the marketplace. We offer a snapshot of the main themes and concepts within each trend: a concise view to raise questions and spark new ideas, rather than a comprehensive set of answers.

These megatrends have been written at a time of particular flux: we are in the midst of a financial crisis and there is a considerable amount of uncertainty about the future. Despite this unstable environment, we still need to think about the trends that were unfolding before the crisis – questioning how they will evolve and what new directions they might follow – as well as considering new trends that are emerging.

These megatrends present a view on the most important themes that are likely to play out in the medium to long term: they are what we need to be thinking about to prepare ourselves for the future.

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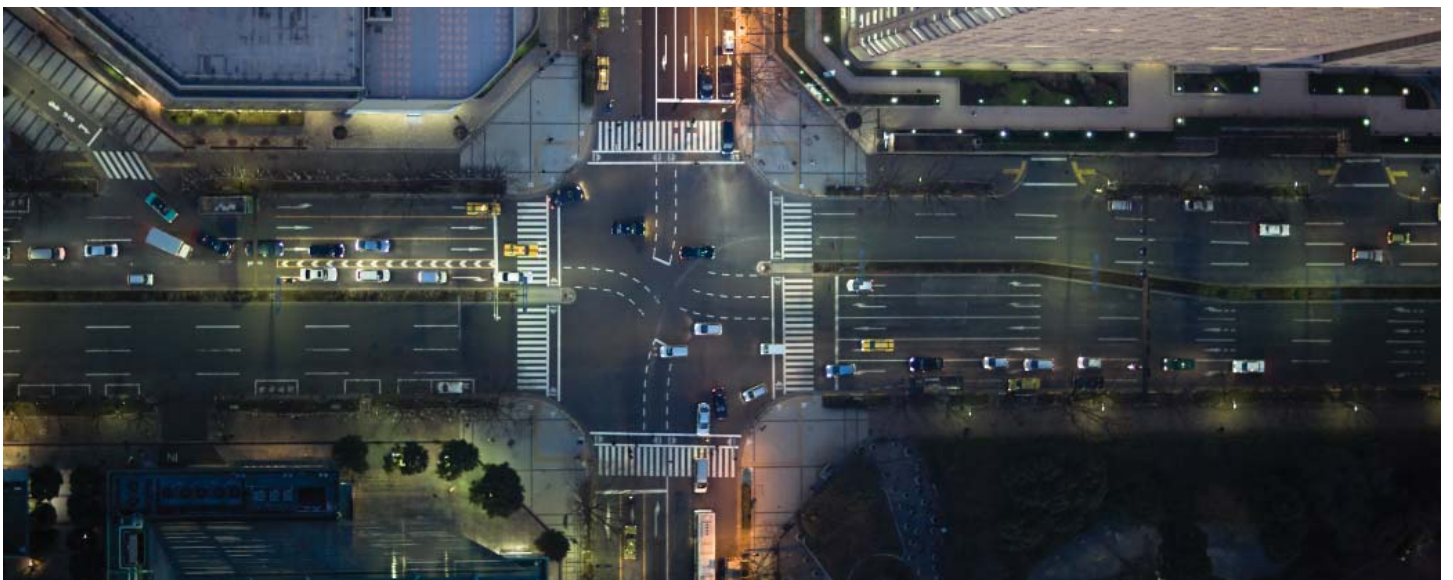
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Introduction: an era of uncertainty

The world is changing more rapidly than ever. Globalization continues its march. Gaps in power between developed and emerging countries continue to narrow, driven in part by the politics and economics of energy. The financial landscape is in turmoil, driving increased regulation. Aging populations and the different demands of the younger generation (Gen Y) challenge the workforce model that has existed for decades. Technology continues to alter how we communicate and act. And climate change concerns challenge how businesses operate.

The megatrends that follow highlight the most influential trends we see in this changing world – some that are driving the change, and some that are driven by it.

- ▶ In **The accelerating shift of power from West to East** we discuss how the engine of growth in the global economy has moved from developed to emerging countries, how commodities and the advent of a new middle class are accelerating this move, and how emerging market multinationals are not just here to stay, but likely to become global champions in many industries.
- ▶ In **The changing financial landscape** we look at the rise of the new power brokers (sovereign wealth funds, PE, hedge funds etc.) and how the financial crisis will impact their trajectory, as well as discussing how banking is being transformed and how governments are taking a more active role in financial markets.
- ▶ In **Overhaul and globalization of the regulatory environment** we look at two key trends in regulation – the move toward greater regulation and the move toward more globally consistent regulation – and consider the role the financial crisis will play.
- ▶ In **The rising economic importance of energy and commodities** we look at the scarcity challenge, the impact of uncertainty in oil price, the rise of cleantech and the drive toward greater energy efficiency.
- ▶ In **Responsibility firmly on the corporate agenda** we consider the increasing environmental, social and ethical expectations and obligations on businesses and their associated opportunities and risks, and we look at the possible impact of the financial crisis.
- ▶ In **The next wave of technological innovation** we discuss how technology developments are still driving change – for businesses and consumers – and how the next wave of digital technology takes this even further.
- ▶ And finally, in **The increasing challenges of managing and developing talent** we look at the difficulties in attracting, managing and developing a global workforce – a challenge compounded by changing demographics, the different demands of Gen Y and increasing diversity – and consider the impact this has on businesses worldwide.



The accelerating shift of power from West to East

The rebalancing of power

The global economic landscape is changing, and the emerging markets are playing an increasingly significant role. Economic power is moving from developed to emerging economies – from West to East and North to South. Emerging economies accounted for 44% of global GDP in 2007¹; while projected GDP growth rates for major developed markets in 2009 are now predicted to lie between -0.2% and 0.5%, emerging markets are expected to grow at 6.1% on average, with China (9.3%) and India (6.9%) performing even better.² This may be less than was projected before the financial crisis, but emerging markets still demonstrate considerably stronger growth than the developed world. The financial crisis may have undermined decoupling theories, with emerging markets also suffering from issues of liquidity, investor confidence and over-valued assets, but their hunger for growth (alongside their rapidly industrializing economies and growing populations) should set them on the path to recovery more quickly. In China and Russia's case, their huge accumulated reserves (China with US\$1.9 trillion³ and Russia with US\$560 billion⁴) will no doubt ease the pain.

Beyond the BRICs

While the BRICs (Brazil, Russia, India, China) are clearly the major players (with China alone contributing nearly 27% to global growth in 2007⁵), another group of countries are emerging that have the potential to behave like the BRICs – driving growth and making waves in the global markets. South Korea, Mexico and Turkey may be the most commonly cited of Goldman Sachs's "Next 11,"⁶ but countries as diverse as Egypt, Iran and Vietnam have been identified as having the potential and conditions to rival the BRICs – and some developed economies – in the future.

The Middle-Eastern economies are likely to be another real growth story of the next few years – although they have not been immune to the immediate effects of the financial crisis, with issues around interbank lending and overinflated property prices causing some concern. They remain well placed, however, to capitalize on difficulties elsewhere. Even at US\$50 per barrel, the Gulf Cooperation Council (GCC) states would earn a cumulative US\$4.7 trillion by 2020, or 2.5 times their earnings over the last 14 years.⁷ This will afford them huge opportunities to buy up cheap assets or finance local infrastructure developments as the rest of the world's economies stall. Their relatively lax regulation and lenient tax regimes will be even bigger attractions as European and US business environments tighten under the pressure of the recession.

Africa has also been stepping onto the global financial stage. Its economy has been growing at 5.4%⁸ over the last decade and it has been a major recipient of investment and interest; Chinese enterprises invested over US\$300 million in Africa in the first 6 months of 2008 alone⁹, and interest in its natural resources has been the source of much political tension. However, the uneven distribution of investment (60.5% of total net foreign direct investment in sub-Saharan Africa in 2005 went to oil-exporting countries¹⁰) and the large number of conflict-prone and resource-poor countries will likely keep much of Africa in the shadows of the BRICs for some time yet.



Emerging market multinationals (MNCs), previously little known outside of their own countries or regions (despite their colossal size), are now challenging the megacorps of the West.

Emergence of a new middle class

Alongside the advantages conferred on many of the major emerging economies by rich supplies of commodities, political and demographic changes have played a large part in driving their growth. The fall of communism (or adoption of government-led capitalism) has opened up the world, resulting in a tenfold increase in the number of people served by the world economy in the last 25 years.¹¹ The sheer scale of population growth in the emerging markets will also drive their economic development and relative strength; while the global population is predicted to reach 8.3 billion by 2030, from 6.7 billion today, only 3% of this growth will occur in the West.¹² The mushrooming of the middle classes in emerging markets is a critical factor: since 2000, 600 million people have reached middle class status, spending on average US\$4 trillion a year¹³ and an estimated 70 million further people will join their global ranks annually.

The emerging global champions

Serving the needs of these people – and millions more around the world – are the emerging market multinationals (MNCs); companies previously little known outside of their own countries or regions (despite their colossal size) are now challenging the megacorps of the West. Globalization may just have been, in the past, a different word for westernization, but no longer – a new wave of globalization is in place, and emerging market MNCs are now exporting their brand of capitalism to the West. Tata, China Mobile and Gazprom are now familiar names and behind them are numerous other companies looking to secure their place on the global stage.

Their rise has been swift: emerging markets had 70 companies in the Fortune Global 500 in 2007, up from 20 just a decade ago, and are likely to account for a third of the entire list within 10 years.¹⁴ It has also been impactful, evidenced by some very high-profile activities across numerous sectors: Lenovo, Mittal and Cemex becoming household names for their acquisition activities with IBM, Arcelor and RMC respectively; Wipro and Infosys challenging the dominant IT outsourcing providers; Embraer challenging Boeing's and Airbus' dominance in certain segments; and TNK-BP and Gazprom showing their financial and political strength. These companies may have a competitive advantage over their western counterparts in reaching into other emerging markets, but they have not been afraid to compete in developed markets, too, increasingly challenging western MNCs for market share, capital and business activity on their home territory.

These companies share few traits: they're positioned across wide-ranging sectors; they have radically different governance structures (from each other, as well as from traditional western MNCs, ranging from state- or family-owned conglomerates to narrowly focused corporations); and they approach expansion in varying ways. However, they have growing clout and influence in common, as well as two other common features: they have confidence and they have scale; the ten largest emerging market companies had combined revenues just shy of US\$1 trillion in 2008¹⁵ – more than the entire GDP of Australia or The Netherlands.¹⁶

The changing financial landscape

The interconnectedness of the global capital markets

The global picture of financial power and centrality has fundamentally changed. Capital markets have become increasingly globalized and interdependent, with the world's foreign direct investment (FDI) flows running at over US\$1.8 trillion in 2007¹⁷ (over three times the level in 2003) and foreign investors owning over 25% of global equities.¹⁸ As a result of their spectacular economic growth, emerging markets are now net providers of capital flows, financing the large current account deficits of the developed countries, and in particular that of the US. However, high levels of interdependency bring higher levels of risk; as the global reach of the US sub-prime crisis demonstrated, challenges in one market no longer stop at the national boundaries.

The new power brokers ...

As well as being more interconnected, the financial landscape has been redrawn by the emergence of four new power brokers. Asian sovereign investors and petro-dollar investors (often using sovereign wealth funds (SWFs) as investment vehicles) have moved the power base further to the East, while private equity (PE) and hedge funds have re-defined financing and leverage. The scale of these power brokers cannot be underestimated; their combined assets quadrupled between 2000 and 2007 to reach US\$11.5 trillion.¹⁹ They have transformed the financial landscape.

... and their uncertain future

Hedge funds and PE firms will be under pressure in the short term. While hedge funds have not proven so far to be the systemic threat that many feared, they have not been able to deliver good returns during the crisis. Institutional investors, hit by the fall of the equity and credit markets, are being forced to withdraw their funds from hedge funds in significant ways to maintain asset allocation ratios; other investors are dissatisfied with recent weak returns and high fees charged by the funds. They may also be worried about perceived poor risk controls. Hedge fund industry executives predict assets under management could fall by 30-40%.²⁰

PE firms also face a number of significant challenges: with credit markets likely to remain tight well into 2009, there will be limited debt to finance large acquisitions (only 10 PE deals above US\$2 billion were announced between April and October 2008, against 41 deals in the same period in 2007²¹), forcing PE firms to consider new types of deals (such as minority equity investments and all-equity investments). The appetite for a short-term approach to business will continue to be vastly reduced and PE firms will have to focus more on creating value and risk management in portfolio companies.

Many of the smaller hedge funds and PE firms will operate with a much lower profile and may disappear (through acquisition as well as failure) and both industries are likely



The lines between different types of financial player were blurring as we headed into the crisis; when we begin to emerge, the lines should look very different.

to be more consolidated, institutionalized and regulated. In the case of PE, we may see a few very large, publicly listed, global players with much more diverse offerings (e.g., Blackstone); perhaps filling the void being left by investment banks. As regulation increases around these previously under-regulated areas, we may also see new types of players emerge – creating niche offerings in the (much smaller) high-risk, high-reward, low-regulation space.

SWFs have become more yield-seeking, with equity, PE and hedge fund investments making up a larger proportion of their investment dollars, and are more actively partnering with corporates. While they may have been disappointed with loss-making investments done early in the crisis (e.g., in US banks and PE firms), this is unlikely to put them off for long. With large reserves (they currently manage funds of US\$3 trillion and are expected to grow to US\$10 trillion by 2015²²), these funds are well positioned to continue to make some very sizeable and strategic investments, capitalizing on depressed share prices in the West, and stimulating growth in the East. The financial crisis may lead some nations to retreat to protectionism, potentially hampering the growth of these players. However, with liquidity at a premium, their ready cash is likely to persuade most governments of the benefits of foreign investment.

The fall of big banking ...

As the repercussions against financial innovation and complex derivatives continue, for the moment the mood in

the financial world is one of simplification and caution. The lines between different types of financial player were blurring as we headed into the crisis; when we begin to emerge, the lines should look very different. Traditional investment banks have suffered heavily. Some household names have collapsed (e.g., Lehman Brothers, Bear Stearns), and others have changed their capitalization models (linking up with commercial banks or establishing themselves as bank holding companies) as their previous business models – and taste for leverage and risk – failed them. Retail banking has also suffered, with the industry seeing numerous failures and consolidations; as the worst seems yet to come for the man on Main Street, this trend is likely to continue.

... and the rise of big government

Governments too are moving back into the spotlight as financial power moves towards the state; state capitalism is no longer only found in emerging countries (where around one-fifth of the largest companies are state-owned²³), but also in the previously more hands-off West. The unprecedented step to effectively nationalize banks across Europe and the US has placed government at the heart of finance, and torn up decades worth of free-market thinking. Iceland's pleas for Russian assistance and International Monetary Fund (IMF) interventions in Hungary and the Ukraine have taken this even further. As governments take center stage and nations take on responsibility for commercial failings, one certainty is that greater regulation of the financial sector will not be far behind.

Overhaul and globalization of the regulatory environment

A catalyst for greater financial regulation

The global financial crisis has proven beyond a doubt the need for more robust, globally consistent regulation. Out-dated banking regulation, overlapping regulatory agencies in the US, and limited international regulatory coordination were already causes for concern. Combined with insufficient (or non-existent) regulation of significant financial markets (the credit default swap market was worth US\$60 trillion at its peak,²⁴ and hedge funds managed US\$2.25 trillion²⁵ – before leverage) these created an environment ripe for a crisis. An overhaul of the existing regulatory setup appears an inevitable response.

Finding the right model will be a significant challenge: regulation needs to block irresponsible or fraudulent behavior and excessive risk without also blocking growth. It needs to be global enough to provide a consistent framework, while also meeting local and national requirements. It needs to be clear and transparent, and able to act as an early warning system. It also needs to be nimble enough to make provision for the fast-evolving financial landscape and its complex products and transactions.

Meeting a global challenge with a global response

More than anything else, the crisis has demonstrated to the world how interdependent companies, capital markets and nations are now and how insufficient national regulatory frameworks are to deal with this new world. While there appears to be a short-term trend toward nationalistic government responses and protectionism, markets and financial institutions are fundamentally too global and interlinked to unravel and localize. A global problem needs a global solution.

Regulators around the world were already reconsidering their regulatory frameworks (with the change in administration likely to act as another – pro-regulatory – catalyst for reform in the US). They were developing closer ties with one another as evidenced by a number of cooperation initiatives across the regulatory landscape: the International Organization of Securities Commissions (IOSCO) stepping up its efforts to harmonize securities regulation globally; the OECD Forum for Tax Administration (FTA) sharing cross-border information to counter tax non-compliance; the International Forum of Independent Audit Regulators (IFIAR) promoting collaboration in audit regulatory activity; and the International Competition Network (ICN) aiming to facilitate antitrust enforcement convergence. International



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coordination is likely to increase. The role of the IMF and the World Bank is being challenged – and likely strengthened – in the aftermath of the crisis. In addition, regulators are focusing on reducing systemic risks, putting in place a stronger early-warning system and creating new regulation around companies and instruments that are not currently regulated, such as derivatives, hedge funds, mortgage brokers and credit rating.

Driving toward convergence

The continuing convergence of regulatory frameworks and standards is likely to be an important aspect of the regulatory overhaul. It holds the promise of increased comparability and transparency of financial information and greater investor confidence, as well as reduced compliance costs for global companies. While broadly there is a global commitment to regulatory convergence in the financial world, challenges exist as pressures to protect national interests come in to play. This was recently illustrated by the political interference in fair value accounting and pressure on the international and national accounting standard-setting process. Some countries may not be able to resist the temptation to tailor the standards to their national needs, undermining their consistency and value. Other countries may seek to create regulatory arbitrage opportunities in order to attract capital and create competitive advantage.

Accounting standards are at the forefront of global convergence: over 100 countries require, permit or base their standards on IFRS and many more have set a date for

adoption (e.g., Korea, India, Mexico, Brazil and Canada). There has also been progress toward IFRS in the US, although this may lose some momentum in the short term as the regulatory community focuses on the aftermath of the financial crisis. Auditing standards convergence is slowly building pace. More aligned rules for the financial services sector are surely on their way.

The broader regulatory environment

This pro-regulatory environment is spreading beyond the world of finance. As governments around the world take stakes in companies to safeguard them and lend directly to businesses to address the liquidity crunch, questions around governance (including executive pay) are likely to be asked in every sector. State ownership of financial institutions raises particularly big questions: despite their hands-off intentions, governments will face pressure to intervene to ensure these companies lend widely, stall on debt collection and foreclosures, and retain jobs.

Businesses are seeing financial institutions (meant to be the most astute at managing risk) fail and are becoming increasingly concerned about the risk issues that might arise in their own industry. Risk management is coming back as a top concern of most audit committees around the world. Some expect that regulation around internal controls will expand from financial reporting controls to cover the controls of key business processes linked to significant business drivers and strategic risks.

The rising economic importance of energy and commodities

Meeting demand for resources

Energy supply and demand is likely to represent the biggest challenge of the 21st century. More than any other issue, it is at the mercy of global economics, geopolitics, war, fiscal policy, and the battle between growth and sustainability. Beyond financial services, energy is probably the most global of industries and the industry with the broadest impact on others. All of these factors result in an uncertain and changeable future.



Oil may be at the center of these challenges, but it is, of course, not the only resource. Global demand is driving us into a long-term transition away from oil toward natural gas, coal and other alternatives, including nuclear power – despite the political minefields. China's formidable growth also drives demand for other basic commodities; it accounts for 27% of the world consumption of steel, and almost half of the world consumption of cement.²⁶

As the global population continues to grow, demand for natural capital resources (such as water, fertile land and clean air) will also become more important, economically and geopolitically. Meeting the world's growing food needs (demand is predicted to rise by 50% by 2020²⁷) is just one of these challenges – with wide-reaching impacts. For instance, a third of all the milk produced worldwide is now being transported to China to keep pace with its rapidly growing demand (at a rate of 25% a year²⁸) with significant impacts on supply and prices across the globe. Meeting the world's freshwater demands will be just as challenging: by 2025, the combined population of the countries likely to face water stress or scarcity will be nearing 3 billion.²⁹

The politics of oil

In the short term, it is oil that has the most wide-reaching implications. Demand for oil is likely to remain strong with the emerging economies leading the growth. In fact, if governments around the world

stick with their current policies, the world's energy needs are likely to be over 50% higher in 2030 than today, with oil making up 32% of total demand.³⁰ As pressure on supply increases, geopolitical factors take on greater significance and resource nationalism increases. It is little coincidence that questions of Arctic sovereignty came to a head at the same time as oil prices were ascending. A further cause for concern is that the 5 day war in August 2008 between Russia and Georgia forced BP to shut down a pipeline exporting oil from Azerbaijan to the Black Sea – and there is an increasing tendency toward countries shutting the door to big oil to cultivate their home-grown companies. Geopolitical maneuverings like this have the potential to cause huge disruption to supply, yet little can be done to mitigate the risk.

Dealing with volatility

The fluctuating prices of commodities represent another challenge with wide-ranging impacts – again with oil at the center. Any commodity fluctuating so wildly in such a short period (from US\$70 a barrel to US\$145 and back in the 12 months from October 2007 to 2008³¹) would have an impact. The fact that oil is so widely required, by industry and consumers alike, makes this impact all the more important, hindering businesses' and governments' ability to plan. Indeed, Mexico's oil income stabilization fund has hedged the country's entire oil output for 2009 to manage the risk associated with this volatility.³²

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Both rising and falling prices have impacts. Rising prices put pressure on developed and emerging economies – with some industries' profitability (or even ability to exist) fundamentally challenged, as evidenced by the collapse of numerous airlines in 2008. Supply chain economics also comes to the fore; significant rises in the cost of transporting goods can override other factors, making it cheaper overall to produce goods locally, even at a higher unit price. However, low oil prices are not a solve-all solution and can impact plans to diversify supply. Some projects to find more oil (requiring long-term planning and investment) may no longer be worth doing: prices below US\$90 challenge the economics of projects in the Canadian oil sands; prices below US\$70 challenge those of offshore projects in Angola.³³

Considering the alternatives

Freeing the world from its dependency on traditional energy sources would help counter many of these issues – as well as solve some environmental ones – but this will not be an instant solution. The current contribution of renewable energy sources is relatively low (representing 3.4% of global power generation),³⁴ and the speed of a transition from a global economy based on fossil fuels to one based on alternative energy is likely to be slow in the absence of a major technological breakthrough. Uncertainty over government subsidies and regulation could hamper efforts further.

However, the future remains promising. Global investment in renewable energy surged to US\$148 billion in 2007³⁵, and there are some significant success stories:

wind power, for instance, is growing at 30% per annum globally, already provides 20% of Denmark's electricity needs³⁶ and is likely to provide up to 15% of the US electricity needs by 2020.³⁷ The role of new energy technologies (cleantech) is expected to be critical. The financial crisis and fluctuating price of oil will put pressure on the economics of cleantech and its high capital costs in the short term. However, the necessary and fundamental shift away from oil will drive more corporate, private and government capital and foster innovation to ensure cleantech's increasing contribution to overall global energy production in the next decades.

The drive for efficiency

Of course, the most effective way to reduce demand for energy is to use less of it – a strategy that also results in reduced costs. The impacts of energy efficiency are most obvious in heavy industry; for instance, the steel industry accounts for 10% and 27% of total electricity and coal consumed respectively in India, so any efficiencies made there would be substantial.³⁸ However, the cost reduction impact can be seen across all types of business – it is estimated that up to 80% of the US\$10 billion annual energy bill for commercial food service in the US, for example, could be saved by using more efficient equipment.³⁹ As global recession drives industry to cut costs wherever possible, the scale of the savings possible will encourage businesses to act. It should also drive investment in new technologies that promote and enable efficiencies, a significant part of the cleantech agenda.

Responsibility firmly on the corporate agenda

The rise of responsibility

Responsibility and sustainability are terms that are taking on an increasing importance within the corporate world. There are increasing expectations and obligations on businesses around how they act and the impacts they have on the world around them. External stakeholders are holding companies accountable for the consequences of their activities, including social and environmental impacts, public safety, labor standards, and supplier and community relations. These stakeholders are not just their consumers, employees, regulators and shareholders, but include far wider-ranging groups, including NGOs, the media and local communities.

Climate change and other environmental concerns

Environmental responsibility is perhaps the most high-profile aspect of sustainability in today's society. The sustainable use of 'natural capital' resources is important, but the most pressing and critical part is linked to climate change. There is strong scientific and political consensus that a significant reduction of carbon emissions (up to 50% globally, and between 60-80% in developed countries by 2050)⁴⁰ is required to limit the worst extremes of climate change. Increasing levels of regulation to deliver on this are transforming the business landscape.

Companies have to learn how to operate in a low carbon economy, understanding the value of emitted carbon and treating it as a commodity. Carbon markets have expanded rapidly in the past few years with almost three billion tones of CO₂ being traded in 2007, up 70% on 2006.⁴¹ Almost every industry is impacted; as the cost of carbon increases, business practices and supply chains need to be reviewed. Carbon efficiency will become an important component of economic efficiency. Indeed, because of the rising costs of resources, many ways of making money today won't be profitable tomorrow; in the automotive and aluminum industries, for instance, up to 65% of their value could be at risk if they fail to adapt to the new paradigm.⁴²

There are also greater expectations (from consumers and investors) on the role business should play in preventing climate change. Sharp (the Japanese consumer electronics company) has committed that, by 2010, 40% of its Japanese sales will be from green products, and the company itself will be carbon-neutral⁴³ – just one example of a corporation responding to pressure to meet some of these new expectations. Governments are also likely to change the dynamics, using both regulation and incentives to alter business behavior – a carrot and stick approach.

Emerging markets are not immune from the challenges of climate change – and with three-quarters of the global increase in CO₂ levels by 2030 expected to come from these countries,⁴⁴ global pressure is on for



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them, too, to reduce their environmental impact – no small task while trying to sustain significant levels of population and economic growth. The Clean Development Mechanism (CDM) provides a globally interconnected approach to balancing the drivers of growth and environment (and delivered a cumulative committed investment of about US\$59 billion between 2002 and 2007),⁴⁵ but issues around trust and appropriate pricing have undermined some of its success to date.

Finding the opportunities presented by climate change

While there are many challenges, opportunities also exist. Astute businesses can position themselves to take market share (e.g., Toyota's success with the hybrid Prius car has demonstrated the advantage of moving first to previously hesitant businesses) or even move into new markets (e.g., financial services companies moving into carbon pricing and trading). Instead of asking what their sustainability strategy should be for their business, companies should be seeking out opportunity and asking what their business strategy should be in light of sustainability. GE's Ecomagination project, a program that aims to expand GE's portfolio of environmentally friendly products and technologies, is expected to bring US\$17 billion of revenues in 2008.⁴⁶

Social and ethical demands

Social responsibility, often seen as a less pressing issue than climate change, still plays an important role. While it was long perceived as an optional add-on, it is now a core business requirement and a key consideration for potential employees, customers and investors

alike: US\$1 out of every US\$9 under professional management in the US now involves an element of socially responsible investment,⁴⁷ and over 80% of the largest 250 companies worldwide produced corporate responsibility reports in 2008.⁴⁸ Awareness seems to be translating into meaningful action in a growing number of companies around the world. The best companies go beyond trying to avoid damaging business impact (Nike and Nestle have both suffered heavily from adverse attention to their operations in emerging markets); they proactively seek to raise their societal impact, establishing partnerships with worthy causes – for instance, Coca-Cola, Procter & Gamble, and Mattel are just three of the corporate partners of the Special Olympics, an international non-profit organization serving 2.5 million people with intellectual disabilities across the globe.⁴⁹

Impact of the financial crisis

The current challenging economic environment (and geopolitical tension) is expected to have an impact and bring more uncertainty into the timescale. There are two contrasting paths: the crunch may choke off investment in social responsibility and cleantech, squeeze out demand for eco-products, and force the government to appease voters by watering down costly regulation; or it may instead focus attention on the virtues of energy efficiency and alternative energy, encouraging governments to realize their power and take more far-reaching action. In the aftermath of the financial crisis, many believe that, alongside more regulation, businesses need to re-visit their approach to moral, ethical and leadership aspects, raising the profile of responsibility on the corporate agenda.

The next wave of technological innovation

Omnipresent technology

Technology developments in the past few decades have significantly transformed the way people live and communicate, and the way businesses operate across the globe. Of the 6.5 billion people in the world, about one half have mobile phones and almost a quarter have internet access.⁵⁰ Arguably, the pace of change continues to accelerate. The ubiquity of the internet and mobile communications, the massive available processing power, and the almost unlimited bandwidth and data storage are creating applications and opportunities that were unthinkable 5 or 10 years ago. The cost of devices has tumbled with advances in silicon technology, and their usability has risen significantly with advances in miniaturization. Portable communication and information devices have become a convenient and affordable day-to-day reality for millions. Information is now available to almost anyone, anywhere at anytime – and, as Web 2.0 becomes ever more common, almost everybody can contribute.

Digitalization and technology go far beyond the consumer. Businesses have adopted digital technologies to improve their productivity, to develop new products and services and, in some cases, to create new business models that have transformed major industries (e.g., Google's search technology revolutionized online advertising and had a huge knock-on effect on old media). Technology also drives convergence across industries: the computing, entertainment and telecommunications industries have converged with the launch of the Apple iPhone, and healthcare and energy (among others) find common ground in nanotechnology.

Business knows that technology will drive profitability (in fact, 68% of global executives in a McKinsey study believed a faster pace of technological innovation would have a positive or very positive impact on profitability⁵¹) – their question is how best to realize this gain. Realizing cost efficiencies – through a reduction in labor and effort, an increase in automation, and computerized inventory control, for example – is one of the early-adopted and obvious gains, but there are far more sophisticated trends playing out.

Making use of the data

One of these is analytics – a new wave of sophisticated computing and mathematical techniques and tools being embraced by mainstream business. Seen by some as the new frontier in decision science, it is attracting large business and intellectual investments (including software vendors, university research and business books). Analytics has proven a powerful tool for many companies: Capital One, the US credit card company, pioneered its use, running hundreds of experiments every day to understand the effects on their customers of, for instance, changes to interest rates or minimum balances; using this data the company claims to have ultimately driven down the cost of acquiring new customers for their savings business by 83% and increased customer retention by 87%.⁵²



Most experts believe we are only at the early stage of the digital technology revolution. As technology gets more open-sourced, and emerging countries contribute to innovation to a greater extent, the scale of innovation will increase.

Many industry sectors (e.g., financial services, health care and airlines) and fields (e.g., risk management, price optimization and financial analysis) have widely adopted the use of analytics. Despite considerable progress in the past few years, analytics is still a nascent category with a promising future. The trend is fuelled by the increasing digitalization of information, ever faster and cheaper computing, the explosion of online networks and data collection, the use of new tools for analyzing unstructured data (e.g., text, audio, video), and new approaches (e.g., neural networks, artificial intelligence).

A global platform

New technologies have also created a global collaboration platform that eliminates barriers of geography, distance and time. Companies are embracing new organizational models and are becoming globally distributed by selectively choosing the location of their corporate functions (e.g., headquarters, R&D, production, call centers) based on almost any criteria but proximate physical locality. Technology has been a formidable driver of growth for preferred offshoring locations such as India and Eastern European countries. Emerging countries have also played a more prominent role in the development and diffusion of new technologies as their businesses and consumers pass by older technology: there are more mobile phones in India than landlines⁵³ and moves to bring cheap computers to Africa have focused primarily on wireless and laptop technology, bypassing PCs entirely.

What happens next?

Most experts believe we are only at the early stage of the digital technology revolution. As technology gets more open-sourced, and emerging countries contribute to innovation to a greater extent, the scale of innovation will increase. The impacts and uses of software as a service are only just beginning to be understood. Cloud computing and virtualization – broadly, technologies enabling users to obtain their computer resources (processing, storage, software) virtually, and pay only for what they use – are likely to transform the IT industry. They will allow organizations to substantially reduce the amount of physical devices that are needed for computing functions. In turn, this will advance the green IT agenda, reduce the need for packaged software and allow start-ups (and others) to right-size their server capacity almost instantly without great infrastructure investment, facilitating the success of many innovative new ideas and businesses. In response to this new computing model, risk management and data security are also likely to evolve as organizations try to limit their data vulnerability.

The astonishing pace and increasingly global nature of change creates opportunities, but also risks for technology players. The route to market may be easier for new entrants in an era of impressive and often cheap technology, but with so many players, it takes something truly innovative and sustainable to win.

The increasing challenges of managing and developing talent

The aging workforce

Managing talent in today's marketplace is increasingly difficult; businesses are struggling at all stages of the talent cycle – recruiting, managing, retaining, and dealing with retiring. Aging populations are just one well-documented factor: in Japan, for instance, 42% of the population is predicted to be 60+ in 2050 (including 14% over 80), and the working-age population there is predicted to drop from 65% in 2007 to 47% in the same period.⁵⁴ The impacts are far-reaching. The overall aging of the population is leading to a brain drain of critical skills and institutional knowledge in the workplace. Certain sectors are being particularly affected; nearly 60% of the US aerospace industry is aged over 45, and more than a quarter are eligible to retire in 2008.⁵⁵ Changing corporate attitudes to the elderly may mitigate some of this issue (e.g., UK DIY company B&Q employs retired DIY enthusiasts as sales staff in their home improvement stores, with 25% of their sales force over the age of 50⁵⁶), but this is unlikely to happen quickly or widely enough to reverse the impacts in the short term.

Pensions, housing, healthcare, consumer goods, and even travel and leisure are just some of the areas facing fundamental challenges or changes based on two key factors related to the aging population: there are not enough working-age people to support those who are no longer working, and the habits and needs of the elderly are not the same as those of others. This issue is not solely a consideration for developed economies. The old-age dependency ratio (i.e., the ratio of people aged over 65 as a percentage of those aged 20-64) in Mexico is predicted to rise from 9 to 35 by 2050 and in Turkey from 10 to 31.⁵⁷ In China, the

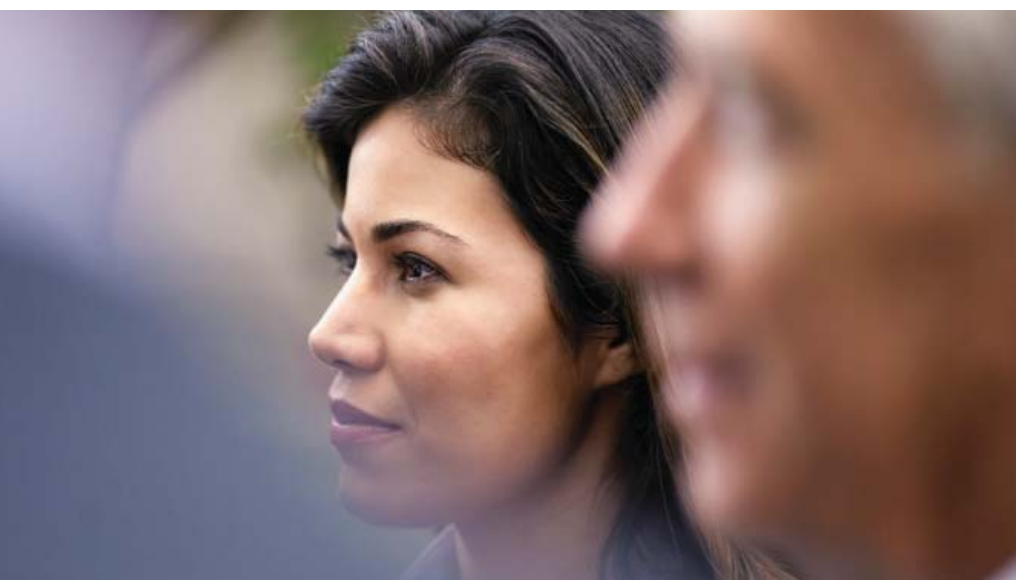
over 60s are likely to account for 30% of the total population by 2050,⁵⁸ a consequence of the One Child Policy.

Quality versus quantity

Even where dependency ratios are good, and there are seemingly high levels of education, challenges persist. The knowledge economy is growing, with a consequent increase in demand for qualified workers. However, while emerging market universities may be turning out enormous numbers of graduates (India alone produces 2.5 million college graduates and 400,000 engineers every year⁵⁹), quantity does not equate to quality. Only 3 of the world's top 100 MBA programs are in the emerging markets⁶⁰ and, in 2006, Infosys received 1.3 million applications, but considered only 2% to be employable.⁶¹ Companies in emerging markets are likely to begin to look harder at their diaspora to fill vacancies at home.

Gen Y and other challenges

These recruitment issues are compounded by increasingly demanding individual expectations. The certainty of a solid job and a pension is not enough to attract Gen Y – the generation of workers born after 1980, widely considered to have different expectations and beliefs than the generations of workers before them (baby boomers, Gen X). An increased



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desire for work/life balance, more inclusive work environments, greater mobility and the rise of new technology mean worker preferences and needs are undergoing a transformation. Employers have increasingly had to prove their credentials well beyond the salary package to win the best candidates. This trend seems to have transcended age barriers with older employees also demanding a more individual approach to being managed, trained and remunerated. That said, the changing economic environment will have an impact; in the short term, corporate redundancies will leave an excess of well-qualified people chasing fewer jobs and employees are likely to feel less confident making demands. Graduate recruitment will also be impacted; investment banks and other financial institutions were often cited as the most attractive places to work in employer surveys, a trend that is almost certain to change.

Managing the workforce once they are in is proving challenging too. Very few businesses have undertaken adequate succession planning, and the redundancies and cost-cutting measures taken in the 1990s are now being felt as businesses find there are insufficient people ready to move up to the top management positions. A fluid and rapidly changing business market means that employees need regular training: soft skills like adaptability, communication, and emotional intelligence are becoming more important, particularly when working across cultures. Managing diversity is another challenge. While employing a diverse workforce is commonly understood to be of benefit to an

organization, maximizing its effectiveness may initially prove more difficult.

Globalization drives greater interaction between cultures, within and between businesses, which in turn are trying to understand how best to institutionalize inclusiveness and capitalize on diversity.

A new view of HR?

The overarching outcome of these challenges is likely to be a fundamentally new approach to human resources (HR). Many HR professionals have not changed their practices since they started their careers, but the business world they are operating in has moved on. While HR functions will feel the pressure of operating more effectively during the economic downturn, businesses may start to take a more strategic view of talent and HR in the long run. HR metrics and analytics are likely to become more common and more refined, allowing businesses to develop a quantitative understanding of their HR capabilities and needs.

Businesses are also likely to use employee segmentation techniques to identify and recruit the best people; HR will have to create customized career alternatives for a diverse workforce, just as marketing responds to different customer segments with customized offers. They will need to manage talent more like a portfolio, differentially investing in the high achievers, and will commit more energy to understanding how to make them talent multipliers, maximizing the value of these people across the organization to raise the overall standard.

References

- 1 Gross domestic product based on purchasing-power-parity (PPP) share of world total, IMF data; Oct 2008.
- 2 IMF data; Oct 2008.
- 3 State Administration of Foreign Exchange (www.safe.gov.cn); Sept 2008.
- 4 The Central Bank of the Russian Federation (cbr.ru/eng); Oct 2008.
- 5 Global Growth Estimates Trimmed After PPP Revisions, IMF Data; Jan 2008
- 6 BRICs and Beyond, Goldman Sachs; Nov 2007.
- 7 Investing the gulf's oil profits windfall, McKinsey; May 2008.
- 8 'Fast economic growth' in Africa, BBC News; Nov 2007.
- 9 More Chinese enterprises eye investment in Africa, China Daily; Sept 2008.
- 10 'Fast economic growth' in Africa, BBC News; Nov 2007.
- 11 New Waves in Globalization and Competitiveness, IMD; June 2008.
- 12 Global Trends 2025, National Intelligence Council; Oct 2008.
- 13 The competitiveness roadmap: 2008 - 2050, IMD; May 2008.
- 14 The Rise of the Emerging-Market Multinational, Accenture; Jan 2008. Special report on globalization, The Economist; Sept 2008.
- 15 Special report on globalization, The Economist; Sept 2008.
- 16 World Bank data; 2008.
- 17 UNCTAD (stats.unctad.org/FDI); 2008.
- 18 Long term trends in the global capital markets, McKinsey; Feb 2008.
- 19 The new power brokers 2007, McKinsey; July 2008.
- 20 The incredible shrinking funds, The Economist; Oct 2008.
- 21 Based on Dealogic data, EY analysis; 2008.
- 22 SWFs: Growth Tempered - US\$10 Trillion by 2015, Morgan Stanley; Nov 2008.
- 23 The Rise of the Emerging-Market Multinational, Accenture; Jan 2008.
- 24 Some lessons of the financial crisis, Wall Street Journal; Nov 2008.
- 25 International Financial Markets in the UK, IFSL; Nov 2008.
- 26 New Waves in Globalization and Competitiveness, IMD; June 2008.
- 27 Global Trends 2025, National Intelligence Council; Oct 2008.
- 28 China's new appetite for milk forces price rise in Germany, The Guardian; Aug 2007.
- 29 Freshwater, Christine McMichael; Nov 2008. Based on projection from Population Action International.
- 30 The Race for Energy, Knowledge at Wharton; Sept 2008.
- 31 Based on data from thisismoney.co.uk.
- 32 Mexico hedges almost all of its oil exports for the coming year, Financial Times; Nov 2008.
- 33 Crude Profits, CFO Europe Magazine; Oct 2008.
- 34 Renewables 2007 - Global Status Report, REN21; Feb 2008.
- 35 Global trends in sustainable energy investment 2008, UNEP, SEFI and New Energy Finance; July 2008.
- 36 Energy Statistics 2007, Danish Energy Agency; Oct 2008.
- 37 Special Report on Energy, The Economist; June 2008.
- 38 Indian Steel Industry - Facts & a peep into the future, Bharat Book Bureau; June 2007.
- 39 Shaping Restaurants to Be Models of Efficiency, NY Times; May 2006.
- 40 Limiting Global Climate Change to 2 degrees Celsius - The way ahead for 2020 and beyond, European Commission; Jan 2007.
- 41 International Financial Markets in the UK, IFSL; Nov 2008.
- 42 Climate change - a business revolution, Carbon Trust; Sept 08.
- 43 Top 20 companies: Climate change leaders show the way, ClimateChangeCorp; July 2007.
- 44 China to pass US greenhouse gas levels by 2010, The Independent; Nov 2006.
- 45 Carbon Finance, Development and the World Bank, The World Bank; Oct 2008.
- 46 Credit crunch could dull appetite for green tech, Reuters; Nov 2008.
- 47 Just good business, The Economist; Jan 2008.
- 48 Disclosure on sustainability performance has become the norm for large companies globally - new survey, Ethical Markets; Oct 2008.
- 49 Business Throws Its Weight Behind Special Olympics Summer Games, America.gov; Oct 2007.
- 50 Internet Usage Statistics, Internet World Stats; Jun 2008. ITU World Telecommunication/ICT Indicators (WTI) database, International Telecommunications Union; Sept 2008.
- 51 How companies act on global trends, McKinsey; Apr 2008.
- 52 Create Lasting Advantage Using Business Analytics, Tom Davenport; Feb 2008.
- 53 Press release, Telecom Regulatory Authority of India; Oct 2007.
- 54 OECD population pyramids in 2000 and 2050, OECD; Feb 2007. Statistical Handbook of Japan, Ministry of Internal Affairs and Communications; Oct 2007.
- 55 Revitalization of the Aerospace Workforce, Aerospace Industries Association; 2008.
- 56 B&Q is 'Age Positive Retailer of the Year', B&Q company press release; Sept 2006.
- 57 OECD population pyramids in 2000 and 2050, OECD; Feb 2007.
- 58 The Ageing of Population and its Implications in China, UNESCAP; July 2007.
- 59 India's skills famine, The New Yorker; Apr 2007.
- 60 Financial Times MBA ranking 2008.
- 61 India's skills famine, The New Yorker; Apr 2007.



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