

Tackling the Global Gordian Knot:
Can economic growth be socially inclusive
and environmentally sustainable?

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Background Paper and Research Paper Summaries

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I Introduction

Our need to manage systemic global risks, and to protect the global commons, calls for better global governance. The tension between the short-term pressures on national leaders from their citizens, and the trade-offs needed to balance costs and benefits in inter-national and inter-temporal transactions, frustrates its achievement. Current events, from the recent global financial crisis, to the risk of inflection points if we transgress planetary boundaries make it clear that we cannot continue on our present path.

Western values and beliefs, backed by superior firepower, were employed to impose order in international affairs for most of the 19th and 20th centuries, and underpinned the international architecture crafted after World War II (although the Soviet Union rejected its economic pillars – the IMF, World Bank and GATT). The implosion of the USSR in 1991 led briefly to a unipolar world, in which the USA emerged as a military and economic superpower, and sought to extend the reach of Anglo-American values – which were said to have triumphed in an Hegelian “end of history” – in a world fast ‘globalizing’ under the influence of information and communications technologies, and integrated financial markets and supply chains.

This overreach prompted a cultural backlash, and the economic ascendancy of Asian powers and emerging markets generally in the past two decades, has ended the period in which Western norms can be imposed on other states.

Efforts to restructure global institutions have either failed (reform of the UN Security Council), or had relatively little impact (changed representation and voting rights in the IMF and World Bank), while endeavors to conclude successor agreements to the GATT Uruguay Round and the Kyoto Protocol have proved frustratingly slow. A large part of the reason is that there has been no substantive effort to define a normative framework on which to base new global agreements, and to guide the relationship between states and global institutions.

The complexity of the [partially] adaptive ecosystem in which humanity is embedded, and of the economic and social systems that we have created on a global scale, exceed our capacity to understand and plan their workings. Academic, disciplinary and institutional specialization makes it difficult to address integrated global challenges comprehensively. Impacts are experienced and interpreted differently by different groups, frustrating the emergence of common perspectives, whose absence precludes agreement on what to priorities, and what behaviors to encourage or to proscribe.

The discussion, at the Trilogue Salzburg 2011, of the need for agreed Norms for Global Governance, led to recognition that the collective action needed to address challenges across national boundaries is frustrated by the absence of integrative, trans-disciplinary categories that allow us to understand them properly, and by the divergence of interests, and the way in which values are prioritized, in different societies. The fraught debate in Europe over the best means to maintain the European Union in conditions of economic and social stress reflects these tensions.

Against this backdrop, the Trilogue Salzburg 2012 will address the first challenge on the Global Agenda¹ identified in 2011 – making economic growth socially inclusive, and environmentally sustainable. Participants will benefit from the reflections of leading research institutions on the ways in which the national societies in which each is based, suggest that this goal should be achieved, and by understanding the interests and the values that each society prioritizes in defining its preferred path.

The research institutes contributing their insights to this year's Trilogue on the topic - Tackling the Gordian knot: Can Economic Growth be Socially Inclusive and Environmentally Sustainable? - are the Brookings Institution [on the USA], the Royal Institute of International Affairs [EU], the Institute of Contemporary Development [Russian Federation], the Asia Society [China], the Observer Research Foundation [India], the South African Institute of International Affairs [sub-Saharan Africa], and the Fundação Gétúlio Vargas [Brazil]).

II Can economic growth be socially inclusive and environmentally sustainable?

It may seem ambitious to pose so large and comprehensive a question in a time of global economic angst. The IMF's Data Mapper² projects world GDP growth in 2012 at 3.5 percent – down from 5.3 percent in 2010 and 3.8 percent in 2011 – and that of the advanced economies only 1.4 percent. The USA, where unemployment is stubbornly above 8 percent, is projected to grow by only 2.1 percent, while GDP in the Euro zone will contract by 0.3 percent. Even the UK will grow by only 0.8 percent, despite the Queen's Diamond Jubilee and the London Olympics. If it were not for the developing economies' expected growth of 5.7 percent – China's 8.2 percent; India's 6.9 percent; the Russian Federation's 4 percent; Brazil's 3.0 percent; and sub-Saharan Africa's 5.4 percent – things would be worse. Indeed, they might well be, as most institutions have revised their growth projections downwards!

Restoring the global economy to robust growth is the priority, many would argue. Narrowing the socio-economic divides and focusing on environmental sustainability may be important goals, but hardly a prime concern while many developed economies face the threat of a double-dip recession. In any event, some growth theorists argue, a rising tide will lift all ships, and the best guarantee of social advancement for both the working and middle classes lies in employment in profitable businesses. Burdening a faltering economy with efforts at social engineering and concerns about the environment is the best way to guarantee a prolonged recession.

¹ The FutureWorld Foundation has commissioned, over the next three to five years, an independent research and seminar series employing interdisciplinary teams from clusters of leading European, U.S., Asian, Latin American, Middle Eastern and African think tanks, to address each of the five pillars of the Global Agenda:

- Delivering environmentally and socially sustainable economic growth
- Effectively reducing poverty and improving equity
- Addressing the sources of global, national and human vulnerability and promoting security
- Sharing the norms and values that enable global coexistence, while celebrating humanity's cultural diversity
- Improving the quality of global governance and our global institutions

Each cluster is asked to develop core, actionable proposals, and to make explicit the values and norms that underpin its recommendations. The aim is to identify the perspectives, values and norms which are held in common across each of these cultural clusters, and those that diverge.

² <http://www.imf.org/external/datamapper/index.php>, accessed July 31, 2012.

There is some truth in these arguments, but also some dangerous conceits. They take no account of the impact of the growth model we have pursued for thirty years on either inequality, or the environment. Returning to that path, if it were possible, might deliver increments in GDP growth for a few years, but would confront us in short measure with a larger series of threats, with potentially devastating consequences.

Recent studies in the U.S. have disclosed stagnation of the wages of blue-collar workers over five decades, and increasing concentration of national income and wealth in the hands of the top one percent. The socialization of losses in the aftermath of excessive private profits in the financial sector, and evidence of dishonest behavior by banks in pursuit of profits, have triggered outrage and regulatory responses.

The phenomenon and the reaction are not restricted to the United States. The Occupy Wall Street movement had spread by October 2011 to demonstrations in 1,000 cities in 82 countries, to denounce what organizers called 'an intolerable situation'. A second round of demonstrations took place on May 12, 2012.

Recent assessments of the gap in pension and related social security provisions in Europe suggest that €1.9 trillion in aggregate personal savings each year – 19 percent of 2010 GDP – is needed to allow EU citizens an adequate standard of living in retirement, because of increasing longevity and falling birth rates. The underfunding of social security provisions in the U.S.A. is also well documented: The Board of Trustees of the Social Security Trust Fund estimated in 2010 that the Fund, which replaces about 41 percent of preretirement income for most U.S. citizens, will be exhausted in 2037. Meanwhile, China, India and other countries in the developing world, with diverse demographic profiles, are grappling with the need to develop effective social security systems, to enable greater inclusiveness.

Meanwhile, despite rising evidence of extreme weather events around the world due to perturbation of the climate system, and the resulting sharp rise in insurance claims for climate-related damage, we are not progressing satisfactorily towards a scientifically-based agreement on limiting emissions of greenhouse gases under the UN Framework Convention on Climate Change. At best, the Intergovernmental Panel on Climate Change and the International Energy Agency tell us, present commitments will hold projected warming to 3.5°C, which threatens acute water scarcity and prolonged drought in some regions, and devastating floods in others, potentially displacing millions of people in forced migrations for survival, exacerbating social tensions and conflict.

Likewise the Rio+20 Conference on Sustainable Development which aimed to “reduce poverty, advance social equity and ensure environmental protection on an ever more crowded planet”, ended inconclusively due to deep divisions, prompting the World Bank’s Special Envoy for Climate Change to say of the deliberations, that “any observer ... would have found it impossible to believe that we are serious about solving these problems.”

The Trilogue Salzburg 2012 will therefore address this comprehensive challenge, asking if a new growth model that is less socially divisive, and better aligned with the planetary ecosystem in which we are embedded, can be identified, agreed and implemented.

III Summary of Key Findings

The research papers prepared for the Trilogue allow us to understand how the challenge is framed in leading states and regions around the world; how well national or regional policy integrates its different dimensions; which components are prioritized, and why; and how the resulting trade-offs are managed, or rationalized. These insights may allow us to understand how much agreement there is, and to grasp the nature and scale of the divergence.³

A more detailed summary of the key findings in the research papers is included in the Appendix. Although the papers are abbreviated there, the language of the authors has been retained as far as possible.

A few preliminary observations may help to frame the debate. At the Trilogue Salzburg 2011, we concluded tentatively that the absence of effective trans-disciplinary concepts that allow us to understand and address these complex global challenges and differences of interests, and different ways of prioritizing values in different societies, frustrate agreement on issues of the global commons. The insights we can glean from these research papers, suggest that this is true.

- In their paper, Joshua Meltzer and David Steven from Brookings Institution outline the evolution of the U.S. economy and the impacts of its growth on economic, social and environmental outcomes; discuss “the shifting interests of different groups in American society and the structural, institutional and cultural factors that will inform change”; and offer scenarios for the future, “each of which represents a plausible pathway towards a new political settlement.” They cite the vision of the High Level Panel on Global Sustainability⁴: “to eradicate poverty, reduce inequality and make growth inclusive, and production and consumption more sustainable, while combating climate change and respecting a range of other planetary boundaries”, and state simply: “A vision of this kind has no chance of adoption in the United States.” The High Level Panel’s paper had called on all countries to adopt a global strategy for sustainable development, and to measure the implementation of this strategy through a set of goals that would reflect equally “the economic, social and environmental dimensions of sustainable development and the interconnections between them.” Mr Meltzer and Mr Steven offer three possible scenarios for the U.S., the most constructive of which, Intelligent Design, postulates a domestic political focus on creating jobs; intelligent approaches to financial regulation and policies supporting sectors with high export potential; a strategic approach to domestic opportunities in the energy sector, with policies to maximize the potential of gas and effect a contribution by the sector to fiscal consolidation through reduced subsidies; which collectively have an impact on sustainability. In this scenario, “geopolitical outcomes are more cooperative, with some innovations in global governance, even though important stresses remain unaddressed.”

³ We hypothesized in 2011 that the common perspectives that emerged could frame the scope of potential collective action, while common values and norms could serve as the normative parameters of the solutions. We suggested that a triadic structure might emerge, recognizing the need:

- To subordinate key global public goods, and certain areas that threaten a tragedy of the commons, to supranational systems;
- to cooperate more closely and harmonize rules on human rights, trade, financial flows and security (e.g. weapons of mass destruction, terrorism, pandemic control); and
- to commit to common objectives in other areas, without creating institutions to control or enforce compliance.

⁴ Secretary-General’s High-level Panel on Global Sustainability launches its report “Resilient People, Resilient Planet: A Future Worth Choosing”, <http://www.un.org/gsp/report>.

- The paper by Carlos Simonsen Leal and Mario Monzoni of the Fundação Getúlio Vargas in Brazil presents the starkest contrast to the U.S. perspective. The authors take the need for collective action in search of inclusion and environmental sustainability as a point of departure, and argue for the creation of a Global Forum on Green and Inclusive Economy, with a Council for Sustainable Development as a high level deliberative authority, including civil society representatives among its members. Pointing to our collective failure to “deal with extreme poverty and income inequality on the planet”, and noting that our “current mode of production and consumption ... has ... reached critical conditions in some natural systems”, while “we are ... ‘overdrawing’ from the Earth [in others] and eroding the planet’s resiliency”, Mr Simonsen Leal and Mr Monzoni call for a new development model based on a shared vision of the future, a development agenda comprising public policies to incentivize the emergence of a green and inclusive economy, corporate responsibility that promotes wealth generation while respecting the natural limits of the planet, leadership training in substantive values., financial instruments to finance the eradication of poverty and economic activities that promote equality and the conservation and sustainable use of natural resources; and monitoring tools to measure progress. They discuss the values that would guide such a transformation, and propose policies for action, globally and in Brazil, in agriculture, energy, forests, industrial processes and waste management, transportation and water, to achieve it.
- The paper by Dmitri Zenghelis of the Royal Institute of International Affairs, on Europe’s perspective in the midst of debt, fiscal and structural crises in the Euro zone, asserts that “environmental and social sensibilities are woven into fabric of social consciousness” to a greater degree in Europe than in any major region, and that the returns available in capitalizing on environmentally and socially sustainable investment in green technology and infrastructure, have never been greater. To restore Europe’s growth path, Mr Zenghelis draws on the literature on optimal currency areas illustrating the need for automatic adjustment through labor mobility and financial flows, to advocate urgent resolution of the euro debt crisis by mutualizing the liabilities of member states; progress to a more federal union with shared fiscal responsibilities and mechanisms to prevent the build-up of future imbalances; and a program to encourage investment through a policy-driven, European transformation to a resource-efficient economy. In the latter he draws extensively on endogenous growth theory – “investment in knowledge begets increased output, and resources for further investment [in] a virtuous-growth spiral of endogenous growth” – and the need for government intervention to set policy in cases of market failure.
- Igor Yurgens of the Russian Institute of Contemporary Development has identified key challenges for sustainable development in Russia: Intense global competition for primacy in innovation; demographic problems giving rise to a growing social burden; climate change; pollution, industrial waste and ecosystem degradation; food security; a growing demand for energy resources; and lower aggregate capital availability due to the degradation of natural, physical and human capital. He argues for a focus on the preservation of natural resources by reducing resource depletion and pollution of the environment. By shifting from an extensive resource export model to a new model of economic development, based on innovation and cutting-edge technologies, Russia can align its domestic reforms with discernable global trends. Science-intensive processing and infrastructure sectors with minimal environmental impact should displace the dominance of the resources sector; the efficiency of natural resource use should be enhanced to avoid rapid depletion; and the volume of pollution per unit of end product, as well as aggregate pollution, must be reduced. Mr Yurgens suggests aligning the interests of countries with resource economies – those with a high concentration

of mineral and energy resources; strong positions on world markets; and powerful resource production industries requiring direct investment, technology transfer and human capital, as well as economic diversification – to allow them to act in concert to ease price volatility on exchange-traded commodities; forecast changes in the volume and structure of global demand; create a stable and supply of food and energy resources in the context of environmental constraints and trends toward resource effectiveness; facilitate multilateral investment cooperation, technology transfer and innovation; influence international trade of highly processed oil, gas and petrochemical products; create infrastructure for the new global LNG market; define a common approach to reserve classification, assessment and review; align national laws on subsoil resources and their use; and shape national legislation to discourage artificial manipulation of resource markets.

- In his discussion of China's perspectives, Dr Junglie Zhang, of the Asia Society notes China's extraordinary economic growth due to market-oriented reforms over 30 years, to become the world's second largest economy. This growth has created social and environmental problems, not least because of the dramatic increase in electricity generation using thermal power, and industrial pollution. The World Bank estimates that China's economic losses from pollution and environmental degradation were 10.51 percent of Gross National Income in 2008, while the Chinese Academy for Environmental Planning assessed the cost of pollution and ecological degradation at 3.8 percent of GDP in 2009. Recognizing that a growth model relying on high resource input and heavy pollution is not sustainable, the Chinese government undertook a major policy shift in 2003, under the Scientific Outlook on Development, which requires comprehensive, balanced, and sustainable people-oriented development, including harmonious development between humans and nature. The 12th Five-Year Plan for National Economic and Social Development provides for resource conservation, environmental protection, energy saving, and climate change mitigation; and China has proposed models for a green economy, a circular economy, and a low-carbon economy. The 12th Five Year Plan's renewable energy targets are an industrial policy aimed at employment and wealth creation, an energy policy to ensure a long-term, sustainable, diversified and stable supply of electricity, and an environmental policy to replace coal-fired power plants with clean energy to meet China's commitment to reduce carbon intensity by 40–45 percent by 2020. Not least because of the trade-offs it faces between poverty eradication and environmental protection, China does not accept any conflict between its social and economic goals. Its environmental policies assume that prevention can minimize the negative impact of growth. Dr Zhang concludes that China is on the right track in its sustainability strategy but that it must prioritize and enforce its policies, recognizing that its large landmass and population demand a diverse range of standards. He suggests that economic growth and globalization do not necessarily cause environmental degradation and that China does not have to slow its growth, but that it needs a comprehensive strategy, based increasingly on market-based instruments and international policy coordination. Encouraging and securing public participation in optimizing the balance between economic output and environmental quality will be key.
- In her paper on India, Lydia Powell of the Observer Research Foundation notes that “the desirability of high mass consumption, technological dynamism and rising levels of gross domestic product” are universally seen, among the political class, as the solution for all India's “social and political problems such as poverty, social exclusion and surprisingly, even environmental degradation.” Ms Powell celebrates the fact that “India showed the world that it is possible to maintain, sustain and strengthen a functional democracy at per capita income levels of USD 100” at independence, and that its “per capita income has grown roughly ten

times [since then, while] democracy continues to thrive and mature". She notes, however, that this achievement is "grossly flawed ... because of India's unforgivable failure in addressing mass poverty, inequality, destitution and discrimination", which she attributes to poor policy, vested interests and the caste system. The Government has no official position on how best to balance growth, social inclusiveness and environmentally sustainability, but a recent report by the National Planning Commission on Low Carbon Strategies for Inclusive Growth (2011), argues that "livelihood considerations such as income generation and poverty alleviation must dominate our policy choice, even if it requires overriding carbon emission concerns." Ms Powell notes that the idea that we need a more socially inclusive and ecologically sustainable model for development is not new, and that ways and means to achieve it have been widely discussed. The question is why the models proposed "are failing to make a marginal impact on the neo-liberal growth model." She suggests that concept of sustainable development is "equally untenable ... as it endorses the false promise that an expanding economy can be fully compatible with environmental sustainability"; and concludes that "[v]alues such as 'social inclusiveness' and 'ecological sustainability' will be prioritized only when 'economic growth' ceases to be a proxy for development or progress."

- Addressing the challenge in Sub-Saharan Africa, Mzukisi Qobo of the South African Institute of International Affairs notes that African countries have struggled since independence to grow their economies sustainably and develop their people. Many externally-driven and home-grown initiatives have emerged – from structural adjustment facilities, poverty reduction programs and the highly-indebted poor countries (HIPC) debt initiative of the Bretton Woods Institutions, to the Lagos Plan of Action and the Abuja Treaty, which were grounded in Pan-Africanism and self-sufficiency. The New Partnership for Africa's Development (NEPAD) emerged in 2001, aiming to eradicate poverty through "African-owned and African-led development", but seeking partnership with OECD countries to enable Africa's incorporation into the global economy. None of these programs provided a coherent normative framework, and ideological differences about means – state-led versus market-led development – left the assumptions underpinning growth and development largely unexamined in Africa. This is not surprising. The conceptual underpinnings of the notion of environmentally sustainable and inclusive growth are weak. Policy discourse on development tends to be obsessed with outcomes (quantifiable indicators of the state of the economy), rather than process (concepts, values, the institutional framework, and the nature of social relations). In search of the latter, Mr Qobo ranges across Nordhaus and Tobin's Measure of Economic Welfare, Amartya Sen's Development as Freedom, Social Watch's Basic Capabilities Index and Mathis Wackernagel's environmental footprint index, before turning to the World Bank's Commission on Growth and Development and the Commission on the Measurement of Economic Performance and Social Progress. The last, instituted by Nicolas Sarkozy and chaired by Joseph Stiglitz, argued for recognition of the multi-dimensional nature of well-being – including education, health, personal activities, political voice and governance, social connections and relationships, environment and security. Mr Qobo argues that these dimensions are particularly important when reflecting on well-being, inclusiveness and sustainability in African contexts. He celebrates the emergence of the G20's Development Working Group and the G20 Framework for Strong, Sustainable and Balanced Growth for giving voice to developing countries, but notes that contradictory development paradigms have continued to inhibit African development, and prevented the African economic revival of 1999-2008 being translated into a coherent program aimed at growth, poverty reduction and climate adaptation.

The first part of the hypothesis last year was that differing interests – in part the product of different stages of development and differing local circumstances – and a propensity to prioritize different values, accounted, to an appreciable degree, for the difficulty we face in reaching agreement on the challenges of the global commons. The second was that conceptual models that did not do justice to the complexity of these challenges compounded that problem. The excellent papers prepared by the researchers suggest that both are true.

Ms Powell, Mr Zhang and Mr Qobo have argued forcefully, for reasons that are both distinct and overlapping, that the notion of sustainable development is inadequate, in part because it is poorly conceptualised. Ms Powell adds the criticism that it “endorses the false promise that an expanding economy can be fully compatible with environmental sustainability”; and argues that “[v]alues such as ‘social inclusiveness’ and ‘ecological sustainability’ will be prioritized only when ‘economic growth’ ceases to be a proxy for development or progress.”

Mr Meltzer and Mr Steven have said directly that a vision “to eradicate poverty, reduce inequality and make growth inclusive, and production and consumption more sustainable, while combating climate change and respecting a range of other planetary boundaries” based on a global strategy for “sustainable development, measured in ways that would reflect equally the economic, social and environmental dimensions of sustainable development and the interconnections between them”, has no chance of adoption in the United States. Mr Zenghelis asserts that “environmental and social sensibilities are woven into fabric of social consciousness” to a greater degree in Europe than in any major region, and that the returns available in capitalizing on environmentally and socially sustainable investment in green technology and infrastructure, have never been greater.

Mr Zhang notes that China does not accept any conflict between its social and economic goals. Not least because of the need to address both poverty eradication and environmental protection, its environmental policies assume that prevention can minimize the negative environmental impact of growth. Mr Yurgens might agree: He suggests that by shifting from an extensive resource export model to a new model based on innovation and cutting-edge technologies, science-intensive processing and infrastructure with minimal environmental impact, Russia can enhance the efficiency of natural resource use, and reduce the volume of pollution per unit of end product, and in the aggregate.

Finally, closest to the vision of the High Level Panel on Global Sustainability, Mr Simonsen Leal and Mr Monzoni call for a new development model based on a shared vision of the future; a development agenda comprising public policies to incentivize the emergence of a green and inclusive economy; corporate responsibility that promotes wealth generation while respecting the natural limits of the planet; leadership training in substantive values; financial instruments to finance the eradication of poverty; equality and the conservation and sustainable use of natural resources; and monitoring tools to measure progress.

At the Trilogue Salzburg 2012 we shall be discussing the growth paths that we are planning – nationally, regionally and perhaps globally – and asking if enabling growth that is environmentally and socially sustainable, is a feasible endeavor for collective action.

IV Comparative data

Certain objective circumstances influence the decisions of governments in the trade-offs which they must make in deciding which objectives to prioritize, not least among growth, income redistribution, investment and regulation to reduce carbon emissions, and to control pollution. Among these, plausibly, are the country's (i) aggregate GDP – the market value of the officially recognized final goods and services produced within a country in a given period; the (ii) purchasing power of the GDP in local currency, with respect to a given basket on (chiefly) non-traded goods for consumption; (iii) the country's GDP per capita (the aggregate GDP divided by the number of persons resident there); and (iv) the national Human Development Index (HDI), a measure of life expectancy, literacy, education, and standards of living in a country, deemed to reflect the quality of life there compared to that in others, and published each year by the United Nations Development Program.

Recently, other, more indices have been developed: Two of the better known are (iv) the Environmental Performance Index, developed by Yale University to track countries performance in environmental public health and ecosystem vitality; and (v) the Happy Planet Index developed by the New Economics Foundation⁵, to measure “the extent to which countries deliver long, happy, sustainable lives for the people that live in them...us[ing] global data on life expectancy, experienced well-being and Ecological Footprint to calculate this.”⁶

The data in the tables below are drawn from the International Monetary Fund - 2011 GDP (rer); GDP (ppp); GDP (ppp. p.c); the United National Development Program – 2011 (HDI); Yale University - 2012 (EPI) and the New Economics Foundation - 2012 (HPI).

We have selected the countries and regions covered by this year's review by the contributing research institutions – Brazil, China, the European Union, India, the Russian Federation, sub-Saharan Africa and the USA. As several indices do not provide data for regions, we have used – arbitrary – proxies in these cases for the European Union (Austria - supplemented by Germany and the United Kingdom in the HPI), and sub-Saharan Africa (South Africa).

The tables raise interesting questions about the reasons for the relative rankings of China, Russia, India, Brazil and South Africa, on the HDI, EPI and HPI. The EPI tables show the relatively better performance of Brazil vis-à-vis the USA (and Russia, China, India and South Africa), while the HDI metrics have China outperforming Brazil, Russia, India and South Africa. Brazil is the ‘star’ among the large countries on the HPI – outperforming India, the (European) EU proxies, the USA, Russia and South Africa. This – and the fact that Brazil showed most improvement in its placement on the EPI in 2012 - correlates with the emphasis that the Fundação Getúlio Vargas has placed on green growth, sustainability and substantive values in its paper.

Standard Economic and Social metrics

Rank	Country	GDP (RER) \$m	GDP (ppp) \$m	Rank	GDP p.c. \$	Rank	HDI
1a	EU	17 577 691	15 821 264	25 b	31 607	--	--
1	USA	15 094 025	15 094 025	6	48 347	4	0.910

⁵ <http://www.neweconomics.org/about>.

⁶ <http://www.happyplanetindex.org/about>.

Rank	Country	GDP (RER) \$m	GDP (ppp) \$m	Rank	GDP p.c. \$	Rank	HDI
2	China	7 298 147	11 299 767	92	8 382	102	0.687
6	Brazil	2 492 908	2 293 954	75	11 769	86	0.718
9	Russia	1 850 401	2 383 954	53	16 736	67	0.755
11	India	1 722 328	4 457 784	129	3 694	135	0.547
29	South Africa	408 074	555 134	78	10 973	124	0.619
---	Austria*	---	---	10	41 822	19	0.885

* Austria is used as an EU proxy for GDP p.c. and HDI as these are not measured at the EU level; likewise South Africa is used as a proxy for SSA.

Environmental Performance Index – Yale University (2012: 132 countries)

EPI Rank 2012 Switzerland (1)	Country	EPI Pilot Trend 2012 – Improvement Latvia (1)	Country
7	Austria*	23	Brazil
30	Brazil	71	Austria
49	USA	77	USA
106	Russia	95	India
116	China	100	China
125	India	124	South Africa
128	South Africa	132	Russia

* Austria is used as an EU proxy for the EPI as there is no ranking for the EU; likewise South Africa is used as a proxy for SSA.

Happy Planet Index 2012 – New Economics Foundation

Rank	Country	Life Expectancy	Well-being	Footprint: Gha/capita	HP Index
1	Costa Rica	79.3	7.3	2.5	64
21	Brazil	73.5	6.8	2.9	52.9
32	India	65.4	5.0	0.9	50.9
41	United Kingdom	80.2	7.0	4.7	47.9
46	Germany	80.4	6.7	4.6	47.2
48	Austria*	80.9	7.3	5.3	47.1
60	China	73.5	4.7	2.1	44.7
105	USA	78.5	7.2	7.2	37.3
122	Russia	68.8	5.5	4.4	34.5
142	South Africa	52.8	4.7	2.6	28.2

* Rankings for Austria, Germany and the UK have been included as there is no ranking for the EU; South Africa is used as a proxy for SSA.

V APPENDIX

The United States Growth Model: Fast Growth, Fair Growth, Green Growth, or All Three? –

Joshua Meltzer, David Steven, Brookings Institution

Introduction

In the post-war period in the United States the country showed unparalleled strength as a global leader in peace, prosperity, social progress and innovation. Despite past progress and internal stability, the millennial decade was one of profound crisis, with serious consequences for the United States security and prosperity, its social structures and environmental safeguards, and for the sustainability of the American dream. At the end of what he described as “a difficult decade”, President Obama painted a picture of the economic ‘devastation’ that had hit ordinary people and their loss of faith in America’s central institutions, its government, business, and media. It was time, he argued, to rebuild the American dream, drawing on the country’s history of “stubborn resilience in the face of adversity” and its core ideals and values.

As the government devotes an increasing proportion of its energy to fire-fighting crises, longer-term challenges have been left largely unaddressed. Americans are deeply divided over the role of government in public affairs, notably in social programs and protection of the environment. These divisions have shaped the United States response to short term challenges, including the crisis. While Americans from both sides of the political divide believe their country should respond actively to global problems, the nature and direction of United States leadership is controversial.

This impasse may be temporary, with political change only beginning to gather momentum. Popular movements such as Occupy and emerging parties like the Tea Party have put pressure on the establishment from right and left. With political, economic, and environmental disruptions and increasing impacts of climate change across the world, the next ten years will likely be a fertile period for innovation.

This paper is written from three assumptions:

- First, that *while the strength of the current United States economic growth model has been its resilience, that resilience has been weakened*. Acute economic, social and environmental challenges must be addressed and is unclear if this will lead to minor changes to the American economic model, or to a more significant transformation.
- Second, *the response of the United States will influence how other countries react*, given the size and influence of its economy, its position as a ‘necessary but not sufficient’ actor on most global issues, and its potential for technological and social innovation.
- Third, *there is little point in expecting the United States to adopt or advocate policies that run counter to its interests and values*; one must understand drivers of, and obstacles to, change in the United States, to draw conclusions about the solutions that are likely to emerge – after an era of crisis.

The first section of the paper reviews the evolution of the United States economy in recent decades and the impacts of the growth it has provided, on economic, social and environmental

outcomes. The second section analyzes the shifting interests of different groups in American society and the structural, institutional and cultural factors that will inform change. It ends with scenarios for the evolution of the economy, each of which represents a plausible pathway towards a new political settlement.

One: The United States Economy – How it Works and What it Delivers

The United States is the world's foremost economic power. Since the end of World War II, the economy has achieved steady growth, low unemployment and inflation, and rapid advances in technology. This prosperity underpins United States global leadership in trade, investment, the diffusion of technologies, and the spread of scientific, economic, and legal models. United States growth has been market driven and has emphasized the role of the private sector as the main driver of innovation and productivity, while constraining the role of the government. The economy is highly entrepreneurial, with a consumer culture based on the production and dissemination of goods and services. The size of its domestic market, the flexibility of its labor market, its commitment to innovation, and the sophistication of its business sector are key strengths. Consistent investment and the importance of domestic research and development and higher education has allowed the United States to remain at the forefront high growth sectors like information technology, biotechnology, pharmaceuticals, personal services, and renewable energy.

The Great Recession has heightened concerns that the economic model is not delivering its full potential. Recovery has been anaemic, with the economy only slightly larger in 2011 than it was in 2008. It faces longer-term threats such as a decline in global competitiveness; difficulty in generating jobs and tackling expanding unemployment levels; declining wages; deteriorating infrastructure; increasing national debt; growing fiscal pressures; and increasing vulnerability to global shocks.

Although past economic growth has delivered substantial benefits for the American people, not all trends have been positive. In recent decades, declining net worth at the household level and rising inequality have meant that economic growth no longer translates into improvements in living standards. The United States economy's ability to deliver broad based social outcomes has led to several negative trends: A decline in spending on education has contributed to poor education outcomes at primary and secondary levels, and increasing costs of higher education has made it more difficult for low income student to enroll. There are signs of discontent with the economic system, as fewer than half of American parents now expect their children to enjoy a better standard of living than they did.

The United States has made substantial environmental progress in recent decades, with improvements in air and water quality and more efficient resource use. This reflects the goal of protecting the environment for future generations while interfering as little as possible with the efficiency of the economy – environmental regulations are subject to rigorous cost-benefit analysis. The environment has become a contentious political issue, however, and this is reflected in international tensions in relation to climate change. The United States rejected implementation of a price on carbon after the failure of a cap and trade regime. But it is experimenting with solutions at local, state and regional levels. It has also invested in research and development in new low-carbon technologies, albeit not at the same rate as other countries. New technologies have opened up significant domestic gas resources, which could change the energy matrix and greenhouse gas emissions significantly.

The United States growth model faces several challenges to long-term sustainability from threats, both emerging and exacerbated by past neglect or overconsumption. These include access to resources, tackling climate change, responding to extreme weather events, and coping with water stress. Domestic division on how to respond to these complicates responses.

The economic model is informed by cultural values and norms which can translate into formidable constraints and preclude international cooperation on key issues. These include limiting the role of the government, a strong belief in technology and innovation to solve environmental challenges, a willingness to address global challenges once domestic economic and strategic impacts have been considered, a concern for national sovereignty, and a belief in the private sector as the key economic driver.

The United States model appears to be reaching an inflection point, with declining resilience and vulnerability to financial shocks impacting on growth prospects. The United States has put off dealing with longer-term challenges and trends, especially in terms of living standards, and Americans are experiencing an uncharacteristic loss of optimism in their country's ability to provide social mobility for the middle and working classes, leading to anxiety about the American Dream. Environmental factors threaten the sustainability of the current growth model, with growing competition for resources from emerging markets and climate change to the fore.

There is no consensus on how to address these problems, with partisan divisions on responses to the financial crisis, economic stagnation among the middle and working classes, and in the role government should play in tackling climate change. This makes future developments highly unpredictable.

Two: What Model do We Want?

A radical change in the American growth model is unlikely, but there is pressure for change. American choices will be defined by several factors that will shape its response to challenges and shocks.

The United States has a **positive demographic profile**, unique amongst OECD countries. Its population is growing rapidly and not aging as quickly as key competitors. It is increasingly urban, highly mobile and densely networked, and can absorb large numbers of immigrants when the economy is growing rapidly. It will continue to be a dynamic society, despite future costs of an aging population.

The United States has **enduring geopolitical strengths** and is a dominant security actor with a privileged place in the global system. The economy is relatively resilient with strong governance and leadership in technological sectors with promising export potential. Its resurgence as an energy producer seems certain to be a game changer, with environmental consequences that are highly dependent on policy responses.

The country also has **genuine geopolitical choices**, with different political factions likely to favor different outcomes: global rules based governance based on temporary coalitions of interest; unilateral protection of American interests despite costs; and increasing isolationism. The United States will not bind itself to 'set piece' international agreements, including on the environment, unless the case to do so is extremely strong, i.e. catastrophic climate change impacts increases the costs of response.

However growing partisan divisions with demographic, geographic, and socio-economic dimensions constitute **significant political weakness** that may make the government less capable of responding to major challenges, making it harder for traditional authority to deliver change, and providing an opportunity for radical changes of direction to emerge 'from the margins'.

Given these drivers, outcomes that increase resilience in the face of crisis, adapting to change and future shocks, are like to gain more traction. They may provide a limited role for the government in delivering service and regulation, support high levels of entrepreneurship and innovation, generate wealth for all segments of society and tackle rising inequality, and incorporate environmental sustainability into economic growth.

The United States is likely to remain relatively assertive despite the current pessimism, sustained by technological innovation and new business models. Economic growth will remain a crucial motivation, with the need to expand labor markets taking political priority. There is a strong possibility that it will adopt policies, at least in the short term, that reduce sustainability, or sacrifice environmental sustainability for economic or social outcomes.

The potential for radical responses should not be overlooked if the U.S. sense of agency is threatened. Various breakdowns (i.e. sustained economic failure, conflict or state failure, extreme weather events, etc.) could lead to sudden and unpredictable changes. The U.S. is likely to act quickly, and much then depends on who can seize these brief windows of opportunity.

Scenarios: The Art of the Plausible

The paper considers various scenarios for the US growth model. Some scenarios are inherently implausible. The *High Level Panel on Global Sustainability* set out a vision whose goals are "to eradicate poverty, reduce inequality and make growth inclusive, and production and consumption more sustainable, while combating climate change and respecting a range of other planetary boundaries." It called on all countries to adopt a global strategy for sustainable development and to measure the implementation of this strategy through a set of goals that would reflect equally "the economic, social and environmental dimensions of sustainable development and the interconnections between them." A vision of this kind has no chance of adoption in the United States.

To inform the debate, three plausible scenarios are suggested as possible directions the U.S. may take in determining its future growth model.

Muddle through. A continuation of business-as-usual, but with a slight rebalancing of growth from the richest Americans to the middle class, possibly as a result of a growth in high-value exports. A period of high energy prices stimulate significant gains in energy efficiency, and see the United States emerge as a major producer of unconventional oil and unconventional gas. This increases domestic energy security, but carbon emissions are only reduced slowly, as cheaper energy prices stimulate demand and reduce the competitiveness of renewable energy technologies. Pressure is placed on China and India to discover and develop their unconventional carbon reserves, with an inevitable impact on likely climate trajectories. Policymakers increasingly focus on adaptation to climate impacts and geo-engineering. Geopolitics remains highly contentious, with low levels of trust and cooperation between major players.

Intelligent design. This scenario features many of the same developments as in scenario 1. However, there is a more deliberate attempt to reinforce positive trends, restrain negative ones, and increase American resilience to a range of risks. Key developments include: (i) a renewed political focus on creating jobs; (ii) intelligent approaches to regulation, especially in the financial sector, combined with policies supporting sectors with high export potential; (iii) a strategic approach to domestic opportunities in the energy sector, with policies to maximize the potential of gas to reduce emissions (e.g. use in transportation) and some contribution from the energy sector to fiscal consolidation (reduced subsidies, increased use of taxation or market instruments). None of these measures are especially dramatic, but taken together they have a measurable impact on sustainability. The United States is also able to provide somewhat higher levels of leadership internationally; so geopolitical outcomes are more cooperative, with some innovations in global governance, even though important stresses remain unaddressed.

Emergency response. Policy is forged in response to an environmental crisis, most likely a severe domestic extreme weather event, but possibly in response to increasingly strong evidence of irreversible global climate change. The United States becomes a highly directive actor in this scenario. Net economic impact is negative, possibly strongly so. The impact on sustainability is highly dependent on the timing of the event, and on the extent to which appropriate technologies are primed for rapid diffusion. The impact on geopolitics is mixed, especially if coercive measures are used (such as trade sanctions).

Delivering environmentally and socially sustainable economic growth in Europe –

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Introduction

This paper sets out key conditions for overcoming the challenges that threaten to delay or retard Europe's progress towards delivering environmentally and socially sustainable economic growth. It argues that such a growth model for Europe will require a coherent three-pronged approach. First and foremost, there will need to be an urgent resolution to the current euro debt crisis based on the mutualisation of key member state liabilities. This must be accompanied by a more federal union with shared fiscal responsibilities and long term mechanisms for cross-border fiscal flows to prevent the build-up of future imbalances. Finally, these reforms must be accompanied by a programme to encourage private sector investment and stimulate growth, at the centre of which should be a policy-driven European transformation to a resource-efficient economy. These prerequisites are mutually reinforcing, but will not be easily achieved without coordinated action based on a common understanding of Europe's fundamental challenges⁸.

Europe's role in driving environmentally and socially sustainable economic growth

In focusing on means to overcome the challenges that threaten Europe's prospect of sustainable growth, it is important to recognise that Europe has been a leader in developing social and environmental policy.

Europe's strongest economies, such as those of Scandinavia and Germany, have taken social and environmental sustainability most seriously. European countries, regions and cities have highlighted the role of community, collaboration and policy in delivering social and environmental outcomes. From recycling and re-use within communities, to public transport, energy infrastructure, communication networks and building standards, European regions have set precedents and learnt from example and experience how policies can be applied and improved.⁹ Europe's experience has reinforced social norms favouring economic and environmental sustainability and embedded these in the collective consciousness of the Union.

Progress has not been without strife and compromises have been made. But Europe's experience shows that mutual confidence is a necessary for effective action. Progress has required understanding the differential comparative advantages and threats to competitiveness that member states face, and their individual histories and cultures. Even recognising Europe's current difficulties, the region is well placed to set the vision for sustainably producing, consuming and living that needs expression and learning through experience.

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⁸ Nevertheless the costs of failure are likely to be high. Though hard to quantify with precision, the German Council of Experts has estimated that Germany alone would suffer €3 trillion (£2.3 trillion) of damage in the event of an EMU disintegration.

⁹ Examples range from Denmark's wind programme, Germany's feed-in tariff regime (which includes a learning process in the form of clear points of revision) or cities like Freiberg which have adopted carbon neutral planning and urban development.

Staunching the Eurozone debt crisis

Much as has been written about the macroeconomic and sovereign crisis in Europe; suffice it to say that an environmentally and socially sustainable growth model requires early resolution of the present crisis. Although the level of sovereign debt to GDP in the Eurozone is below that of the US, the UK, and Japan, bond market pressures are pushing borrowing rates in several Eurozone countries higher. This reflects concerns about the sustainability of Eurozone policies and the unequal distribution of debt, rather than the absolute size of the debt. Austerity is therefore the wrong solution. Resolution of the debt crisis requires EU member states to combine resources to mutualise public sector debts and provide Eurozone-wide guarantees to ailing banks^{10/11}.

Anything short of a strong signal along these lines will fail to restore credibility among lenders and ever higher risk premiums will exacerbate indebtedness in a familiar vicious cycle¹². But resolving the crisis will not be enough. Preventing future debt imbalances will require more federalism where the stronger states cross-subsidise the weak to create inherent Eurozone stability. Germany is loath to take on a greater share of the burden, but this is the price of an effective monetary union.

Making a European single currency work

The shortcomings of European Monetary Union (EMU) can be understood in the context of a rich literature on optimal currency areas, from which two important conclusions can be drawn¹³. The first relates to automatic adjustment through labour mobility, the second to adjustment through financial flows. When a union is prone to asymmetric shocks, or symmetric shocks with asymmetric impacts, these can drive regional imbalances. The US, a similarly large and diverse economy is, like the EU, prone to such shocks. The single currency and monetary union in the US works effectively, not just because of shared language and culture, although this enables labour mobility, but because of its institutional ability to self-correct imbalances. A sharp increase in the oil price constitutes a positive economic shock for Texas and a negative one for many other states. Price, asset and wage inflation in Texas will be limited by an automatic inflow into the Texan labour market from regions suffering higher unemployment. Secondly, Federal tax revenues from Texas automatically rise while those in states hit by the oil price rise fall (while welfare payments rise) providing an automatic transfer of income out of Texas into the hardest hit states. Both these effects automatically limit the build up of regional imbalances of the Eurozone kind.

Europe lacks a federal fiscal mechanism to correct such imbalances. To the extent that there is labour mobility among multi-lingual educated Europeans, this may serve to exacerbate imbalances – as pools of low-skilled unemployed stay put whereas high skilled workers move to faster growing countries (witness the recent flight of skilled labour and capital from Greece to London, just when Greece most needs both).

A medium term strategy requires the prevention of serious imbalances. The crisis emerged from the boom-bust effect of large, uncorrected capital flows within the union over the past decade –

¹⁰ Unless there is some form of debt mutualisation, resulting in a decline in government bond yields in the key economies of Spain and Italy, the crisis may soon become uncontrollable.

¹¹ Ref IMF.

¹² Even German bond rates are likely to come under pressure, as the country is increasingly seen as the lender of last resort. The giant US bond fund PIMCO announced on July 24 that it would retreat further from the German bond market after Moody's issued a negative watch on the AAA ratings of Germany, the Netherlands and Luxembourg.

¹³ Ref James Mundell; HMT Five Tests supporting studies.

not reckless behaviour by irresponsible governments. Without labour mobility and federal transfers, the only adjustment mechanism within a single currency has been prices (through the real exchange rate), but the dynamics of price adjustment in a monetary union are destabilising in the absence of other mechanisms. Regions experiencing a positive demand shock undergo a real exchange rate appreciation through higher inflation necessary to realign demand with supply. In a monetary union there is one nominal policy rate set by the ECB. But this means that real interest rates already at historic lows for booming peripheral countries after their entry into the Eurozone, fell to historic lows, and in some cases turned negative. Spain, Ireland and Greece saw negative real short term interest rates between 2000 and 2007 when their borrowing binge was peaking – indeed *because* their borrowings were so high¹⁴. This led to historic levels of private and banking sector indebtedness, and massive current account imbalances.

Designing a framework for automatic cross-border adjustment flows through greater fiscal federalism will require a pooling of sovereignty, new euro-wide institutions, negotiations, referendums and constitutional amendments. It will not be easy, but must not be delayed and must be accompanied by a credible plan to restore growth. This must begin by moderating austerity programmes and leveraging in private sector investment. Without a common understanding of the problem, the collective response necessary for the euro's survival will not materialise. But within this framework, green investment could offer an effective focus to restore investment flows and increase total net worth. A viable political and economic vision for Europe after the crisis is key to restoring investor confidence.

Driving recovery through sustainable investment

A return to sustainable growth requires investment, but investment has slumped to record lows because households, businesses and banks are nervous about future demand, and have responded by forgoing risky investment in physical capital. Gross fixed capital formation (total investment) in the euro area fell to 18.7% of GDP in 2010, the lowest level in more than 40 years. Assets have been 'sweated' as borrowing conditions have tightened. Maintaining the quality of assets needed to expand growth will require significant investments in productive assets (like renewable energy infrastructures) in future decades¹⁵.

Yet instead of investing in assets whose prices have fallen, companies and households are stashing savings into 'risk-free' assets like solvent sovereign bonds. Annual private sector surpluses (the difference between saving and investment) have risen to record levels in almost all European countries, and in 2010 reached 4 per cent in Spain and 10% in Germany¹⁶.

In the aftermath of the crash, households, businesses and banks undertook unavoidable long-run stock readjustment of their balance sheets¹⁷. But many European economies are now trapped in a 'paradox of thrift', in which greater saving and cost-cutting is the rational response to economic gloom at the level of an individual business (which also sheds labour), bank (which restricts credit) and household. European banks are reporting a sharp decline in credit demand from firms and households, down -30% in Q1 2012, over the previous year.¹⁸ A gloomy economic outlook

¹⁴ See Thomas Spencer, Lucas Chancel, Emmanuel Guérin (IDDRI) 2011.

¹⁵ Helm, D. (2011), "The sustainable borders of the state", Oxford Review of Economic Policy, 27 (4).

¹⁶ See Thomas Spencer, Lucas Chancel, Emmanuel Guérin (IDDRI) 2011).

¹⁷ See Zenghelis, 2012 London School of Economics.

¹⁸ Euro Area Bank Lending Survey, April 2012.

and a general drop in confidence are the predominant reasons. But when everyone retrenches simultaneously, fear of extended recession becomes a self-fulfilling prophecy.

The Eurozone's problems are unique, but share common symptoms with the global malaise. Over recent years global desired saving has exceeded desired investment in many advanced economies pushing global real 'risk-free' interest rates for the next 20 years below zero. These rates do not reflect a collapse in the underlying returns to capital, but rather depleted confidence. The ultimate safe haven is often said to be the US Treasury bonds. Here, investors are paying the US government for the privilege of borrowing from them for the next twenty years; an insupportable condition, given the need for productive investment. Negative real interest rates on German bonds also underline the high degree of risk aversion.

Daily United States Treasury yield curve rates

Date	1 month	3 month	6 month	1 year	2 year	3 year	5 year	7 year	10 year	20 year
27 July, 2012	0.07	0.11	0.15	0.17	0.25	0.34	0.65	1.04	1.58	2.27

Source: United States Treasury

The current period of low confidence and sluggish private investment presents a golden opportunity for European policy-makers to boost employment and stimulate growth, while encouraging competition and innovation. Countries can also cost-effectively meet tough emissions targets and transition effectively to a resource-efficient green economy.

Both macroeconomics and the economics of market failure tell us that the best time to support investment is in a protracted economic slowdown. Resource costs are low and the potential to crowd out alternative investment and employment is small. In addition, although public budgets are stretched, there is no shortage either of private capital for investment, or of investment opportunities with potential for profitable returns.

With surplus private saving and real risk-free rates below zero globally, a reduction in the perceived policy risk premium on green investment could leverage substantial private investment. The returns on energy/infrastructure investments compares favourably with the near zero interest rates currently paid by solvent sovereigns.

A successful business policy for innovation

Over the medium term, Europe will also need a coordinated business policy that encourages innovation.¹⁹ Innovation lies at the heart of corporate success in rich countries; especially those not blessed with cheap mineral resources, and unable to provide cheap labour. National output and growth are functions not just of people, capital and materials in the production process, but also of the processes, techniques, and technologies with which these inputs are used, thus enhancing total factor productivity (TFP). Growth accounting shows that economic growth in most rich countries in Europe stems almost entirely from growth in TFP.²⁰

¹⁹ 'Industrial policy' is something of a misnomer; industrial production in the UK accounts for less than 20% of European value added. Yet government policies can and do effect all sectors of production.

²⁰ Rather than increased labour employment, material extraction or capital deepening.

Helpfully, knowledge and innovation are dynamic. Once a firm or an economy embarks on a high-innovation, high-productivity path, this tends to reinforce its technological lead. New equipment enables new ideas and better technologies.²¹ For example, investing in computers induces bright ideas on how to use them. This fuels increasing returns to scale in production, where investment in knowledge begets increased output, and resources for further investment; a virtuous-growth spiral of endogenous growth.²² European policymakers should focus on factors that generate knowledge and induce innovation to drive economic growth. Promoting sustainable future growth requires policies to shift the tax base towards materials and resources, and away from intellectual activity.

Rapid technical change is always disruptive, but new technologies afford an opportunity to promote sustainable growth by reducing resource use and greenhouse gas emissions, while revolutionising social interactions, redesigning institutions and transforming the way politicians engage with voters.²³ Although harnessing this revolution will benefit society at large, there will be losers and dislocation, especially among low- and medium-skilled workers. European governments will thus need to re-skill and retool workers, resisting lobby pressure from companies resistant to change. Institutions must resist pressures for protectionism, be outward-facing, market oriented and open to a changing global economy.

Europe is well placed to lead the transition

Europe is well placed to lead the transition to a resource-efficient global economy. It provides a scale large enough to persuade business that policy can create sizable new markets. The region accounts for almost a quarter of global GDP. European governments have committed to reduce CO2 emissions by 20% and increase renewable energy use to 20% by 2020, and are negotiating energy efficiency targets, for an 80-95% reduction of emissions by 2050. Member states have introduced domestic policies for a resource efficient economy, ranging from feed-in tariffs, renewable obligations, energy efficiency standards, eased planning restrictions, preferential loan programs for standardised refurbishment, investment in grid and transport infrastructure, and research development and deployment grants.²⁴

In addition to the potential boost to innovation, early savings from reduced energy dependence are likely to be significant, as are gains in geopolitical independence and security.²⁵ In 2010, oil imports amounted to 3.9%, 3.8% and 3.7% of GDP in Portugal, Greece and Spain respectively, compared to 2.6% in the EU at large. Improving resource efficiency to reduce imported resources can boost profits²⁶ and increase resilience.²⁷

Green cross-border investment flows could help deliver green energy at lowest cost and help stabilise peripheral countries. In the EU, many areas with abundant solar resources are regions most in need of investment. German proposals to invest in solar power in Greece, or extend feed-

²¹ See Zenghelis 2011 'Networked Solutions for 21st-Century Challenge', Cisco.

²² See Zenghelis 2011 'The Economics of Network Powered Growth', Cisco.

²³ Ibid.

²⁴ See Spencer, T. et al, "Can the EU Budget Support Climate Policy in Central and Eastern Europe?", Finnish Institute of International Affairs, 2011.

²⁵ See Spencer, T. et al, "Exiting the Crisis in the Right Direction: A Sustainable and Shared Prosperity Plan for Europe", IDDRI, 2012.

²⁶ McKinsey Global Institute, "Trading myths: Addressing misconceptions about trade, jobs, and competitiveness", 2012.

²⁷ See e.g. the UK case, Oxford Economics, "Fuel Price Shocks and a Low Carbon Economy", 2011.

in tariffs to southern Europe, offer a more productive 'bailout' than mopping up Greek debt²⁸. Carbon-energy taxation can raise significant revenues at lower macroeconomic costs than alternative tax instruments by taxing 'bads' and allowing other distortive taxes to be cut.²⁹ Green taxation would allow for simplification of the tax system and facilitate rationalisation.³⁰ Tightening the emission-trading cap offers another attractive revenue source, while supporting the carbon market in the wake of falling demand for certificates in the economic downturn.

Building a credible policy framework to leverage investment

The confluence of a long-term challenge and a short term need to boost investment when resources are under-utilised provides an historic opportunity. A clear strategic vision that recognises the inevitability of a transition to a low-carbon economy, and supporting policies to guide investors, are needed to restore confidence. Policies to encourage low-carbon investment would provide opportunities for business, and income for investors, and would be credible because they address global resource challenges while tapping into a fast-growing market for resource-efficient activities. While restoring macroeconomic credibility in the Eurozone, policymakers must also set strategic direction. This will give confidence to companies to invest in physical capital, and to individuals to invest in skills development.

Clear policy can help break the 'paradox-of-thrift' cycle. To support present policies, European governments could incentivise low-carbon investment by taking on elements of the risk which governments 'control', and which put off investors, by setting up well-capitalised public investment banks. These might include public European banks (like EIB and EBRD), public national banks (KfW in Germany, CDC in France, ICO in Spain, and CDP in Italy), or national or municipal governments and agencies. Unspent structural funds in peripheral countries could also be used.

Business opportunities in resource efficiency set to grow

The business opportunities in resource efficiency continue to grow. Even in the present uncertain environment, renewable energy generation and investment in energy efficiency is surging, having quadrupled since 2004³¹. New investment in clean energy surpassed investment in conventional energy generation in 2010, rising to between US\$180 and US\$200 billion. HSBC forecasts that global low-carbon energy revenues will triple to US\$ 2.2 trillion p.a. by 2020 (HSBC, 2010).³²

Two of the world's fastest growing economies, South Korea and China, have moved decisively to embrace high technology low-carbon growth in their recent stimulus packages in 2008 and 2009, and in China's outline for the 12th five-year plan³³. These countries recognise that investment flows to the pioneers of the revolutions.³⁴

²⁸ The proposal made by German Finance Minister Schaeuble of a 'Project Helios' to invest German funds to build 10 Gigawatts of new solar power in Greece, creating 60,000 jobs as well as supplying power to both countries. In addition, in January, a cooperation agreement in support of Renewable Energy Sources (RES) was signed between Greece, Germany, Spain and Slovenia to promote green energy investments.

²⁹ Kronenberg, T., "Macroeconomic Effects of the German Government's Building Refurbishment Program", Research Centre Jülich, Institute of Energy and Climate Research, 2012.

³⁰ See Hepburn.

³¹ Bloomberg New Energy Finance.

³² According to BIS, the UK low-carbon and environmental goods and services sector had sales of £116.8 billion in 2009-10, up 4.3 per cent from the previous year and placing us sixth in the global league table.

³³ Of the seven "Magic Growth sectors" identified in the Twelfth Five Year Plan, three are low-carbon industries: clean energy, energy efficiency, clean energy vehicles; the others are high-end manufacturing.

³⁴ See Carlota Perez (2002) 'Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages'. London: Elgar.

Europe can share in these opportunities. The rising price of commodities will shift the pattern of globalisation, with long-range transport and resource costs limiting or even reversing the trend to outsource manufacturing. The geography of production is likely to change in a way that favours redesigning products and production processes to feature durability, ease of refurbishment and recycling, and a lower materials call. The European periphery may have a comparative advantage in such sectors. Perez (2008) argues that widespread renovation provides one of the best opportunities for wealth and profit creation in European countries.³⁵

Transparent public intervention can drive new markets

Opportunities grow as policy frameworks evolve. Global integration, increased complexity and accelerating consumption are exposing a growing number of market failures and missing markets³⁶, which require well-designed public intervention.³⁷ If natural assets are not properly valued, overuse and depletion of resources, notably those owned in common, is inevitable. This has distorted the development of advanced economies, encouraging overuse of resources whose value we do fail to measure. Intervention is needed to correct market failures or create new market signals.

Markets work best where no one has a monopoly of power; where information is symmetric between buyers and sellers; where barriers to entry are low; where coordination failures can be overcome, and where the market reflects all the costs of production, including social and environmental costs.

In a rapidly changing environment, policy must embrace uncertainty, not least in climate science, resource depletion rates, and technology costs, tastes and preferences.³⁸ To deliver sustainable growth, policy must be stringent enough to change behaviour, predictable enough to contain policy risk, and flexible enough to evolve to accommodate change, while limiting compliance costs³⁹. To convince business that it will not renege on its commitments once investment costs are sunk⁴⁰, government must set credible long-term policies, while underwriting elements of policy risk.

Policies should be as neutral as possible, to allow a broad range of technologies to emerge and compete. Governments must avoid 'picking winners', but must make strategic choices as different technological options become available, some of which may require targeted assistance⁴¹. Policy choices must be open and transparent, and made in collaboration with civil society and the private sector.

³⁵ See Perez 2009 and also Perez and Murray forthcoming.

³⁶ These occur when uncoordinated markets driven by individuals pursuing their own self interest are unwilling, or unable, to undertake the welfare enhancing investments alone.

³⁷ Zenghelis 2012 'A Strategy for Restoring Confidence and Economic Growth through Green Investment and Innovation' Annex table 1 provides a list of pervasive market failure which justify public intervention.

³⁸ See Hepburn, 2010 'Environmental policy, government, and the market'.

³⁹ See Helm, 2010 'Government failure, rent-seeking, and capture: the design of climate change policy'. Oxford Review of Economic Policy.

⁴⁰ Recent examples of retrospective changes to feed in tariffs in the UK and Spain provide a case-in-point.

⁴¹ See Fischer, 2009 'The role of technology policies in climate mitigation', Resources for the Future.

Economic modelling for the new economy

Narrow cost-benefit analysis based on input-output models does not reflect crucial parts of the policy problem or of empirical realities^{42,43}. General Equilibrium models cannot account for crucial elements of market failure; they ignore learning and innovation and the creation of benefits beyond those reflected in GDP.

The expenditure involved in the transition to a resource-efficient economy must be analysed as an investment, not a cost net of benefits. Economic modelling of the potential returns to resource-efficient policies must address low-probability, catastrophic events associated with climate change and resource depletion, as well as the “co-benefits” of such policies, including energy and resource efficiency gains⁴⁴; preservation of ecosystems and biodiversity, energy security, and exclusion of dirty and dangerous technologies⁴⁵. It must recognise the urgency of action. Postponing policies may lead to resources being irreversibly depleted while the stock of greenhouse gases continues to mount.⁴⁶ Countries can lock in to high resource-intensity infrastructures and behaviours which are hard or costly to unwind or replace with expensive technologies that have not had time to mature. It is more cost-effective to work with the investment depreciation cycle in managing transition.

Many renewables will become competitive with conventional fuels in the next few decades. The cost of solar photovoltaic has fallen by a factor of 5-6 times in five years. The rise of the middle class in populous developing countries has reversed century-long price declines in commodities as supply is struggling to keep pace with demand. But greater efficiency can reduce pressure on these prices⁴⁷.

European policy must create new markets through clear signals designed to restore confidence and boost investment. This requires stable macroeconomic frameworks and business policies to spur innovation, create substantial knowledge-spillovers, and boost Schumpeterian innovation across a broad range of sectors⁴⁸.

The path-dependencies of ‘endogenous growth’ mean that government will determine the strategic direction of Europe’s economy. Policy choices today will determine the path that will drive the economy for decades. The adjustment will require leadership and substantial early investment. The commercial opportunities are enormous as the change will be transformative, requiring major investment in all sectors in all member states. With most of Europe’s economy running well below potential and spare resources in abundance, now is the time to set the course for transformation.

⁴² In addition to the market failures listed, account needs to be taken of the creation of benefits beyond narrow GDP (e.g. migration/conflict/ill health/human suffering/biodiversity/individual freedoms and capabilities).

⁴³ See Romani et al 2010.

⁴⁴ See work on efficiency by McKinsey 2011 and also WEF 2012.

⁴⁵ Ref Zenghelis

⁴⁶ See Stern 2012

⁴⁷ McKinsey&Co (2011) highlight 15 areas where there is great scope for improvement in efficiency, including: energy efficiency in the built environment; increasing yields on large-scale farms; reducing food waste; reducing municipal water leakage; increasing transport fuel efficiency; reducing land degradation; improving irrigation techniques; and improving the efficiency of power plants.

⁴⁸ See Mazzucato, 2011 ‘The entrepreneurial state’, Demos; and Perez, 2009 ‘The double bubble at the turn of the century: technological roots and structural implications’.

Europe is already a leader in this field. Environmental and social sensibilities are woven into Europe's social consciousness. With early action, the financial crisis need not derail its lead position. But public discussion and engagement are needed to ensure legitimacy and safeguard democratic choice. Explaining the need for institutional reform to promote resource-efficiency as a means to prosperity is a precondition for sustainable policy. The returns to environmentally and socially sustainable investment have never been greater. The opportunity should not be missed.

Delivering Environmentally Sustainable and Socially Inclusive Economic Growth: Russia's Position –

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Five development vectors can be identified:

1. Human development, investment in human capital, and higher labour productivity are at the forefront. The main competitive advantage of a modern, rapidly developing country is the quality of human capital and factors that indirectly support vital life functions.
2. Global development had an increasingly negative impact on the environment, the depletion of natural resources, and disruption of the biosphere. The ability of society to maintain a balance with the environment, both the natural and anthropogenic, is one of the core values of modern civilization.
3. The need to align the growing needs of humanity with the natural capacity of the planet to meet these needs is essential for sustainable development. High on the world's agenda is the need for a profound 'ecologization' of the economy by raising the value of nature and its resources along with the value of man, his life and health.
4. One of the most pressing problems of civilized society is the preservation of earth's plant and animal biodiversity, which is disappearing at an alarming rate. One of the components of the planet's biodiversity is the diversity of agricultural plant and animal types that have been created by man throughout tens of thousands of years.
5. Does Russia's territory represent a modernization resource or a risk? Rational use of space available is one of the key vectors of the country's new contemporary development.

So how can Russia be characterized and what paths are available for achieving these goals?

Population decline – partly compensated for by immigration – and aging, pose serious threats to Russia's growth path. Consideration is being given to raising the retirement age or increasing pension contributions. Extending the length of healthy life is, however, the most important objective.

The 2011 Human Development Index (HDI) places Russia in 66th place, roughly in the middle of the pack of developed states. Russia's average life expectancy at birth is 68.8 years; mean years of schooling (over 25 years old) 9.8; expected years of schooling (under 7 years) 14.1; GNI per capita (PPP - constant 2005 \$) \$14,561. Russia was ranked 59th in socio-economic inequality and in gender inequality in 2011, though it ranks above other BRIC countries in these respects.

The importance of these factors is reflected in President Putin's immediate focus after his inauguration, on the issues of "strategic and fundamental importance ... connected to our historic perspectives as a nation": These are the demographic sustainability of Russia, the modernization of social policy, creation of a new economy and strengthening the country's position in the world. The most important objective is development of a sustainable market economy capable of achieving qualitative growth in highly competitive conditions and global turbulence.

Present environmentally unsustainable trends in Russia are due to underestimation of the environment in macroeconomic policies, which leads to environmental degradation and the depletion of natural resources. This is apparent from:

- The high share of natural resources exported and the depletion of natural resources, reflecting underestimation of the economic value of natural resources and services;
- the structural shift to sectors of heavy natural resource exploitation and pollution, and rising physical depreciation of equipment, coupled with growing imbalances between resource exploitation and refining, processing and infrastructure;
- the decline of economic indicators which take into account environmental factors;
- the serious health impact of pollution; and
- the rent-orientation of the government and population.

The depletion of the country's natural resources is the topic of much discussion. Many deposits will exhaust their profitable reserves before too long. Reserves of oil and gas in the Volga-Urals region and West Siberia are being exhausted. In the North Caucasus the level of hydrocarbon deposits are around 70-80% depleted; in the Volga-Urals region the figure is 50-70% and in West Siberia over 45%. At current production rates Russia's oil reserves will last approximately 20 years. The process of rebuilding reserves is progressing very slowly, and the crisis worsened the situation. The situation of natural gas is better - Russia has reserves of approximately 70 years at current production levels. Future production will be expensive however as this involves shelf deposits in the Barents Sea and Sakhalin area, and the permafrost of Siberia. The World Bank estimates that more than US\$1 trillion will be required to develop these deposits.

Since 2000, Russia has earned over US\$2 trillion from export of liquid hydrocarbons, some ten times its earnings in the previous decade. The currency windfall is continuing into this decade as well. In the first quarter of 2012 Russia's fuel and energy complex accounted for nearly 75% of export revenues. As a result the state budget is increasingly dependent on these earnings; the percentage of budget revenues has risen from 24.7% in 2000 to 49.7% by 2011.

The *Plan for the Gas and Petroleum Chemical Industry to 2030* is now a working document, whose chief result will be significant expansion of production capacities for monomers and polymers, the key link products for the chemical industry.

The first wave of projects for the modernization of the oil and gas chemical industry, including associated sectors like transport infrastructure will grow the economy by 900 billion rubles annually and create 80,000 jobs. Russia could triple its share of global ethylene production from 1.6% to 5.6%. By 2030 more than 60% of light hydrocarbons will be allocated to advanced processing and petrochemical processing, up from 30.8% in 2010.

Environmentally sound policies are necessary for postindustrial development. An innovation-driven economy is fully consistent with environmentally sustainable development. Resolving the worsening environmental problems that are the legacy of the past requires new approaches to technology, industrial structure and government administration. The aim is to effect a change in attitude to the country's natural resources, shifting from "most effective depletion" to a well-designed programme to reduce pollution, limit degradation and advance to sustainable development, which reconciles economic and ecological effectiveness.

This requires:

Firstly, addressing environmental degradation and repairing past ecological damage:

- Modernizing the environmental monitoring system: With almost no environmental monitoring by the state, one cannot assess the state of pollution or the characteristics of environmental hot spots.
- Enacting environmental protection legislation on industrial ecology according to the EU model, which provides for comprehensive prevention of pollution, implemented through a transparent procedure based on a comprehensive set of permits.
- Radical improvements in the pollution control, focused on enterprises that pose the greatest risk to the environment, embedded in a new law on environmentally problematic areas.
- Abandonment of fiscal penalties for adverse environmental impacts, as this encourages gaming of the system and creation of local and regional funds to liquidate accumulated environmental damage.
- Modernization of procedures for environmental impact assessments and state environmental reviews in line with international standards.
- Introduction of environmental labeling to raise demand for environmentally friendly products.

Secondly, resource-intensive energy and infrastructure projects with high environmental risks should be mothballed. The enormous energy-saving potential in Russia allows new highly risky deposits in the Far North and on the ocean shelf to be shelved. Geological exploration of promising areas should, however, be continued.

Thirdly, environmental issues should be defined as a top priority for the state:

- Reforms should be undertaken with broad participation by representatives business, the expert community and the public;
- Russia should participate actively in international cooperation;
- Official policy documents on the environment and action plans for their implementation must be developed: a sustainable development strategy, national environmental policy and plans for reform and modernization of the environmental management system;
- Measures that take into consideration the “toll” of economic growth on nature and humans (sustainable development indicators, corrected net savings indicators, etc.) should be adopted.

In 2012 Russia adopted the *Main State Policies for the Ecological Development of the Russian Federation* for the period through 2030. This document outlines the main principles, aims and objectives of environmental development.

The preservation of biodiversity is of particular importance. In Russia, which is inhabited by a wide variety of people with rich traditions of animal husbandry, the loss of traditional breeds of animals means the loss of a customary way of life and culture. Local breeds are inseparable part from the culture and identity of native peoples. Without a well-considered approach to its own genetic resources, Russia could lose the traditional animal husbandry and unique agro-ecosystems which have developed over centuries. The aboriginal breeds are a cornerstone of national livelihoods, providing socioeconomic stability and sustainable development of the peoples and ethnicities of Russia.

The need for a shift to innovative development also highlights the need for a targeted regional policy. Before 2005 there was no considered paradigm for regional policy, although many

regional programs were prepared. The need to develop an industrial (structural) policy has, however, drawn attention to regional development. Intensive reallocation of resources to lagging territories could hinder economic growth in the advanced cities and regions. This dilemma must be resolved in the face of an unstable balance of federal and regional institutions, a lack of regional development institutions and a pressing need for modernization of institutional infrastructure.

In designing an effective regional policy, one must take account of the quality of the economic institutions of the region; the level of development of local civil society; initiatives promoting competition with neighboring regions) and the characteristics of the local business community; and the traditions of the local elite, their openness and readiness to accept innovation.

While improving the institutional environment in the regions is essential for success, many examples show that the role of institutions in stimulating development is secondary. The most substantial advantages are mineral resources, geographic location and agglomeration effects. The modernization of institutions will only contribute effectively in combination with other factors of spatial development. The regions will seek to improve institutions only if there is real competition for investment and human capital. As a result, real competition among the regions will only arise if resources and authority are decentralized.

In the sphere of international economic coordination the paradigm of global growth is being rethought and a new structure is emerging. In the developed world the market economy is being reborn around a new consumption model based in a better quality of life and higher resource effectiveness. This 'new capitalism' does not require high growth rates to the same degree as in the past and is more focused on sustainable development based on the gradual eradication of financial imbalances and social inequality.

Developing economies, on the contrary, require high growth rates supported by domestic consumption and inward investment, to close the gap with the developed countries. Furthermore, many of these countries have already fallen into 'middle income trap.'

Economic history suggests that a practice established for an extended period of time becomes institutionalized. The BRICS are an example; their existence signals the appearance of a new major player that consistently promotes its economic interests and adopts a collective political position. The BRICS have no desire to build a bureaucratic structure, however, and emphasize the need to resolve problems through multilateral diplomacy.

The Delhi Declaration, a 50-point document setting out the BRICS position on pressing issues on sustainable development adopted at the BRIC summit in March 2012, discloses the group's priorities: raising the effectiveness of global governance by strengthening the institutional representation of emerging and developing countries. To do this it is necessary to expand the G20 and improve the execution of its decisions; finalize reform of the quota system and management of the IMF; redefine the authority of the World Bank in its evolution from an institution that mediates North-South cooperation to one that 'promotes equal partnership with all countries as a way to deal with development issues and to overcome an outdated donor-recipient dichotomy.' The BRIC countries have also been consistent in following through on their own decisions.

In 2011, at the BRIC Summit in China, the group agreed that their state financial institutions would in future cooperate, using their national currencies instead of US dollars, “with the aim of developing mutual trade and diversification of the global monetary system.” On March 29, 2012, Russia’s Vnesheconombank, the China Development Bank, the Export-Import Bank of India, the Brazilian Development Bank and the Development Bank of Southern Africa signed the *General Agreement on Extending Credits in National Currencies and an Agreement on Confirming Letters of Credit within the BRICS Interbank Cooperation Mechanism*, which stipulated the priority servicing of transactions of the banks of BRICS countries. This will lead to wider trade between the BRIC countries (Russia’s annual trade with other members is about \$100 billion and is increasing by more than one-third annually) through the implementation of major multilateral investment projects.

A further step could be formats to align the interests of countries with so-called ‘resource economies’. While the concept of ‘resource economies’ is not fully recognized, there are signs that such countries have a special place in the international division of labor, such as:

- a high concentration of natural (mineral or energy) resources;
- a resource industry which requires growing volumes of direct private investment (including FDI) and the continual transfer of technologies and personnel;
- a need for broader and deeper economic diversification;
- a relatively stable financial system and national currency;
- a high risk of asset devaluation in new technology waves and an orientation of national strategy to significant improvements in resource effectiveness.

Comparable needs and conditions in these countries could set the stage for regular consultations and collective positions on matters of mutual interest. Several elements of a shared agenda are apparent:

- *First*, developing means for collective action (in future perhaps, ‘behavioral standards’) to ease price volatility on exchange-traded commodities (oil, major metals, agricultural and food commodities);
- *Second*, forecasting changes in the structure of global demand for food and energy based on economic growth models for certain groups of countries; one such forecasting center could be situated in Russia;
- *Third*, formation of a stable supply of food and energy resources in conditions of increasing environmental limitations and trends toward resource effectiveness at national and global levels;
- *Fourth*, deepening of multilateral investment cooperation in light of difficult conditions for production, transport and transit, and greater demand for intensive transfer of new technologies to unleash the innovative potential of related industries and clusters based on diversification of economic resources, including asset swaps and cross-ownership.
- *Fifth*, international trade in highly processed oil, gas, and petrochemical products;
- *Sixth*, cooperation in the creation of infrastructure for the global LNG market;
- *Seventh*, a common approach to standards for classification of reserves, their assessment and for review; the unification or alignment of national laws on subsoil resources and their use (subsoil clusters, mining codes, etc.); not least to provide additional stimulus for mutual exchanges of private investment and the provision of equal access.

Another area for cooperation is in the legal sphere – monitoring of national legislation on artificial manipulation of resource markets.

Progress on such an agenda would require flexible and informal forms of multilateral dialogue among the ‘resource economies’, perhaps the formation of an ‘interest club,’ which would be in line with the trend to democratization of international relations. The main aim is the preservation of natural resources by reducing resource degradation and depletion and thus environmental pollution, thereby improving well-being and quality of life.

Delivering Environmentally and Socially Sustainable Economic Growth: The Case of China –

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China has achieved miraculous economic growth over the past 30 years to become the world's second largest single-country economy. China's market-oriented reforms, which prioritize economic growth, enabled this, but also created social and environmental problems. China's economic growth has dramatically increased its electricity consumption. In 2010, generation was 4,228 TWh, of which 81 percent is produced by thermal power, preeminently coal. The World Bank estimates that China's economic losses from pollution and environmental degradation accounted for 10.51 percent of Gross National Income in 2008.⁴⁹

As an extensive growth model that relies on high resource input and heavy pollution is not sustainable, the Chinese government has begun to call for a major policy shift. Policy makers, however, still face numerous obstacles.

China's sustainable development strategy falls under the *Scientific Outlook on Development*, introduced by President Hu Jintao in 2003, and now the socioeconomic ideology of the Communist Party. This requires people-oriented development, which must be *comprehensive, balanced, and sustainable*, not least because of *harmonious development between humans and nature*. To achieve this, the 12th Five-Year Plan for National Economic and Social Development provides for resource conservation, environmental protection, energy saving, and climate change mitigation. Within this paradigm, China has proposed development models for a green economy, a circular economy, and a low-carbon economy.

China's sustainability strategies face many problems – some due to weaknesses in the concept of *sustainable development*; others specific to China. The core of the general problem is that there is no universally agreed-upon metric of sustainable development, making progress susceptible to manipulation.

China does not accept the existence of a conflict between social and economic goals. Its environmental policies assume that prevention can minimize the negative impact of growth. In reality, pollution cannot be prevented, only reduced to a tolerable level.

Although China's sustainability strategy was introduced at an early stage of its modernization and industrialization, the environment is still deteriorating although investment in environmental protection has increased dramatically. The government thus stresses pollution abatement instead of higher environmental quality.

China faces many trade-offs in sustainable development, most significantly between poverty eradication and environmental protection: 122.38 million people were living in poverty in rural areas in 2011, according to official figures. Economic growth is seen as the means to reduce poverty. Although the worst environmental degradation associated with industrialization has passed in rich provinces on the east coast, however, most regions are still on the wrong side of

⁴⁹ The Environmental Performance Index ranks China ranks 116 out of 132 countries (Emerson et al., 2012). A recent study by the Chinese Academy for Environmental Planning, estimates the cost of pollution and ecological degradation at 3.8 percent of GDP in 2009.

the environmental Kuznets curve, and growth based on industrialization will degrade the environment further.⁵⁰

The worst-case scenario is thus a vicious circle, as poverty alleviation requires economic development that puts pressure on the ecosystem; while the state of the environment inhibits low-income regions from emerging from poverty: Deforestation, overgrazing and other resource degradation are disproportionately present in the poorer regions and reduce their developmental capacities. A similar conflict exists between balanced regional development and protection of ecologically sensitive areas.

Population size and modest growth, associated with rising consumption⁵¹, pose further problems: Although technological progress might lead to more efficient production, it is unclear that this will offset the adverse impact caused by the growth in total consumption.

China originally sought to regulate pollution with a pragmatic command-and-control (CAC) approach, using performance- or technology-based standards and regulations. This requires identical abatement measures, is not cost-effective and provides no incentive to firms to innovate. As China transitions to a market economy, it is increasingly using price and other market incentives. Well-designed instruments like pollution charges, subsidies and tradable permits, can achieve benefits at a lower cost, promote innovation and reduce the information burden on regulators. There are, however, still many weaknesses in the system. Although technology policy laws increase resource conservation and reduce waste discharge, their implementation is often not cost-effective.

China places a high premium on hopes that scientific and technological advances will resolve environmental problems in time. Most environmentally sound technologies have emerged in developed countries, however, and there are still barriers to access. China's efforts to build innovative institutions are hampered by poor enforcement of intellectual property law. The high cost of clean technology is a further obstacle, as are laws and regulations that micromanage firms' choices of technology, inhibiting adaptation and innovation.

The Renewable Energy Law of 2005, amended in 2009, offers tax and land-use incentives, feed-in tariffs, and certain regulatory exemptions. China's commitment to promoting the generation and use of renewable energy is further explicit in the 12th Five-Year Plan, which sets aggressive targets. This is an industrial policy aimed at employment and wealth creation; it is an energy policy to ensure a long-term, sustainable, diversified and stable supply of electricity; it is an environmental policy to replace coal-fired power plants with clean energy; and it is a policy calculated to comply with China's pledge at COP 15 to reduce carbon intensity by 40–45 percent by 2020 vis-à-vis 2005.

⁵⁰ In the short run, emissions are proportional to consumption, meaning that income growth causes more pollution. However, as economies become wealthier, the demand for environmental goods induces shifts in industrial structures that decrease pollution. Some economists therefore posit an inverted-U shaped relationship between economic growth and the environment, which is known as the "environmental Kuznets curve" (Grossman and Kruger, 1994).

⁵¹ The IPAT model (Ehrlich and Holden, 1971) describes the relationship between a rising population and the environment. The model postulates that the human impact (I) on pollution equals the product of population (P); affluence (A), consumption per capita; and technology (T) [$I = P \cdot A \cdot T$]. The Kaya identity, an equation for calculating total carbon emissions, used by the Intergovernmental Panel on Climate Change (IPCC) is similar.

If one assumes that the trade-offs between economic output and environmental quality can be solved in different economically efficient ways, social acceptance of different outcomes will determine what the polity decides. In an authoritarian regime, the central government is concerned to balance aggregate economic output with social stability. Environmental pollution may cause social unrest as individuals balance income and pollution. The government therefore tries to reflect this balance in its policies. Without a voting mechanism, however, policy is based on information that can be observed. Evident pollution and accidents attract immediate attention. The government's bias is to faster economic growth, so it pays most attention to the most apparent environmental problems. Local government officials comply with policy set at central government level and GDP growth is a performance metric determining the advancement of government officials.

Despite these challenges, an entirely new model is not required for China's sustainable development. Overall, China is on the right track in implementing its sustainability strategy. It must, however, appropriately prioritize and adequately enforce its policies. Its large landmass and population size, moreover, demand a range of policies and standards. China has proposed pragmatic approaches, constituting policy experiments in sustainable development, to its efforts to reduce the environmental impact of economic growth.

The literature suggests that economic growth and globalization do not necessarily cause environmental degradation, implying that China does not have to slow down economic growth or return to autarky in order to avoid environmental deterioration. As a better environment will not emerge automatically as the country becomes richer, an effective sustainable development strategy is needed. This paper proposes the following recommendations to facilitate a pragmatic, environmentally and socially sustainable, economic growth strategy:

- The trade-offs between the potentially-conflicting policy goals of environmental protection, poverty eradication, balanced regional development, and rural development should be explicitly addressed in a comprehensive development strategy.
- The “one-child” policy is an important but controversial sustainability strategy. Reproduction is a basic human right. The mandatory population control policy is not aligned with the social goal of sustainable development, and it produces detrimental unintended consequences that need to be remedied.
- China should increase its use of market-based instruments such as price, market, and other economic incentives to regulate pollution behavior. These instruments can achieve the same environmental target as the command-and-control approach but with lower costs.
- The multifold incentives to promote renewable energy—including industrial, energy, environmental, and climate change—overlap. However, the effectiveness of industrial policy in the long run is questionable because of induced trade conflicts. Stronger efforts for international policy coordination in both environmental and trade goals should be made, enhancing green innovation and the availability of renewable energy products while mitigating greenhouse gas (GHG) emissions.
- China must better enforce its current environmental codes and regulations through a strong environmental administration, perhaps upgraded to the full ministry level.

- China should promote technology policies that encourage cost-effective green innovations instead of prescribing specific green technologies to be adopted by individual firms.
- China's climate policy should focus on the specific activities with significant co-occurring benefits that can lead to economic growth, job creation, energy security, and environmental protection. China's effort in the carbon market/with carbon emissions trading will help minimize the cost of reducing GHG emissions.
- Sustainability policy-making should reflect the preference of Chinese citizens for maximizing the balance between economic output and environmental quality, which is difficult to achieve without a voting mechanism. Encouraging and securing public participation in this area are therefore key components.

Tackling the Gordian knot: Can Economic Growth be socially Inclusive and Environmentally Sustainable? A View from India –

Lydia Powell, Head: Centre for Resources Management, Observer Research Foundation

India may have marked differences with the rest of the world on many political, economic and social issues but it is in near complete agreement over the desirability of high mass consumption, technological dynamism and rising levels of gross domestic product. Belief in economic growth has become, in effect, a solution for all India's social and political problems including poverty, social exclusion and environmental degradation. 'Economic growth rate' is the only indicator of 'progress' to which all Indian politicians, even on the extremes, pay homage.

Economic growth and the simplicity of its representation in GDP, make it attractive to most countries. India's reluctance to slow down growth, to pursue sustainability or inclusiveness, is not irrational. The trauma of passage from a predominantly religious, feudal society to a more secular, egalitarian and industrial one requires an optimistic view of the future. The belief that growing wealth and technological sophistication will guarantee power and prestige provides this. If India is asked to count the cost of growth in environmental degradation and social exclusion, it is likely to respond that more growth and more technology are the solution.

The Indian Government's optimistic view of 'economic growth' as a means to social inclusiveness (dignity and a decent quality of life for all) and ecological sustainability is, however, untenable. The concept of 'sustainable development' is equally untenable as it endorses the false promise that an expanding economy can be fully compatible with environmental sustainability. The values of 'social inclusiveness' and 'ecological sustainability' will be prioritized only when 'economic growth' ceases to be a proxy for development or progress.

Alternative indicators such as the Genuine Progress Indicator or the Green GDP have not taken root; facilitating a change of 'values' is a complex but not impossible task. Alternative definitions of growth and progress will not succeed if they are exclusively applied to developing and poor nations. Values may, however, shift if larger incentives are offered for the production of public goods – a clean environment, equity, peace, knowledge and health – rather than of 'private goods'.

In the early 1950s India's 'mixed' economic growth model attempted to balance the role of the market with that of the State. It was seen as an answer to the challenge posed by the communist developmental model in China⁵² and India was seen by some as a model of the non-capitalist path to development, while others saw it as on its way to social democracy and a welfare state⁵³

By the 1970s, India was seen by most as an example of everything gone wrong.⁵⁴ Slow growth and persistent poverty showed the failure of the 'mixed' growth model. At the beginning of the

⁵² Nayyar, Deepak, Economic Development and Political Democracy: Interaction of Economics and Politics in independent India, Economic and Political weekly, Volume 33, No 49, pp 3121-31, 1998.

⁵³ Nayyar, Deepak, Economic Growth in Independent India: Lumbering Elephant or Running Tiger'?, Economic and Political weekly, Volume 41, No 15, (April 15-21, 2006), pp 1451-1458, 2006 .

⁵⁴ Nayyar, Lal, Unfinished Business: India in the World Economy: 1820-1992, Oxford University Press, New York.

new millennium, India was the poster child of political democracy and liberal economics, a star performer with the potential to compete with China on economic grounds.⁵⁵

Unpacking India's post-independence growth story carefully, gives a nuanced picture of spectacular political success and unforgivable social failure. Most western nations became functional democracies at US\$2500 per capita; in 1947 India showed that it was possible to maintain, sustain and strengthen a functional democracy at US\$ 100 per capita. India's per capita income has grown ten times in the past six decades and democracy continues to thrive and mature. But this is a flawed achievement because of India's failure to address mass poverty, inequality, destitution and discrimination.⁵⁶

India's Constitution and all its Five Year Plans list equality and inclusiveness as one of the most important goals. Its inability to create an economy where the poor participate as producers and consumers is due partly to deteriorating State capacity and partly to its hierarchical system of caste, and the adaptation and manipulation of emerging class inequalities to capture wealth in a society in transformation.⁵⁷

At independence, the Indian economy was overwhelmingly rural and agricultural, although it had a decent national transport system, an administrative apparatus in working order, a shelf of concrete development projects and substantial reserves in foreign exchange. Capital formation at around 6 percent of GDP was a twentieth of the level in industrialised countries and insufficient to improve per capita incomes.⁵⁸ Food security was deficient. Illiteracy was about 85 percent and over 60 percent of children did not attend school.⁵⁹

Independent India's economic planners faced widespread poverty with limited resources and a wide range of ideologies – from Gandhians who believed in self-sufficient village communities, to those who believed that capitalism and modern technology would transform the economy. Neither approach was decisive, but neither was discarded. The policy pendulum swung between the two.

From independence, India sought inclusive growth. The goal was a rapid increase in living standards, full employment at an adequate wage and a reduction in inequality.⁶⁰ Each Five Year Plan called for these outcomes, but the redistribution of income and accumulated wealth was considered undesirable and impractical.⁶¹

Redistribution would have met opposition from the wealthy, nascent entrepreneurs, and propertied *castes* in rural areas. Agricultural incomes and land ownership were unequally distributed and since the Government did not tax agriculture, the decline in the effective rate of

⁵⁵ See BRICS and Beyond, Goldman Sachs, 2007 & The Wealth Report 2012, Citi Private Bank, both available on the internet.

⁵⁶ Bhaduri, Amit, Development with Dignity: A Case for Full Employment, National Book Trust, New Delhi, 2005.

⁵⁷ Desai, Sonalde&Dubey, Amaresh, 'Caste in 21st Century India: Competing Narratives', Economic & Political Weekly, Volum XLVI No 11, March 11, 2011.

⁵⁸ Kumar, Dharma & Desai, Meghnad, The Cambridge Economic History of India Volume 2: 1757-1970, Orient Longman, Cambridge University Press, 1982.

⁵⁹ First Five Year Plan, Government of India.

⁶⁰ Kumar, Dharma & Desai, Meghnad, The Cambridge Economic History of India Volume 2: 1757-1970, Orient Longman, Cambridge University Press, 1982.

⁶¹ Government of India, Planning Commission, Perspective of Development: India 1960-61 to 1975-76: Implications of Planning for a Minimum Wage level of Living, New Delhi 1962.

the land revenue, led to the creation of a privileged class who derived large incomes from agriculture.⁶²

These groups commanded the resources to contest elections and a large majority of legislators were drawn from their ranks.⁶³ Landless laborers, tenant farmers and small cultivators, though vastly in the majority, could not organize for political action. The leadership of the Congress Party framed constitutional provisions that limited the redistribution of land and other property.⁶⁴

High economic growth rates were thus seen as the means of wealth generation that would 'trickle down' to the landless laborers. A coordinated programme, with the State in a leading role, was seen as essential to grow capital formation, bring an integrated, long-term perspective to sectoral priorities and regulate the flow of scarce resources to important projects. This growth strategy defined all Five Year Plans in the first decades after independence.

Between 1947-1980 India grew at about 3.5 percent per year. As population growth was over 2 percent per year, per capita income grew by less than 2 percent. Since the 1980s, India has grown at over 6 percent per year, with the population growing at less than 2 percent, giving per capita income growth of over 4 percent per annum. But the doubling of per capita income had a modest impact on poverty and inequality.⁶⁵ A comparison with Mexico since 1980 is often made. Though India enjoyed higher growth rates than Mexico for three decades, its per capita GDP in 2008 was equal to that in Mexico in the 1950s.⁶⁶

India's 11th Five Year Plan (2007-2012)⁶⁷ aimed to achieve 'faster and more inclusive' economic growth.⁶⁸ Rapid growth of more than 9 percent per annum was targeted at (i) generating income and employment opportunities for the poor majority, and (ii) funding social sector programmes to reduce poverty and enable inclusiveness.⁶⁹ Average growth of 8.2 percent was achieved in the period, per capita GDP increased by 35 percent and the revenues available for social programmes were boosted,⁷⁰ but India recorded steep increases in inequality, and saw no substantial reduction in poverty.⁷¹

The most optimistic estimates by the Indian Government suggest that at least 28-30 percent of Indians live in abject poverty. The Indian Planning Commission, which defines poverty using

⁶² VKRV Rao, *The Taxation of Income in India, 1931*. 102-3 quoted in Kumar, Dharma & Desai, Meghnad, *The Cambridge Economic History of India Volume 2: 1757-1970*, Orient Longman, Cambridge University Press, 1982.

⁶³ Kumar, Dharma & Desai, Meghnad, *The Cambridge Economic History of India Volume 2: 1757-1970*, Orient Longman, Cambridge University Press, 1982.

⁶⁴ Abhijit Banerjee and Lakshmi Iyer, *History, Institutions, and Economic Performance: The Legacy of Colonial Land Tenure Systems in India*, *The American Economic Review*, Vol. 95, No. 4 (Sep., 2005), pp. 1190-1213.

⁶⁵ Bhaduri, Amit, *Development with Dignity: A Case for Full Employment*, National Book Trust, New Delhi, 2005.

⁶⁶ Walton, Michael, 'Inequality, rents and the long run transformation of India', Kennedy School of Government, Harvard University and Centre for Policy Research, New Delhi, 2010.

⁶⁷ Five Year Plan Documents are a legacy of India's socialist past. Today they are used to represent general policy direction of policy rather than rigid plans.

⁶⁸ Eleventh Five Year Plan 2007-12, Volume I, *Inclusive Growth*, Planning Commission, Government of India, Oxford University Press, 2008.

⁶⁹ Eleventh Five Year Plan 2007-12, Volume I, *Inclusive Growth*, Planning Commission, Government of India, Oxford University Press, 2008.

⁷⁰ *Faster, Sustainable and More Inclusive Growth: Approach Paper to the 12th Plan*, Planning Commission, Government of India, October 2011.

⁷¹ OECD 2011, 'Divided We Stand: Why Inequality Keeps Rising'. Special Focus: Inequality in Emerging Economies'.

calorific value of food intake, estimates that 27 percent of the population lives below the poverty line.⁷² A Government Committee report on informal employment estimated that only 235 million people were able to meet their own needs. This suggests that 836 million Indians (77 percent of the population) had incomes of less than \$2 per day and needed government support.⁷³ As only 10-12 percent of the Indian labour force is employed in the 'organized sector' this figure may be the most accurate.

Two other Government Committees charged to estimate the share of the population below the poverty line have reported figures of 50 percent and 37 percent respectively.⁷⁴ The World Bank's international poverty line of \$ 1.25 per day puts 42 percent of the Indian population below the poverty line.

India's income inequality was close to that of industrialized countries in the early 1990s, but is now close to that of China. The Gini co-efficient has risen from 0.32 to 0.38⁷⁵, with income inequality having doubled over the last two decades despite India having recorded record growth rates. The great majority of research papers show increases in inequality.⁷⁶ After market-friendly reforms in the 1990s, the consumption of the top 20 percent of the population rose remarkably while that of the bottom 80 percent of the rural population declined.⁷⁷

Social and politically salient inequalities in India are also linked to identity (caste- and religion-based) differences. Overall, however, there has been slow progress on severe deprivation of disadvantaged groups, and possibly relative gains for scheduled castes.

Unacceptable levels of inequality also characterize education and health care. Despite improvement in birth and death rates, India's performance is worse than Sub-Saharan Africa, with 53 percent of Indian children under-nourished and 88 percent of pregnant women suffering from Anaemia.⁷⁸ Urban slums blight the landscape. The contrasts between the quality of life in Bihar, Chhattisgarh, Orissa and Uttar Pradesh, and the new, gated suburbs around major cities, could not be more striking.

The spectacular increase in the number and wealth of billionaires in India over the past decade is another illustration. Raghuram Rajan has pointed out that India had the 'dubious distinction' of having the second largest number of billionaires per trillion dollars of GDP, behind Russia, prior to the financial crisis, and possibly the largest number after the financial crisis.⁷⁹ 53 Indian billionaires hold more than 31 percent of the national income, four times higher than the global

⁷² Planning Commission, Government of India Press Note on Poverty Estimates, January 2011.

⁷³ The Challenge of Employment in India, an Informal Economy Perspective, National Commission for Enterprises in the Un-organised Sector, Government of India, 2009, also known as the Arjun Sengupta Committee Report .

⁷⁴ NC Saxena Committee Report of 2009 based on five exclusion criteria and Suresh Tendulkar Committee Report 2008 based on per capita expenditure.

⁷⁵ Divided we Stand: Why Inequality Keeps Rising, Special Focus, Inequality in Emerging Economies, OECD 2011.

⁷⁶ See for example, Bhalla, Surjit S. 2003, "Recounting the Poor: Poverty in India 1983-99, Economic & Political weekly 25-51 January, 338-349 for a pro market view and Sen, Abhijit&Himanshu 2005, Poverty in Inequality in India: getting Closer to the Truth, Angus Deaton & Valerie (eds.) Data and Dogma: The Great Indian Poverty Debate. Macmillan, New Delhi, 2005, 306-370 for a different view.

⁷⁷ Pal, Parthnpratim&Ghosh, Jayati, 2007, Inequality in India: A Survey of Recent Trends, DESA Working Paper No 45, July 2007.

⁷⁸ World Bank 2011

⁷⁹ Rajan, Raghuram. 2010, Fault Lines, How Hidden Fractures threaten the World Economy'.

average. In China 42 billionaires hold 3 percent of national income and in the USA 467 billionaires hold 11 percent of national income.⁸⁰

The socio-economic structural rigidities in India reinforce inequality. The education system plays a central role. The emphasis on high quality tertiary education produced large numbers of engineers at low prices, which drove the strength of the information technology industry, but this benefitted less than one percent of the labour force drawn from privileged groups. Only those from relatively affluent backgrounds and premium schools, made it into premier tertiary institutes.

Arjun Appadurai has eloquently summarised the situation:

“The first major structural fact that we need to understand about India is that 60 years on since India became an independent nation, the project of wealth creation has become radically unhinged from the project of poverty alleviation and social inclusion. India is now an unrelenting wealth producing machine where state politics and private enterprise have created a legal and economic framework in which the fetters to private enterprise and wealth accumulation have been radically weakened. The early socialist ideals of Nehru have given way to neo-liberal visions. The development state still exists in India but it is vast rent gathering apparatus which is there to assure that the poor are not in the way of massive capitalist development.”⁸¹

Concern over the persistence of poverty and inequality is growing in India but it is driven by fear that ‘inequality’ may frustrate ‘economic growth’. This may reflect the view in a recent IMF report which labels ‘inequality’ as one of the main ‘hazards’ to ‘sustainable growth’.⁸² Growth is still the end; inclusiveness only the means or the price paid to ‘sustain growth’.

The *Approach Paper* for India’s Twelfth Plan (2012-17) adds ‘sustainable’ to the other two goals of the Eleventh Plan, namely ‘faster’ and ‘more inclusive’ growth.⁸³ The document does not define ‘sustainability’ but attaches the term to a number of economic, social and environmental parameters. The Government will ensure the ‘sustainability of growth’ with regard to the ‘environment’ because ‘economic growth will be ‘sustainable’ only if it is ‘pursued in a manner that protects the environment’. This exposes both the Government’s ambivalence on sustainability and the inadequacy of the concept of ‘sustainable development’.⁸⁴

Sustainable development is defined as a process that ‘fulfils the needs of the present without compromising the ability of future generations to meet their own needs’. The emphasis of inter-generational equity over inter-regional equity is instructive. The compromise generated euphoria in both the developmental and environmental camps as it was seen a means of achieving

⁸⁰ Sarkar, Kanchan, 2009, Economic Growth and Social Inequality: Does the Trickle Down Effect Really Take Place, New Proposals: Journal of Marxism and Interdisciplinary Inquiry, Volume 3, No 1 (October 2009) pp 42-60.

⁸¹ Arjun Appadurai in the Introduction of Arjun Appadurai & Arien Mack (eds), 2012, India’s World’, The Politics of Creativity in a Globalized Society. Raintree, New Delhi.

⁸² Berg, Andrew G & Ostry, Jonathan G, Inequality and Unsustainable Growth: Two Sides of the Same Coin?, IMF Staff Discussion Note, 8 April 2011.

⁸³ Faster, Sustainable and More Inclusive Growth: Approach Paper to the 12th Plan, Planning Commission, Government of India, October 2011.

⁸⁴ Faster, Sustainable and More Inclusive Growth: Approach Paper to the 12th Plan, Planning Commission, Government of India, October 2011, Page 84, Item 8.17 e and Page 10 item 1.39.

development without degradation. Two decades later, it has become a convenient slogan behind which countries like India can conceal 'business as usual' growth policies.

Despite rapid growth, over 33 percent of Indian households have no access to electricity and over 70 percent use fuel-wood, twigs and animal dung for cooking.⁸⁵ In 2011, non-commercial energy comprised 24 percent of India's primary energy pie, following coal at 42 percent.⁸⁶

If we consider the emission of greenhouse gases, it is clear that the 'poor' actually subsidize the consumption, and therefore the pollution caused by the 'rich'. Positing developed country lifestyles based on high-energy households and diets as 'non-negotiable', while subjecting low-energy livelihoods in developing countries to strict scrutiny is seen as an assault on human rights.⁸⁷ Adding the prefix 'sustainable' to 'development' is therefore seen as little more than an effort to distribute '*bad*s' before distributing '*good*s'.⁸⁸

Kenneth Rogoff pointed out in 2004 that the prospect of every nation enjoying the same per capita income as the United States (roughly \$ 40,000 per year), the same access to education, health and lifestyles, is not the ultimate human dream, but a 'development nightmare'.⁸⁹ The aggregate global carbon emissions would be about four times the current level and more than twice the level anticipated in 2050 (assuming no mitigation) because every person in the world would be emitting roughly 20 tonnes of carbon into the atmosphere each year. Only the fact that the poor have remained poor and maintained the sustainability of the planet has prevented this 'development nightmare' materialising despite 60 years of global effort in the political project of 'development'.

India is the world's fourth-largest energy consumer with a total primary energy demand equal to that of Brazil, Indonesia and Saudi Arabia combined. According to the International Energy Agency (IEA), by 2035, the share of coal in India's energy basket will increase to over 47 percent from 42 percent today, the share of oil is will rise from 23 percent to 26 percent and that of natural gas to 8 percent from 6 percent. Wind and solar are expected to increase to 1 percent from less than today. Non-commercial energy sources should fall to 13 percent from 26 percent.

Despite its large aggregate number, per capita energy consumption and is very low in India. Carbon emissions per person are 1.5 tonnes, one third of the global average, and less than one tenth of the largest emitters. Unaccounted human energy derived from poor and migrant laborers together with their net negative energy consumption subsidizes energy consumption by the rich.

This perverse inequality is facilitated partly by female labor deployed to collect and burn carbohydrate and carbon based fuels. The 'opportunity cost' of female 'energy' is negligible as long as the women are uneducated and unskilled. To increase the opportunity cost of female labour, substantial investments must be made in education, and thus in energy supply. To meet increase the per capita availability of electricity to 1000 KWh, the level defined by the United Nations as the minimum needed for an acceptable quality of life, India's power generating capacity has to be increased 3-4 times.

⁸⁵ Electricity data based on Census 2011 and cooking fuel data based on NSSO survey statistics.

⁸⁶ International Energy Agency, World Energy Outlook 2011.

⁸⁷ President George Bush (Sr.) at the Earth Summit on the environment at Rio de Janeiro in 1992.

⁸⁸ Powell, Lydia. 2010. "Climate and the Clash between the Diversely Developed", in: Rumley, D, Chaturvedi, S, Doyle, T and Rao, PV (eds.) Journal of Indian Ocean Region, Volume 6, Issue 2, December 2010.

⁸⁹ Rogoff, Kenneth, 2004, A Development Nightmare: What if Poor Nations Actually Caught Up with Rich Ones?. Foreign Policy January-February 2004.

India's per capita income of US\$1340 at market exchange rates (\$3560 at PPP)⁹⁰ is comparable to that of Sudan at US\$1270. It is only India's population of over 1.2 billion that produces an aggregate GDP of roughly US\$3 trillion (at MER), putting India somewhere between France and Germany in terms of GDP and securing its G20 membership. The tension between the 'quantitative' and 'qualitative' attributes of the Indian economy is key to understanding its dilemma (and that of other emerging economies) in dealing with issues of sustainability.⁹¹

Most of India's 'energy security' strategies focus on securing supplies of oil, gas and coal from domestic and imported sources, rather than orchestrating a dramatic change in its energy profile. Whether it can be faulted for the choice of a fossil fuel driven growth path, is contestable. India is merely following the example of most developed countries that used fossil fuels to power their industrialization. No shift in the energy profile can be expected from India or other developing countries unless the developed world makes an effort to shift away from fossil fuels.

The use of renewables to provide additional power generating capacity comes at a price; saving one tonne of carbon costs Germany roughly EUR 716. On average the 'feed-in-tariff' for solar power added about EUR 0.02/kwh to electricity prices in Germany. Unlike Germany where renewable energy meets incremental demand for electricity from the rich who are already well supplied, the 275 million Indians without access to electricity are not customers for solar power. They are desperately poor with income per day in the range of INR 20 or about EUR 1.60 (at PPP). Consuming one unit of solar electricity would wipe out their daily income. They have a 'need' for 'lighting' but the 'market' cannot meet this need.

India faces a more immediate and acute 'sustainability' challenge in respect of water. While projections differ, the most alarming is by the 2030 Water Resources Group, which predicts a 50 percent gap between supply and demand, driven by a higher need for water for agriculture, and a limited supply infrastructure. Climate change may radically affect the gap: The most direct effect may be accelerated melting of the Himalayan glaciers on which several river systems depend. Though faster snowmelt could increase flows in the short term, the impact in the long run may be a decrease of 30-50 percent.

India's response is to undertake mega-projects like the National River Linking Scheme to link many of India's river basins. Small irrigation and hydropower projects with low cost to the society and environment rarely get attention. The larger projects generate opportunities for consultants and contractors but often fail to improve or sustain water supplies and impose irreversible ecological and social costs. Most of those displaced by these projects become paupers and beggars. Some take up arms against what they see as State-led exploitation.

Emphasis on the control of water has resulted in excessive 'securitization'. This has compromised transparency in data sharing, which is detrimental in managing trans-border water resources. The technological focus of India's water policy to store, control and re-direct water and the institutional filter of the Indian water bureaucracy, result in little or no attention being paid to ecological, environmental and social limitations.

With growth assumed to be the means to development, the scarcity of water and energy resources that enable growth is an obstacle to which science and technology are the only

⁹⁰ Market exchange rates in November 2011.

⁹¹ Paper presented in Brazil in 2011 by the author.

solutions.⁹² But as Lyla Mehta points out, technology and techniques (economic techniques such as privatization) are deeply political and yet technocracies are treated as neutral sites, which are given the full responsibility of addressing scarcity.⁹³

The idea that we need a more socially inclusive and ecologically sustainable model for 'development' is not new. The ways and means to achieve this are widely discussed. Inclusive development requires employment policies that can bring about a different primary income distribution, while sustainable growth requires the creation of productive assets that conserve non-renewable resources such as land, water and atmosphere and minimize environmental damage. These assets have to serve the ultimate goal of human well-being (housing, sanitation, food, water and energy) and also facilitate wealth creation (economic activity). The question that needs to be asked is not whether a new model is needed, but why the models that have been proposed, are failing to make a marginal impact on the neo-liberal growth model.

The UNEP called for a 'New Green Deal' with a set of globally coordinated large scale stimulus packages and policy measures to bring about global economic recovery in the short term, while laying the foundation for sustained economic growth in the medium- and long-term. It sought to enhance inclusiveness to make recovery more broadly-based.

The putative link between happiness and material consumption is difficult to contest even in the face of economic and ecological un-sustainability. Other alternative paradigms such as McKinsey's 'Green Growth', the Green Economy initiated by the United Nations, Genuine Progress, initiated by Herman Daly and John Cobb. Very few have gained mainstream attention.

Some developed nations initiated green and inclusive growth strategies focused on research and development in green and sustainable technologies to create new industries and new skilled jobs. 'Europe 2020: A European Strategy for Smart, Sustainable and Inclusive Growth' suggested three priorities for the European Union: *Smart growth*: [an economy based on knowledge and innovation]; *Sustainable growth* [a more resource efficient, greener and more competitive economy]; *Inclusive growth* [a high-employment economy delivering social and territorial cohesion]. Its flagship initiative 'Resource-efficient Europe' was designed to help decouple economic growth from the use of resources, by decarbonizing the regional economy, increasing the use of renewable sources, modernizing its transport sector and promoting energy efficiency. But the issue that dominates discussion in the EU today is financial efficiency and the health of its banks. Even Germany, which spent EUR 175,000 to create each 'green job', is looking for a way out of its green subsidy commitments.

In developing economies green and inclusive growth strategies are focused more on meeting basic human needs [shelter, food and water, and productive employment for the rural poor]. India launched the 'Swajaldhara Programme' to provide clean drinking water through rain water harvesting and ground water recharge systems, and by empowering villagers and enable their effective participation.

India's National Rural Employment Guarantee Act launched in 2005 aimed at guaranteeing one hundred days of wage-employment a year to rural households whose adult members volunteer to

⁹² Mehta, Lyla, The Scare, Naturalisation and Politicization of Scarcity, in Mehta, Lyla (ed) The Limits to Scarcity: Contesting the Politics of Allocation', Orient Blackswan, New Delhi 2011.

⁹³ Mehta, Lyla, The Scare, Naturalisation and Politicization of Scarcity, in Mehta, Lyla (ed) The Limits to Scarcity: Contesting the Politics of Allocation', Orient Blackswan, New Delhi 2011.

do unskilled manual work. Some schemes in the Government's poverty alleviation programme were designed to create healthy lands and ecosystems to be used in sustainable ways. These laudable efforts have had little, if any, impact on the broader course of economic expansion.

The perceived link between well-being and growth will not be easy to break. Growth is the underlying basis of the advancement of social equality, and is seen as the precondition for civil coexistence and governance. Introducing a different paradigm that seeks to arrest, slow down or freeze growth to address sustainability will require nothing short of a revolution.

Meanwhile, GDP is a poor measure of a nation's well being. Simon Kuznets, who devised the national accounts from which GDP evolved, warned that distinctions between quantity and quality of growth, its costs and returns, and the short and the long run, were important. He wrote: 'Goals for 'more' growth should specify more growth of what and for what.' He was also aware that the simplicity of GDP was prone to misuse.⁹⁴

"The valuable capacity of the human mind to simplify complex situations in a compact characterisation becomes dangerous when not controlled in terms of definitely stated criteria. With quantitative measurements especially the definiteness of the result suggests, often misleadingly, a precision and simplicity in the outlines of the object measured. Measurements of national income are subject to this type of illusion and resulting abuse, especially since they deal with matters that are the centre of conflict of opposing social groups where the effectiveness of the argument is often contingent upon oversimplification"

While a new measure of a nation's well being is difficult to design without wide consultation, it is possible to point out some characteristics that the new measure should possess:

1. *The indicator should address human security rather than national security*
"Human security is not a concern with weapons-it is a concern with human life and dignity"
 As long as 'nations' are the primary target for policy action, India's focus on 'national interest' cannot be contested. As climate change policy is fundamentally constructed through the twin lenses of national security and national economic strategy, the 'nation' is the master discourse that legitimizes other discourses.⁹⁵
2. *The new measure devised should take note of the limits to growth:* The rate of growth in emerging economies is now far more rapid than that of the now-developed world in the eighteenth and nineteenth centuries, and far greater because it involves more than two thirds of the global population. This means greater strain on natural capital, and we have no precedent for managing such scales of growth under conditions of natural resource scarcity. Even the current climate discourse seeks to solve the problem in a framework that assumes the need for abundance, and postulates that technology will enable it to be sustained.

⁹⁴ Costnaza, Robert, Hart, Maureen, Posner Stephen and Talberth, J, Beyond GDP: The Need for New Measures of Progress', The Pardee Papers / No 4/ January 2009, The Frederick S Pardee Centre for Study of Longer Range Future, Boston University, quoting Kuznets, S. 1934. National Income 1929-1932. A Report to the US Senate, 73rd Congress, 2nd Session, Washington, DCUS Government Printing Office.

⁹⁵ Paterson, M & Stripple, J. 2007. 'Singing Climate Change into Existence: On the Territorialisation of Climate Policymaking,' in Pattinger M E (ed.), 'The Social Construction of Climate Change: Power, Knowledge, Norms, Discourses,' Ashgate, England.

3. *The new measure should prioritize the production of public goods over the production of private goods:* Economic growth under market oriented policies is focused on the production of private goods through efficient allocation of resources with minimal intervention beyond the legal infrastructure, not on the provision of public goods like social inclusiveness and environmental integrity. The *International Task Force on Global Public Goods (GPG)* has explored the concept of GPG to clarify the definition and to propose policy recommendations.⁹⁶ In assessing how GPG could be harnessed to reduce poverty and enhance welfare, the Task Force prioritized peace and security, trade regimes, financial stability, control of communicable diseases and sustainable management of the national commons. Measuring production of GPG similarly to the production of private goods by GDP, would accelerate the production of peace, equity, environmental integrity and knowledge.

⁹⁶ International Taskforce on Global Public Goods, Report of the First Meeting, September 25, 2003.

Sub-Saharan Africa – Delivering environmentally and socially sustainable economic growth –

Mzukisi Qobo, South African Institute of International Affairs

Many countries in sub-Saharan Africa have, since independence, battled with the question of how to grow their economies sustainably and develop their people. There have been many home grown and externally-driven initiatives over the decades.

The failure of structural adjustment programmes significantly to reduce poverty led the international financial institutions to introduce poverty reduction programmes centred on inclusive stakeholder involvement. The highly-indebted poor countries (HIPC) initiative to eliminate excessive debt service obligations complemented these. These initiatives were focused on macro-economic and structural constraints that hindered growth, in the belief that higher levels of growth would lead to poverty reduction.

African elites developed home-grown approaches in the Lagos Plan of Action in the 1980s and the Abuja Treaty of 1991. These were grounded in pan-Africanism, enabling Africa's development through continent-wide integration, African unity, and self-sufficiency. The New Partnership for Africa's Development (NEPAD) emerged in 2001. This aimed at eradicating poverty through "African-owned and African-led development". The NEPAD presented the African continent as the cradle of humanity, possessing rich mineral resources, ecological beauty, and cultural richness (NEPAD, 2001:3).

None of these programmes provided a coherent normative framework relying instead on keywords like *GDP growth*, *poverty eradication*, and *fighting hunger*. Beyond ideological differences about means - for example, state- versus market-led development - the assumptions underpinning growth and development have been largely unexamined.

Much of Africa's own development paradigm was post-colonial in character, slanted to colonial resistance, and stressing the urgency of reversing the colonial legacy of underdevelopment. Even today, Africa's emerging development perspectives are inchoate, though evolving as African research bodies grapple with the challenges. These perspectives must, however, be represented in the discourse on global norms.

It is unlikely that coherent global norms are possible in the aftermath of the global economic crisis, given the radical multipolarity emerging as actors that were on the margins of global governance, carve out influence in debates with advanced industrial economies. No one-size-fits-all growth model can be offered. But perhaps a set of broadly shared norms and principles can undergird discussions on growth and development. If so, the perspectives on growth of African policymakers and knowledge communities must contribute to this.

Socially-inclusive and environmentally sustainable growth

There have been several attempts at defining measures of prosperity beyond GDP growth. Some focus on "...enlarging the ...available indicators, by adopting 'dash boards' rather than aggregate indexes...diluting the influence of GDP by providing ...additional and complementary measures of sustainability and wellbeing" (Fioramonti 2010 forthcoming). These do not critique the GDP framework, or seek to replace it with a normatively grounded notion of development.

The conceptual underpinnings of the notion of *environmentally sustainable and inclusive growth* are weak. Policy discourse on development also tends to be obsessed with *outcomes* to and to disregard *process*. Outcomes are defined by quantifiable indicators of the state of the economy, and what government does to “improve quality of life. Process is about ideas, values, the institutional framework, and the nature of social relations needed to empower citizens over time.

The question posed – “Can economic growth be socially inclusive and environmentally sustainable?” – seeks to shift the narrow growth paradigm by emphasising environmental sustainability and social inclusiveness. Indeed, existing growth models have not led to social inclusivity or enhanced sustainability.

Cleavages between wealth and poverty have widened, and environmental risks have been heightened, bringing to the fore the need for [a] new growth model(s) that balance growth with social values and environmental considerations, and implying the possibility of heterogeneous values and paradigms of development that require closer cooperation for global stability, peace, and shared prosperity.

Fiorimonti (2012 forthcoming) notes that the first major attempt at revising GDP was that of William Nordhaus and James Tobin in 1971, in developed a *Measure of Economic Welfare* (MEW), which reclassified expenditures “as consumption, investment and intermediate”, to distinguish better between final and intermediate goods. They did not dispense with GDP, but pointed out it was insufficient and needed re-ordering. In effect, they rearranged the items comprising national accounts to demonstrate that economic growth was a fundamental objective of policy, while a better understanding of welfare could be obtained with largely technical adjustments.

Amartya Sen offered a more textured elucidation of development in *Development as Freedom*, suggesting that development involved expanding human freedoms, choice and capabilities, not privileging outcomes like gross national product, rise in personal incomes, industrialization, and modernization. While the outcomes are important, the objective is to remove constraints on freedom and the expression of human capabilities. It is the ability to exercise choices, and to express one’s capabilities without artificial constraints, that define development. GDP growth may trickle down through employment or economic activity that generates revenue for government, but if capabilities are weak (poor education, absence of voice, and structural constraints) it is weak guide to well-being and a poor predictor of sustainable development.

Social Watch has published a *Basic Capabilities Index (BCI)* since 2000, which covers over 170 countries (Fiorimonti 2012). The BCI focuses on the “different aspects of people’s actual condition and [the]... possibility of having their human rights fulfilled.” There are three indicators: the percentage of children reaching fifth grade, survival until the age of 5, and the percentage of births attended by skilled personnel. Fiorimonti (2012) notes, “...the BCI ...[is] highly correlated with measures of other human capabilities and, in particular, ...with the indicators ... [of] progress towards the Millennium Development Goals”.

In the early 1990s Mathis Wackernagel developed an index measuring environmental footprint, which has been enhanced with information from UN agencies and academic studies, to measure “human appropriation of ecosystem products and services in terms of the amount of bioproductive land and sea area needed to supply these products and services.” (Fiorimonti 2012). A lobbying campaign was launched in 2005 to embed the ecological footprint in at least

ten national governments by 2015. Over twenty nations have reviewed the footprint and six⁹⁷ have adopted it. Data collection is demanding and new information is often available only every two to three years. While it records the use of natural resources, it does not measure human wellbeing or economic welfare.

The OECD has published a report on social inclusiveness in growth, observing that severe economic inequalities no longer characterise only poor countries, but also advanced economies. Within the OECD, the income of top 10% is now nine times that of the bottom, while unemployment remains structurally high. The OECD defines *inclusive growth* as a multidimensional concept beyond poverty and income distribution that includes social cohesion and well-being. It suggests that inclusiveness also involves balancing growth across different economic activities.

The *Commission on Growth and Development*⁹⁸ (CGD), chaired by Michael Spence, was launched by the World Bank in 2006, engaging practitioners from across the world. It concluded that clear, coherent and adaptive policy, with effective leadership and a capable state, was needed for sustained growth. Growth is not an end in itself, but an instrument to improve well-being. Social inclusiveness is the outcome of private capital formation, effective market institutions and complementary redistributive policies. On environmental sustainability the CGD notes the importance of burden sharing between developed and developing countries in managing the environment.

The CGD report includes a section on Sub-Saharan Africa, highlighting the economic growth since the mid-1990s due to prudent macro-economic management, micro-economic policies, and higher commodity prices. It praises Botswana and Rwanda for their focus on long-term planning and institution building. It is however, primarily descriptive, rather than normative.

Former French president Nicolas Sarkozy appointed a *Commission on the Measurement of Economic Performance and Social Progress*⁹⁹ in 2008, chaired by Joseph Stiglitz.¹⁰⁰ The report concludes that was that measures of GDP are not adequate, and do not fully account for well-being. The report pointed out that “choices between promoting GDP and protecting the environment may be false choices, once environmental degradation is appropriately included in our measurement of economic performance”.

The report assesses current well-being in terms of resources, income and quality of life, as emphasises the need to consider how stocks of capital are transferred to later generations. The authors underscored the urgency of measuring the *quality* of economic output, which is not reflected in GDP.

Stiglitz (2008) has argued that the energy and resources devoted to promoting the well-being of individuals across society leads to self-reinforcing economic growth as all achieve greater well-being. Educating, housing and caring for the health of workers enhances and stabilises output. The Sarkozy Commission provides recommendations on the measurement of well-being.

⁹⁷ Japan, Switzerland, the United Arab Emirates, Ecuador, Finland, Scotland and Wales.

⁹⁸ <http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/ORGANIZATION/EXTPREMNET/0,,contentMDK:23224987~pagePK:64159605~piPK:64157667~theSitePK:489961,00.html>.

⁹⁹ <http://www.stiglitz-sen-fitoussi.fr/en/index.htm>.

¹⁰⁰ Amartya Sen served as Chairman's Advisor and Jena-Paul Fitoussi acted as coordinator.

In *material* well-being, the report recommends analysing income and consumption patterns, rather than merely production and GDP per capita. Analysis of household income would allow government to determine the level of welfare benefits it should distribute. Moreover, long-term stocks, which are either assets or liabilities affecting opportunities for household consumption, are also important. GDP statistics do not reveal unequal distribution of income; thus median income, consumption and household wealth should be measured to understand the distribution of income and wealth.

The report also recognises the *multi-dimensional nature of well-being*, beyond *material* well-being; this includes education, health, personal activities (including work), political voice and governance, social connections and relationships, environment and security. Detailed measurement of inequality across socio-economic strata, genders and generations is important to understand national well-being properly.

These dimensions are particularly important when reflecting on well-being, inclusiveness and sustainability in African contexts.

The emergence of the G20 as a premier institution for global economic cooperation is a significant development in an emerging framework for global governance. It started as a crisis-management mechanism, centred on stabilising financial markets, reforming the global financial institutions, coordinating financial and regulatory reform and stimulating global demand. Subsequently, a development agenda has emerged. At the Seoul Summit in 2010, there was a step towards global coordination of issues of concern to developing countries. The Seoul Summit's development agenda of 'shared and inclusive growth', recognized that rebalancing the global economy requires more than addressing macro-economic imbalances. It is also about closing the poverty and development gap.

The G20's Development Working Group has prioritised global and regional interventions needed to promote economic growth within the *G20 Framework for Strong, Sustainable and Balanced Growth*. Inclusive, sustainable and resilient growth is crucial to reducing poverty, although ODA commitments are still needed for low-income countries. Developing countries are full partners and blockages to growth, especially in low-income countries, must be removed. The private sector's role in economic development and job creation is fully recognized, and actions must be taken to improve the investment environment. Nine development pillars¹⁰¹ were identified and a multi-year action plan was adopted.

France, which hosted the Summit in Cannes in 2011, introduced six priorities¹⁰², while retaining development. The French presidency brought a sense of urgency to actions required to deal with issues on the agenda but unresolved.

The G20's lack of an institutional mechanism inhibits its norm-setting capability. Even the agenda of each summit, is dependent on the Chair at present. This might change, however, as a Troika system has been proposed to secure continuity.

¹⁰¹ Investment and infrastructure human resource development, trade capacity and access to markets, private investment and job creation, food security, growth with resilience, financial inclusion, domestic growth mobilisation, and knowledge sharing.

¹⁰² Reforming the international financial system, strengthening financial regulation, combating commodity price volatility, supporting employment and strengthening the social dimension of globalisation, fighting corruption.

The introduction of a development pillar into G20 summits has opened an important space for multi-country dialogue to fashion a broad consensus on growth and development. Africa's limited representation in the G20, will, however, limit the impact of its perspectives.

Contextualizing Africa's Development Thinking

The continent had a hesitant start on its post-colonial journey in the late 1950s and early 1960s. The hope that came with independence was short-lived in most African countries and was eclipsed by violence, ethnic strife, coups, and famine in large parts of the continent. This was compounded by the recession triggered by the 1973 oil crisis, spiralling into a debt crisis for the African continent. The period between 1970 and 1980 became known as the 'lost decade', and was followed by a series of policy experiments with structural reforms by the World Bank and the International Monetary Fund, often with disappointing outcomes.

African states had inherited political and economic structures that were not viable, and failed to build a solid governance infrastructure. The institutional framework necessary for capable government and a healthy interface between the governors and the governed took a long time to emerge.

Domestic policy failures and poor institutional capacity undermined the basis for social and economic progress. Most African states were also dependent on a few primary export products, highly susceptible to price fluctuations, with adverse effects on foreign exchange earnings. As Jeffrey Frieden (2006: 450) points out, 'The colonial political economies had relied on exporting primary products to the mother country: copper from Congo to Belgium, coffee from Kenya to Britain, Cocoa from Cote d'Ivoire to France, petroleum from Angola to Portugal.' Benin, Burundi, Cameroon, Ethiopia, the Gambia, Ghana, Mozambique, Niger, Senegal, Sudan, Tanzania, Uganda and Zimbabwe also relied on the export of primary commodities (Martin Wolf, 2004: 205).

Despite decades of trade and aid with Europe, few African economies diversified. Africa's intimate ties with its former colonial masters epitomized its dependence, inhibiting its development and production profile.

Moreover, African governments developed no strategies to transform social and productive structures. The Millennium Development Goals (MDGs), still the centerpiece of Northern donor engagement with developing economies, provide an example.

Adopted by the United Nations in 2001, the MDGs were aimed at reducing extreme poverty by 2015. The MDGs comprise eight targets: (i) eradicate extreme poverty and hunger; (ii) achieve universal primary education; (iii) promote gender equality and empower women; (iv) reduce the child mortality rate; (v) improve maternal health; (vi) combat HIV/AIDS, malaria and other diseases; (vii) ensure environmental sustainability; and (viii) develop a global partnership for development.

In July 2005, the G8 leaders met in Gleneagles, hosted by British Prime Minister Blair, to make further commitments to advance Africa's development. The G8 meeting in Gleneagles consolidated a development partnership between Africa and the leading Western economies, based on the *New Partnership for Africa's Development (NEPAD)*.

The British Prime Minister's *Commission for Africa* recommended that developed countries should increase aid to support Africa's efforts to promote growth and development; encourage

fair trading relations between advanced industrial nations and Africa; promote mutually beneficial partnerships; help to build capable and accountable governments; invest in teachers and schools to improve access to high quality education; and encourage investment in infrastructure (Commission for Africa Report, 2010).

The G8 countries pledged to double ODA from 2004 (US\$25 billion) to US\$67 billion, with 50 percent of the increase allocated to Sub-Saharan Africa. These targets were not reached; the gap between delivery in 2009 and the 2010 target is US\$26bn, and aid is expected to fall at least US\$20bn short. ODA for Africa is expected to be US\$41bn in 2010, a shortfall of US\$16bn relative to the Gleneagles commitments.

But Africa still receives 36% of aid transferred from advanced industrial countries (OECD 2010:1). In the past four decades, aid to Africa has quadrupled from US\$11bn to just over US\$40bn. And it has had results; despite starting from a very low initial level, substantial growth has been achieved in the past decade in many African countries.

But the poorer classes are not enjoying equitable access to the progress on the continent. While Ghana had reduced its hunger levels by 75% by 2004, the DRC almost doubled those in its country in the same period (Africa Development Indicators 2011: 46-49). Under-nourishment is still a serious problem; Africa reduced the percentage of its population that are under-nourished only 3%, from 31% to 28%, in 2004, compared to the 18% average drop in other low- and middle-income countries. (NEPAD MDG report 2011: 4-24)

Nine of the ten countries moving furthest towards MDG targets in education are in Sub-Saharan Africa and aggregate enrolment ratios increased from 52% to 74% between 1991 and 2007. (NEPAD MDG report 2011: 24-32) However, Djibouti has only achieved a 44% primary education enrolment rate, while Madagascar has reached 99%. With the exceptions of Mauritius, Namibia, and the Seychelles – already well developed – all African countries bettered their primary education completion rates, although there were large variations. Small (5-10%) increases were seen in Sao Tome and Principe, Djibouti, and Burundi while Benin, Guinea, and Madagascar bettered their rates by about 40% since 1990. (Africa Development Indicators 2011: 49-50).

Gender parity improved in Sub-Saharan Africa, especially in West Africa. Five countries (Cape Verde, Lesotho, Sao Tome e Principe, Mauritius, and the Seychelles) had more girls than boys in primary school in 2009. No country's ratio fell by more than 1% and even among these poor performers, Mali, Guinea, Chad, and Niger had improved by more than 15% since 1990. (NEPAD MDG report 2011: 32-41). Only six countries (Benin, Central African Republic, Chad, Guinea, Senegal, and Sierra Leone) have a ratio of less than 80% of literate women to literate men; the rest are spread around 100%. Almost all African states have well below 50% of women in parliament; only eight have more than 25% (Africa Development Indicators 2011: 50-51).

Absolute under-5 mortality rates are down, Niger and Angola reduced their child mortalities by over 100 per 1000 births. But the condition is not satisfactory: Thirty-five developing countries still have an under-five mortality rate of over 100 per 1000 live births, only two of which are not African (Africa Development Indicators 2011: 51-52). Child immunization rates for measles are dismal in Chad, Somalia, and Nigeria but the rest of Africa is above 50% between 12 and 23 months (NEPAD MDG report 2011: 41-50).

Greater access to maternal healthcare is also apparent; but again, wide variations remain, ranging from 98% in Mauritius to 6% in Ethiopia. The percentage of births attended by skilled health staff shows a similarly mixed bag. Only a handful of countries, Benin, Burkina Faso, and Guinea-Bissau, consistently built the effectiveness of their maternal healthcare (NEPAD MDG report 2011: 50-62).

Almost all countries are struggling with an increase in HIV/AIDS between the ages of 15 and 50. With the exceptions of Togo, Sudan, Nigeria, Ivory Coast, Chad, and Angola, the region's contraception usage has risen, raising questions about the efficacy of the devices in preventing STDs. (Africa Development Indicators 2011: 53-55)

While more than half of African states have been included in the *Highly Indebted Poor Countries Initiative*, seventeen countries still have high debt service commitments, limiting funds for new economic and developmental projects (NEPAD MDG report 2011: 88-100). The Seychelles, Zambia, South Africa, Zimbabwe, and Ethiopia have more than 20% of their population unemployed.

It appears that most African countries will miss the MDG target of halving poverty by 2015. Poor progress towards MDG targets is due chiefly to weak institutions. Public service reform, skilled personnel, and better institutions are essential to translate positive GDP growth rates into better living standards. Institutions provide frameworks for managing social and economic change, and without them countries will fail to meet their targets.

Africa's Resurgence and Contradictory Development Paradigms

The period between 1999 and 2008 saw an African economic revival, largely due to political liberalization, macro- and micro-economic reforms, and the commodity boom driven by Asia's emerging economies.

The average growth rate between 2000 and 2008 was about 6%, a high water mark for Africa since independence. But as it did not reduce income inequalities and poverty, this growth cannot be characterized as socially inclusive. According to the African Development Bank, "Growth is inclusive when it creates economic opportunities – the *pace* of growth – while ensuring equal access to them – the *pattern* of growth (African Development Bank 2011:3). Both the pace and the pattern of growth are important in ensuring meaningful change in the quality of life.

The global financial crisis of 2008 impacted the African continent adversely. The 2010 Report of the Economic Commission on Africa records a reduction of trade, increases in food and fuel prices, weakening demand for exports in goods and services, decrease in remittances, and reduced private capital inflows (UNECA 2010:1).

Employment worsened as trade finance seized up and production was scaled back. The GDP growth rate in 2009 fell to 1.6%, down from 4.9% in 2008 (UNECA 2010:2). Oil exporters outperformed oil importers, as they were buoyed by the accumulation of external reserves during the boom. Among the oil importers, Djibouti, Ethiopia, Malawi, Morocco, Rwanda and Uganda proved more resilient.

Africa is, of course characterized by a wide variety of economies, but there are common themes that define key developmental priorities, and help define an agenda of change. One of these is the dependence of almost all African economies on a narrow range of agricultural products,

mineral and hydrocarbon resources. The rise of the emerging economies and their huge appetite for Africa's resources, masked this in the decade before the crisis.

The crisis laid the problem bare and confirmed the need for diversification of both production and export markets. Weakened foreign capital flows underscored the importance of mobilizing domestic resources to finance projects more sustainably (UNECA 2010: 17).

The confluence of the financial crisis, food crisis, energy crisis, and concerns about climate change are particularly threatening for Africa, although they do not impact it uniquely. Risks including severe economic imbalances, chronic fiscal challenges, environmental risks, and social inequalities have now become widespread in the developed world, but are common, and apparently intractable, in Africa. This renders it possible to develop a shared discourse around ways to frame inclusive growth and development.

The UNECA is a significant intellectual source on Africa development. In the wake of the global crisis, the UNECA has increasingly emphasized the role of the state as a catalyst for development. Its recent report on "governing development in Africa", identifies three critical challenges: diversification and structural transformation; an increasing role of the state in structural transformation; and the role of a developmental state in enhancing transformation.

While African countries have benefited from macro-economic stabilization and market-based reforms, the financial crisis has brought models that emphasize deregulation, market-based economic management, and liberal trade and investment policies, into question. This reflects the global view that this model was overdrawn before the crisis. But there is no consensus on the role that the state should play in economic management.

In recent UNECA writings, statism is gaining currency, accompanied by an emphasis on the need to industrialize further and to look at markets beyond the EU and US. The UNECA suggests that the state is best placed to drive economic development in Africa, but this view is grounded in a romanticized state, rather than the African reality of state weaknesses and institutions poorly equipped to manage economic change. The UNECA (2011:118) defines the state as "...one that has the political will and the necessary capacity to articulate and implement policies to expand human capabilities, enhance equity, and promote economic and social transformation".

Mkandawire (2001b: 8) identifies three major challenges that have confronted the state in Africa: the lack of developmental policy that facilitates and promotes economic growth and structural transformation; lack of development programmes that are democratic in a manner that makes it derive legitimacy through popular participation and electoral processes; and the absence of social inclusiveness that ensures equitable entitlements to citizens leading to the exclusion of critical capacities and constituencies of the African population.

For the state to play the role the UNECA envisages, it must facilitate consultative processes. The infrastructure of government and state-society relationships in large parts of the continent preclude the emergence of an accountable and capable state that can successfully drive inclusive economic development.

The problem is not that states are not sufficiently involved, but that they have not created a room for private sector development. The main challenge is not necessarily industrialization, but more

the under-utilization of arable land. There are divergent views on the best course to development and sustainable and inclusive growth.

While the UNECA emphasizes statism and industrialization, pointing to China and South East Asian countries as worthy of emulation, other African institutions emphasize agricultural development as a catalyst to Africa's resurgence. Both the African Union and the NEPAD view an essentially agriculture-led programme as the path to Africa's development.

The Comprehensive African Agricultural Development Programme¹⁰³ is a flagship programme to promote greater private sector investment in Africa's agriculture, grow emerging farmers, and address food security concerns. Consensus is, however, emerging that although agriculture must be made more productive, depending on primary products for export is untenable. There is a growing focus on agro-processing.

In its assessment of Africa's growth challenges and prospects, the African Development Bank¹⁰⁴ (ADB) sounds an alarm about the scale of youth unemployment across the continent, and warns that the structural conditions in many African countries are no different to those that sparked widespread social discontent and revolt in Arab countries like Tunisia and Egypt.

While confirming the UNECA's view that the production structure must shift from a concentration in extraction, the ADB differs on the roles of the state and markets in fostering development. It suggests that institutions and government have an important role in facilitating conditions for prosperity, rather than driving economic activity.

Five pillars can be distilled from ADB discussions to serve as normative grounds for inclusive growth: Capable political and economic leadership; building structural and human capabilities, also through infrastructure development; extension of safety nets; empowering citizens through high quality education and greater opportunities for economic participation; and building productive market-state relationships to promote private sector growth and to facilitate mobilisation of resources for development.

One global risk that offers an opportunity for shared purpose within the continent and beyond, is climate change. MDG 7 notes "failure to achieve biodiversity stability will undermine social and economic development efforts". The natural environment is vital to sustain livelihoods, especially with respect to production, employment and nutritional needs.

Africa's vulnerability to climate variability and change has serious implications for economic and social development. Many countries rely on agriculture, forestry, and fisheries, all of which are climate sensitive. Droughts, floods and other extreme weather conditions are common in many countries. Environmentally sustainable and socially inclusive growth requires a serious commitment both to mitigate climate change and to help African countries put sound adaptation strategies in place. As the 2010 Economic Commission for Africa Report points out: "...climate change could undermine growth and development prospects, thereby slowing progress towards sustainable development" (UNECA 2010:25).

¹⁰³ <http://www.nepad-caadp.net/>.

¹⁰⁴ <http://www.afdb.org/en/>.

The UNECA Report also notes that climate change could expose around 250 million Africans to water stress by 2020, rising to between 350 and 600 million by 2050, especially in North and Southern Africa (UNECA 2010:26).

Adaption to climate change in Africa is expected to cost between 5 and 10% of the continent's GDP, with actual costs averaging around US\$75billion and US\$90billion from 2010 to 2050, according to the World Bank (2009).

Accordingly, more effective mitigation and higher levels of funding for adaptation are essential, for Africa as is the need to transfer technology to facilitate decarbonization, especially in countries that are significant emitters.

Delivering Environmentally and Socially Sustainable Economic Growth: Considerations from a Brazilian perspective –

Carlos Ivan Simonsen Leal and Mario Monzoni, Fundação Getúlio Vargas

What is development? How can it be measured? The debate on the inclusion of social variables into the concept of development began in the post-war period between the 1950s and 60s. Until then, the view on development was highly correlated with the degree of industrialization of domestic economies, which could be measured by output (e.g., GDP) per capita. Environmental issues—in particular pollution—were not recognized as a societal problem: the smoke from factory chimneys was seen as a sign of progress. However, in some developing countries the early stages of industrialization did not bring the expected returns, in particular in better education and health indicators. This led to reevaluation of the presumed identity between industrial growth, and development, especially by economists of the developing world, with studies by the UN Economic Commission for Latin America (ECLAC) to the fore.

In the 1970s, new themes emerged, like the search for models of development to reconcile economic growth, social justice and, tentatively, the conservation and sustainable use of natural resources, despite approaches that suggested that high population growth in underdeveloped countries was the main cause of poverty and environmental degradation.

The Club of Rome's landmark study in 1972, *The Limits to Growth*, and later the UN Conference on the Environment in Stockholm opened the golden era of environmental activism, bringing human and ethical issues like the abolition of slave labor, female suffrage, trade unionism, the Vietnam War, the Apartheid regime, nuclear war, and the hole in the ozone layer, among others, onto the agenda.

Also in the 1970s, the public sector began to regulate the development process, while the public saw business as an “enemy.” The only way to deal effectively with the environmental problem was to “make business pay” for its impacts through regulation and taxation. A large number of “command-and-control” instruments were designed. By the 1980s this had proved insufficient, as it became clear that preventing pollution was cheaper than solutions at the “end of pipe.” This led to concepts of eco-efficiency and cleaner production, while the use of economic tools and market incentives became more common for regulatory purposes.

In 1987, the concept of *sustainable development* was presented to the world in the report *Our Common Future*. In 1989, the Human Development Index (HDI), a compilation of indicators of life expectancy and education, in addition to GDP per capita, was introduced. When the *Human Development Report* was published in 1990, the HDI emerged as an appropriate means to measure the evolution of countries and was updated annually by the United Nations Development Programme (UNDP).

The United Nations *Conference on Environment and Development*, Rio-92, consolidated the global movement for economically sustainable economic development that was socially just and environmentally balanced. Reference documents emerged at the end of the 20th century to improve governance and guide a global society including the Rio Declaration on Environment and Development, the Convention on Biological Diversity (CBD), the Convention of Climate Change and Agenda 21.

Multilateral efforts and the immense wealth generated since 1945—global GDP passed \$60 trillion in 2010—have brought considerable benefits. The World Bank indicates that growth has generated an increase of 80% in per capita GDP of developing countries in the last 20 years, despite population growth. More than 660 million people have passed the poverty line and great progress has been made in literacy, life expectancy and the reduction of infant mortality around the globe.

Science and technological innovation have greatly improved the quality of life through better production and use of energy, transport, industrial modernization, great increases in crop productivity, not to mention new media, the Internet and cultural and entertainment goods.

Despite huge investments in infrastructure and human capital, we still face extreme poverty and income inequality. Over 1.3 billion people do not have access to electricity, 2.6 billion lack basic sanitation, and 900 million have no clean drinking water. One percent of the richest adults own over 40% of global assets and the top 10% generate 85% of the wealth.

Our present mode of production and consumption has already caused critical conditions in some natural systems: We are approaching the limits in our use of fresh water, land, and in ocean acidification. We have crossed the limits in biodiversity loss and interference in the nitrogen cycle. We are “overdrawing” from the Earth and eroding the planet’s resiliency. Today, the rate of extinction of marine life is between 100 and 1,000 times the “natural” rate. Up to 30% of all mammalian species, birds and amphibians are threatened with extinction in this century.

Greenhouse gases (GHG) emissions prompting climate change, threaten our quality of life. Preliminary data from the International Energy Agency (IEA) on May 24, 2012, indicate that emissions exceeded the historical record, reaching 31.6 GT in 2011. The IEA notes that annual energy emissions must stay below 32.6 GT until 2017 if the increase in average atmospheric temperature is to stay below 2 °C.

"We are now only 1 GT away from that, with five years still to go [...]. The door to a 2 degree trajectory is about to close, and to close forever." Fatih Birol, chief economist of the IEA (Financial Times, 2012).

Twenty years after Rio-92, the world met again in Rio de Janeiro this year, to evaluate progress and plan for the future. Although it did not achieve its objectives, the agenda recognized the need for global governance for sustainable development, in a proposal for a green and inclusive economy. The challenge is huge. The responsibilities are common, but differentiated: developed countries that industrialized earlier and enjoy a more consolidated quality of life, have historical responsibilities and must contribute a larger share to the global effort.

A new model is needed: one that recognises capital as a generator of wealth and growth (not as an end, but as a means), in particular for the least developed countries that must still raise many from poverty, but one that can distribute wealth fairly, to assure human dignity, while respecting the environmental limits of the planet, and one that, above all, promotes the creation and widespread dissemination of “substantive values.”

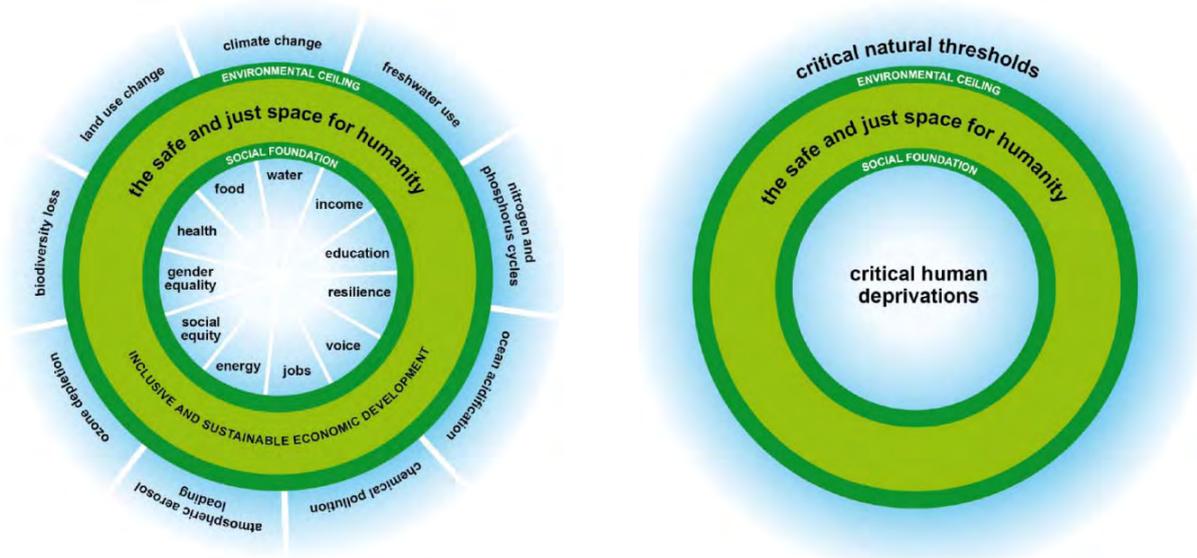
FGV has presented an archetype of global governance and management of sustainable development, defined by:

- A space for governance and political coordination to discuss and create a shared vision of the future.
- A development agenda, which includes, at the national level:
 - Public policies to incentivise the emergence of a new, green and inclusive economy.
 - Corporate responsibility that promotes wealth generation while respecting the natural limits of the planet.
 - Leadership training in substantive values.
- Financial tools, to finance the eradication of poverty and economic activities that promote equality, and the conservation and sustainable use of natural resources.
- A monitoring tool to oversee progress towards objectives and goals for sustainable development.

The formulation and implementation of this development agenda will need the support of UN agencies. Non-governmental organizations have played a valuable role in promoting a green and inclusive economy, but a new economic model will require: (i) the active participation of national and sub-national governments, in offering the right incentives, and (ii) the business sector, in implementing strategies and practices for sustainability. It is also necessary to consolidate this through (iii) leadership training in substantive values, in particular in Business and Economics schools, to anchor the new model in the principles of sustainable development.

Kate Raworth, a researcher from Oxfam, has introduced a useful approach, using the shape of a donut to illustrate the "safe and just space" for humanity, with two limits: a social foundation free of hardship, within which human rights would be universally respected; and an environmental ceiling, which imposes a natural limit that does not compromise the sustainable supply of natural resources and ecosystem services. A green and inclusive economy would be any arrangement within these two limits.

A safe operating space for humanity



Source: Raworth (2012), inspired by Rockström et al. (2009).

Meeting this challenge requires all nations to assume common but differentiated responsibilities. Brazil, due to its economic importance, its recent social achievements, its leadership in the generation of energy from renewable sources, and the existence in its territory of great

biodiversity, can—and should—have a leading role in the construction of a green and inclusive economy.

In its proposal, FGV has therefore addressed the *Guiding Values* that should inform our global approach to energy, transportation, agriculture, waste management and industrial processes, water and forests, and made specific *Policy Proposals* that derive from these. It has focused on the public policies of particular relevance to Brazil.

In the section on *Corporate Sustainability*, the report addresses the need to insert sustainability into wealth production, prompting businesses to reduce their planetary footprints and leave a responsible mark in society; and to develop a more structural role for the financial sector by incorporating environmental and social criteria in loans, investments, and insurance; while promoting adherence to sustainability indices like the 2006 *Principles for Responsible Investment*, and sustainable procurement.

Management education, meanwhile, needs to integrate the principles and emerging best practices of social and environmental sustainability into business and leadership courses at all levels. This demands a trans-disciplinary and interdisciplinary approach to business education, not least because of the critical importance of effective and socially and environmentally sensitive innovation in the development and application of the new model.

Financial mechanisms are needed to enable improvements in the conditions and quality of life of the population, by reducing poverty and inequality, promoting the development of human and social capital, and making sustainable use of the world's natural resources. While the market has yet to produce a financial mechanism to promote sustainable economic activities, one proposal is for a long-term fund to intermediate financial and physical resources in support of Sustainable Development Goals.

The paper ends with the proposal for a set of development indicators to allow for diagnosis and monitoring of the dynamics of global development at the national level, building on the decision to transform the *Millennium Development Goals* into *Sustainable Development Goals (SDG)* after 2015. The SDG should be applied to all countries, not only, as was the case with the MDGs, the developing world.

National targets and implementation plans should complement the metrics, and these should be supported by appropriate incentives.

Trilogue Salzburg

Surrounded by the stimulating atmosphere of the Salzburg Festival, the Salzburg Trilogue convenes thought leaders, decision-makers and renowned representatives from the arts, civil society, business and politics to engage in crosscutting, inter-cultural and future-oriented debate at a roundtable. Originally initiated by Dr. Wolfgang Schüssel, member of the Bertelsmann Stiftung Supervisory Board and former Austrian chancellor, the Salzburg Trilogue has been jointly organized since 2007 by the Bertelsmann Stiftung and the Austrian Ministry for European and International Affairs. The Trilogue 2012 convenes some of the world's leading economic Think Tanks as well as global visionaries and thought leaders from international politics and world economy to develop a new global growth paradigm.

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