

The Complexity of the Future and the New Theories of Growth: Human Capital, Technology, Policy Choices and Global Governance

Giorgio Dominese

Abstract The paper is focused on the crucial issues of the New Theories of Growth but of course after a sharp premise on the quest for Global Governance stepping up and the opposite situation in which we are in these really months. The looming conflicts of the Second Cold War have special boundaries and are not conventional. ISIL is not really a traditional army and operates at global level much more than supposed. Isolated and individual countries responses are unrealistic and dangerous at the same time. The New Theories of Growth robustness and the opposite weakness of the traditional International Relations frames of interpretations and prescriptions are proposing the really “Prisoner’s Dilemma” game theory results, where the convergence of aims and scope can’t produce the indispensable sharing of risks and efforts by the two sides. But the interrelated conditionality and implications of Global Governance policies and procedures are forcing towards negotiated but not precarious or vulnerable results in world affairs. In the quite effective equation and outcomes, shown through the drivers and clusters of the Formel-G elaborated by the Research Division of the Deutsche Bank in 2005 but with reference to the rigorous range of theoretical propositions both from the distinguished scholars Romer-Mankiv-Weil from Berkeley University and the coincidentally two homonymous authors scholar Paul Romer from Stern School of New York University. They had already closed the circle that is now imposing a reshaping, change, innovation of ideas and attitudes also to the more sensitive policy choices centers. This is the basic conclusion from the many spin-off of this paper in some way challenging the traditional formalism of the too often aseptic and “zero-sum-game” contributions on the crucial issues for the economy, financial system, development and growth of all the humanity in the one world.

Keywords Global Governance, Conflicts and Terrorism, International Relations, New Theory of Growth, European Union, Environment, Corruption

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The impending change of the international order and the new players and factors determining policies and strategic choices, which once were an absolute monopoly of nation-states, empires and hegemonies, have now shown new profiles and tentative alternative processes still “work in progress” at the dawn of a planetary era as we are facing in these decades. It will be a very engaging age because it requires the acceptance of challenging and critically reviewing principles before given for eternal, adapting social, political, ethnic, identities but first and foremost new scientific and cultural assumptions and theories. No use to remain only spectators in a kind of comfortable process, with obsolete certitudes and simplified policies in mind when facing the complexity and the risks mounting in this very moment of the reshaping process.

The Looming Conflicts of the Second Cold War

The recent developments and the concrete looming of wide conflicts are showing the true “clash of civilizations”, that is not only the proclaimed one by the US historian Samuel P. Huntington¹ few years ago - based mainly on the traditional contrasts and divide of faiths, ideologies and intellectual values, evoked as instrumental explanations easily communicated to the public and the “masses”, through the simplified language of worldwide coverage and tragic spectacle that quite often this implies - but mainly the antagonism of two strategies and camps, due in part to deluded long caressed expectations and on the other side by cultural fundamentalism.

The first is attempting rationally to catalyze the new variables and factors of change in a sufficient least common multiple theoretical frame of values, policies and practices for an innovative global governance and interdependence among institutional, social, racial, religious, cultural often incompatible values. The second is fueling the fire on the still deeply unequal sharing of the benefits resulting from the already achieved value added outcomes of the last decades of global growing dimension of the international governance. With the results that a more integrated community of nations and states is not approaching but instead risking to be pushed far away. In this poisoned environment conflicts and terrorism might find further support and capabilities never before shown and practiced.

In other words, we have already in front of us a wide dimension of one economy, one finance, one technology, one science, one ICT, one fashion, one environment, one access to what never before had been so available, tempting, desirable for humanity: equal opportunities, gender equality, education for all, youth on stage, human rights, great mobility of people through borders, work and job opportunities worldwide. The list might be continued with tens of titles of value added reasons and benefits of the present and future scenario of the human community. But antagonism is prevailing instead of convergence, or better the main stream of the convergence is encountering

¹ The true “clash of civilizations” is not only the proclaimed one by the US historian Samuel P. Huntington few years ago but mainly the antagonism of two strategies and camps, due in part to deluded long caressed expectations and on the other side by cultural fundamentalism.

a fierce resistance and counter attacks by the past, traditional doctrines and institutional representations.

Even so, could we imagine a future without global governance? The general assumption is that we can't not at this stage of change and innovation negate its existence, as the main common ground assumptions have already widely spreading inside society life style with a decisive support and scientific support all the most relevant schools of thinking and quantitative researches centers worldwide. Pascal Lamy, Director General of WTO, in a lecture at Oxford University in 2012, had in this way pictured the "state of the art" and no way back options: "We live in a world of ever-growing interdependence and interconnectedness. Our interdependence has grown beyond anyone's imagination in fact! Economic and financial shocks spread faster than ever before. With the recent economic crisis we discovered that the collapse of one part of an economy can trigger a chain-reaction across the globe. With the climate crisis, that our planet is an indivisible whole. With the food crisis, that we are dependent on each other's production and policies to feed ourselves. And with the flu epidemic, that speedy international cooperation is vital. The scope of the challenges the world is facing has changed profoundly in the past decades — more profoundly, I suspect, than we fully understand. The world of today is virtually unrecognizable from the world in which we lived one generation ago"².

A long way must be undertaken to spread the benefits to the many who all still staying at the window with growing resentments, listening the sirens of destabilizing conflicts and of extremist fractions. Nothing is more destabilizing than the deluded expectations due to the missed opportunities. In this situation is not really simply alarmistic to evoke the specter of a second Cold War.

The Origins of Totalitarianism and Therapies

The reference to the waves of provocative new reactionary opposition attempts to changing, bettering life and standing of the world community we are assisting is in fact really amazing and suggest some more deep scientific investigation on the contradictions and wrong policies adopted in the last post-colonial and Third World long spring season hopes because incapable to jump over the previous models of governance, while attributing too much relevance to continuities and contiguities with nationalistic and sectarians heritages. We lost a window of opportunities and to rebuild now confidence and trust might become harder and harder, in presence of negative attitudes and contaminating apologetic fundamentalism. The opportunistic and instrumental complicities of all many countries and great powers had been proved in reports, files and diplomatic documents from institutional archives circulating now free of restriction or even declassified, after the expiration of the legal terms for total secrecy. To research and read through them we might often remain astonished.

More or less officially admissions are now circulating on wrong evaluations, mistakes and policies in situations and events occurred in the five continents, with a systematic

2 P. Lamy, (2012) Director General of WTO, in a lecture at Oxford University in 2012

lack of coherent reforming support to the newly entered post-colonial and independent players in the world of international affairs. The control of basic raw materials, oil and gas production, commodity supply chain and cheap labor encountered the strategic needs and conditionality of military relevance, in the age of bipolar confrontation and first Cold War lasting for almost a century.

At least until the end of Soviet Union and the “deicing” of the blocking confrontation, when the redemption of history had signed great pages of high profile and farsighted visions both in Russia and in the Euro-Atlantic policy, intellectual, academic more illuminated circles and decision making institutions. It was the process and melting pot of the Helsinki Final Act³ of the Conference on Security and Co-operation in Europe, signed in the Finnish capital on August 1, 1975 by 35 Euro-Atlantic and Eastern European countries involved.

A good lesson for the future, where the new incumbent but different kind of possible Cold War shouldn't suggested to the main powers the fatal omissions and mistakes of the past policies and failures, specifically in the really regions of the present conflicts and terroristic unpredictable forms of war deeply menacing the international order and bringing higher the risks of continental war.

From the organized barbarian ISIL terrorism in a and open challenge to the main emblematic symbols or signs of civilization to isolated crimes and mass murdering by single persons and deadly serial killers, inspired by hate against community places like schools, universities, social centers, place for gathering and enjoy music, sports, cultural events or for personal retaliation. From brutality of violence against “differences” in race, religions, ethnical provenance, gender to nostalgic movements of nationalistic inspiration or pan-totalitarian trivial and demagogic aims, easily poured and absorbed by threatened public opinions. Finally, the exaltation and nostalgic “apologia” of political systems and social organizations as aberrant as fascism, sovietism, nationalism, clericalism, racism, nihilism, totalitarianism, militarism which unique faith at the end is the progressive abolishment of fundamental individual and groups freedom, with evocation of ethnic cleansings and forced assimilation of peoples and minorities.

The pursuit of forms of government, economies and institutions following ancestral dirigistic and authoritarian model already failed many times in past history with catastrophic economic, social and political impact for the entire humanity, all these syndromes are before our eyes. Hannah Arendt's⁴ fundamental main 1951 work “The Origins of Totalitarianism”, “Elemente und Ursprünge totaler Herrschaft”, analyzed in a unique striking intellectual contribution all these phenomena and the tragedies they had induced in Europe but with an effective universal applicability. It's a kind of situation as we are facing now, after the Ukrainian war directly supported by Russia; the Crimea “Anschluss” with analogies with the Austrian past memories; the four years of Syrian civil war waged by the despotic regime in Damascus - now hopefully

3 Helsinki Final Act <http://www.osce.org/mc/39501>. The views, opinions, conclusions and other information expressed in this document are not given nor necessarily endorsed by the Organization for Security and Co-operation in Europe (OSCE) unless the OSCE is explicitly defined as the Author of this document.

4 Hannah Arendt's fundamental main 1951 work “The Origins of Totalitarianism”, Harcourt, Brace and Co., 1951; “Elemente und Ursprünge totaler Herrschaft”, Schocken Books, 1951

entered toward an end after the UN resolution just in the threshold of 2016 – a war that transformed into a devastating fire burning hundreds of thousand lives, pushing refugees to escape toward the “European dream”, with implications and burdens of extraordinary relevance but with a long term credit that will sign the victory over the tyrants in the Middle East and North Africa.

International Relations Theories at Stake

Utopias had been the drug of people when no ways to resolve their basic problems in home countries occurred or because a wrongly interpreted value of not “interference” allowed the international community, first of all the United Nations - created to the purposes of peace and prosperity for all at the end of World War II but step by step transformed into a “zero sum game” Glass Palace in New York, simply for the use of the five Yalta great powers formal endorsement of agreements often reached out of any international law and human rights consideration -, while staying aside and leave many regional conflicts to be transformed into blood bathes and atrocities. The Balkan War 20 years ago, after the ethnic cleaning and criminal killing of thousands Bosnians by the Serbian troops and special units had been a unique case of international responsibility and of judicial follow ups, with the politician generals and top responsible of the horrible crimes against humanity belonging to all the factions severely judged sentences by The International Criminal Tribunal for the former Yugoslavia⁵ and condemned to multiples life sentences for crimes against humanity.

There will be no other way out than entering the arena with a shared project in mind, supported by a wide coalition of genuine, transparent will and of course a military capability and credibility if we want in the future to avoid feeding an irreversible, already mentioned syndrome of “World War III” and caressing rebuilding up tragic memory sphere of influences, a perspective caressed by some regimes irresponsible analysts and experts as a possible “exit strategy”. These old style “realistic” illusions represent the worst scenario that would fatally induce dramatic consequences. The world we are discussing in this paper is antagonist to these ideas, forces and military actions leading them. Soon or later, the “Redde rationem” of Latin memories will fatally reestablish the civilization and human rights broken by genocide, aggressions and atrocities.

The Prisoner’s Dilemma

The sophisticated analytical tools, models, theories and the infinite capacity of quantitative processing in almost real time provided by the data processing and informatics revolutionary tools must be mobilized and new deterrence of ideas and mightiness quickly deployed to crush any possible challenger. It’s unthinkable to become again prisoners of these phantoms. We cannot be victims of the “prisoners dilemma” in its various assumptions and applications.

⁵ United Nations The International Criminal Tribunal for the former Yugoslavia, 1996-2015, The Hague, <http://www.icty.org/en/cases/judgement-list>

A multipolar, multifaceted approach and solution to the “dilemma”. The full understanding of this definition could bring to a fair alternative that could be better appreciated by applying the analyses and options of the global governance recalled in this paper.

The prisoner’s dilemma is a canonical example analyzed in game theory that shows why two purely “rational” individuals might not cooperate, even if it appears that it is in their best interests to do so. It was originally framed by Merrill Flood and Melvin Dresher working at Rand in 1950, as part of the Rand Corporation’s investigations on the game theory, which Rand pursued because of possible applications to nuclear strategy options during the first Cold War (Stanford Encyclopedia of Philosophy)⁶. The two players in the game can choose between two moves, either “cooperate” or “defect”. The idea is that each player gains when both cooperate, but if only one of them cooperates, the other one, who defects, will gain more. If both defect, both lose (or gain very little) but not as much as the “cheated” co-operator, whose cooperation is not returned. Such a distribution of losses and gains seems natural for many situations, since the co-operator whose action is not returned will lose resources to the defector, without either of them being able to collect the alternative additional gain coming from the “synergy” of their cooperation. For simplicity we might consider the Prisoner’s dilemma as zero-sum insofar as there is no mutual cooperation

It is quite a demanding age, requiring change and effective solutions without any easy bridging way out if not at growing risk for the entire humanity. We have to accept discussing and openly confronting, following the principle of arguing and critically reviewing the asymmetric social, political, ethical values, but first of all praising the strong scientific and cultural beliefs and traditions of the whole international community we symbolize with our civilization, a “renaissance” kind of universalistic philosophy and ideals.

This does not mean we have to renounce national values, peculiarities of “identity and diversity”, sovereignty boundaries that summarize the universal intellectual and spiritual heritage, the ethical and moral values of a varieties of philosophic doctrines and religious faiths. That’s why International Relations shortcut refuge into a row “realism”, even if inspired by Thucydides’ “History of the Peloponnesian War”⁷ great contribution, as it represents a negative, fatalistic, opposite intellectual and political choice than the never lasting search for more advanced and sophisticated doctrines. The same might be said of “Machiavellian”, an approach very often associated with political deceit, deviousness and realpolitik. But main commentators⁸, such as Baruch Spinoza, Jean-Jacques Rousseau and Denis Diderot, have argued that Machiavelli

6 Prisoner’s Dilemma, <http://plato.stanford.edu/entries/prisoner-dilemma/>; Stanford Encyclopedia of Philosophy, Sep 4, 1997. The prisoner’s dilemma is a canonical example of a game analyzed in game theory that shows why two purely “rational” individuals might not cooperate, even if it appears that it is in their best interests to do so. It was originally framed by Merrill Flood and Melvin Dresher working at RAND in 1950.

7 Thucydides’ “History of the Peloponnesian War”, MIT University Press, Boston

8 B. Spinoza, *Tractatus theologico politicus*, V, 7; D. Diderot, *Machiavellianism*, in *Encyclopedie*; J.-J. Rousseau, *Contratto sociale*, III, 6

was actually a Republican, even when writing *The Prince*, and his writings were an inspiration to Enlightenment proponents of modern democratic political philosophy and in fact of crucial International Relations theories.

As in Economics, in the broad Social Sciences, Technology, Human Capital and Environment, just to mention, the new factors and deep scenario horizons impose to move ahead in the theoretic frame of an interdependent, constructive and multiplayers world, assuming the new theories of IRs and coherent guidelines as indispensable to the governance of the still new Century XXI with its incredible promises for people and leaderships of “good will”, as could be appreciated in the textbook by Robert Jackson and Georg Sørensen⁹ “Introduction to International Relations: Theories and Approaches” offered now in the 6th Edition by Oxford University Press.

European Union Turning Point

The European Union is the most remarkable turning point impressed with the constituent Treaty of Rome in 1957 to the progressive integration and devolution to the Union of sovereign powers. From that historical date we have assisted to the upgrade of innovative approach to specific international connected policies with the EURO Monetary Union, that up today has 19 member states. If we assume that almost all EURO countries are at the same time also NATO 28 members with the newly invited member Montenegro (apart from Austria for the reason of the State Treaty after the Second World War) and that Switzerland, not being neither in EU nor in EURO zone and in NATO, on the base of the Constitutional neutrality of the Confederation, has in any case specific relevant harmonization agreements and common regulatory procedures in main fields of EU governance, we can assume as historic and worldwide main example of successful regional integration and interdependence. Non-statehood approach had been implemented and fine-tuned in the almost 60 years from the EU constitution in quite challenging passages and growing international implications.

But also Europe is in the phase of reviewing and implement the constitutional structure of the Union, not simply because of last waves of refugees arrival from Near and Middle East on fire but as the achieved integration must be an adaptable system of rules and sharing of powers for an enlarged “common house” as EU had become. Grexit tensions and fears have found in 2015 a positive conclusion, after exhausting negotiations, while the UK referendum on the EU membership is posing new challenges to the Brussels governance. Updated and more new institutional set of powers and procedures would be in any case introduced as much as the international standards, competitiveness, regulatory and new growth conditions will suggest and request. The auspices of the “United States of Europe” seem in any case still far from the subsidiarity principle and the peculiar, flexible concept of federalist approach introduced with the Treaty of Rome and representing a possible common ground of convergence among all the EU member countries, UK included.

⁹ Robert Jackson and Georg Sørensen “Introduction to International Relations: Theories and Approaches”, 6th Edition 2015 (Oxford University Press)

These attitudes and mindset should be presented and diffused among the individual citizens but beforehand and immediately it requires leaderships, elites, knowledge, competences, investments, reforms, resources and permanent innovation based on cultural and technological quickly advancing step-ups, on environmental and energetic priorities which are permanently evolving and sweeping away yesterday's experience of mankind and society.

Never before this historic period of passage had shown the indispensable need for an architecture of international governance based on the preconditions and the forthcoming needs of assimilation, the new values, credible pillars deeply involving institutions, public, private, productive, education, entrepreneurial and social levels.

To imagine the diffusion of the international governance model that European Union had been capable to build up represents is in some ways far from a realistic perspective. But similar but peculiar regional transnational organizations - tailored on specificities, peculiarities, cultural and different history of other potential main regional approaches to governance in Asia, Latin America and Africa - have already now a large background of research and applied experiences. As I said, the "European dream" remains the best visiting card to penetrate the world spirit and the openness of economies, universities, high research institutions, technologies exchanges, arts and culture.

This is a convergent interpretation of the complexity of the future proposed more than twenty years earlier by the controversial but farsighted French philosopher Edgar Morin¹⁰ in his famous essays "How to govern the future complexities" and in the essay "Seven Complex Lessons in Education for the Future".

The New Theories of Growth and Global Governance

A relevant contribution to the understanding of the irreversible changes factors up from 1980 had been brought by the debate and massive scientific efforts that had accompanied the New Theories of Growth appearance and now running fast towards not yet foreseen analytic and applied results and further interpretation tools for the interdependence and convergence of Economics, Law, Innovation, Environment, Alternative Energy, Aerospace, Social Sciences into a consistent theoretical background for the effective international Governance. Human capital factor is in need of this high profile convergence to remain always adequate to future challenges and advancements.

Where IRs could not proceed due to the before mentioned reasons, these new platforms of theories around the basic principles of Growth and Governance have achieved great applied results and scientific robustness. We will see in the next sections the key factors and the implications for the international governance. Economists have often marginalized or even criticized, until the last decades, the role played by "institutions" in the productive system, while they have always better dedicated to the operative aspects of economy, finance and corporate system at work, in one word following a business approach. Also Keynesian and neo-classic schools have

¹⁰ E. Morin, a French philosopher and sociologist who has been internationally recognized for his work on complexity and "complex thought". "How to govern the future complexities" and "Seven Complex Lessons in Education for the Future".

focused these key variables but never entering deeply into the effects of the ongoing change in the whole system of governance left out of the reshaping in the future transitional time. The scenario and change from here up to 2030-2050 is simply amazing and positively unpredictable: environment, energy, innovative discoveries in almost all the traditional and advance sectors, agro-industrial advancements, welfare, health, supercomputing unbelievable and institutional implications. In fact, the institutions determine nowadays the way and conditionality into which “systems” much be governed effectively and in fine-tuned way in an ever advancing summing up of variables covering all aspects of governance, at national and transnational levels.

“The invisible hand” is a metaphor used by Adam Smith¹¹ to describe unintended social benefits resulting from individual actions, first of all and mainly with respect to income distribution. Now that “the hand” on the one side has become more visible, transparent and with high degree of efficiency even when interfering with the classic theories but on the other has shifted into a more impenetrable and invisible challenge and daily confrontation to protect the sensitive “core” of the. That’s why - to use a popular assumption not far from true - hackers are at work tirelessly to penetrate the restricted area of governance at all levels, even the apparently less important. It’s a big game with a high stakes, where no main player can stay at the window, so everyone listens, monitor and interfere. We might say quoting the biblical sentence: “who is without sin cast the first stone”

The “policy choices”, even if inside different architectures and organizations of the factors frames, are connecting in an interdependent way each country to others, a net of societies and markets looking for a desired permanent trend of growth and welfare. The same interdependence is involving the research and expertise sectors and professionals. The same binding conclusions can be easily be drawn even if the lack of a systemic and scientific integrated approach to face the challenges of global governance in a conditions of partial asymmetry. We are talking of course in general assumptions, as there are many exceptions and peculiarities.

The Turning Point Season 1980-2010

We can say that 1980 and the years immediately following brought a breakthrough for the change in attitudes, knowledge and progress regarding all these issues. But in the previous century, some brilliant scientists in the main disciplines spanning a broad horizon stood out in writing, teaching, researching, publishing and predicting the need of a “common ground” for the advancements in governing the changing economy, society and institutions of all the levels existing now. A kind of transnational movement in the name of the better governance of the planet.

What had happen in around 1980 to 2010 to make these years such turning point for the re-discussion and the new assumptions on world governance? The big push start really here and proceeded quickly up to the beginning of the new Century XXI. A constellation of many but very significant outcomes of researches and institutional focusing on the

¹¹ “The invisible hand” is a metaphor used by Adam Smith to describe unintended social benefits resulting from individual actions, first of all and mainly with respect to income distribution.

new stage of growth and development denominated “global”, in principle, and affecting all the leaderships as well as professionals, entrepreneurs, lawmakers and intellectuals. As in the theoretic applications of the cobweb model, even the International Relations were becoming more and more affected by the new waves of theories. We assisted to a flourishing of tentative but robust policy advice outcomes circulating and pushing ahead new knowledge advancements.

These remarks are a bit far off - I am aware - from the traditional approach to systemic analyses. But at the end, we have fuel a wider debate on peculiar and in many ways different starting conditions. No forms of conditionality or corporative barrier or intellectual is anymore granted to segments or islands with boundaries and “off-limits” scientific territories. The race for a better scientific approach to the future “horizons” of knowledge and intensive research dedication and value added. The same geopolitics was facing the parallel “*vexata questio*” on the limits of power but of course no limits are any more sustainable if not being widely shared and negotiated with all the players on specific issues that are under questioning and debating in a growing number of critical cases.

From international to global. Around the 1990s the world experienced the passage from a traditional approach endogeneity and growth to the new theories cultivated in the best thin-tank worldwide. Universally accepted new theories domain and applied quantitative and sophisticated measurements of variables - still never well investigated and even when not yet well grounded on a scientific shared way but just posed into a strong trend line of credibility and consensus - start to be animated by economists and research centers. However, incredible but true, the real avant-gardes of thinkers and analysts were coming, before 1980, from the International Relations studies and researches, attempting to provide a conceptual framework of robust theoretical perspective to the emerging but quickly inflated global quagmire. IRs theories were compared to pairs of different colored sunglasses that allow the wearer to see only salient events relevant to the theory; e.g. an adherent follower of “realism” might completely disregard an event that a constructivist were deeming as crucial, and vice versa.

The three most analyzed theories realism, liberalism and constructivism went quickly at odds between the consistent conservative attitude and a reforming dynamic and very determined minority of scholars, experts and researchers. The third theoretical frame was the new “intriguing” entry, as it’s mainly connected with the experience and upgrading of the role and power of the European Union, at this crucial passage of the new Century almost enlarged to the today’s dimension, with 28 member countries.

The theories of constructivism had propagated and asserted themselves rather strongly in the policy choices of the EU’s regulatory ruling, in the ECB Eurozone strategy, in the economic and financial guidelines within the most advanced form of regional governance existing worldwide and assuming a growing power and “soft” but effective capability to give voice and enforce political will up to today. Even the danger of a Grexit has been managed in 2015 following innovative and non-orthodox monetary, financial and policy choices, leaving the world quite wondering and questioning. A good ground for future debate and advanced research. Which amazing events happened then in the years

around 1990? Well, to mention just some of the most astonishing geopolitics events we remain astonished: the Internet changing completely the economic and human relations in the world; the German reunification opening the season in 1989-1990; the end of Soviet Union in 1991; the rising of China to a distinctive great power, with almost two digits growth yoy, in a still socialist frame but in a progressively open market system and society; the war in the Former Yugoslavia bringing new hopes in the Balkans; the shocking, unpredictable terroristic attack on 9/11 to the Twin Towers and US symbols, just an announcement of the contemporary ISIL terroristic massive attacks in Paris, Bamako, Lake Chad, Ankara, Nigeria, Beirut, Sinai Russian airplane bomb, California. The contagion had been spreading out by the four years a civil war in Syria, in fact a regime butchery tolling almost three hundred thousand lives and at least four millions refugees outside the country; by the open wounds of the still debated and argued Iraq war and repercussions; by the not yet resolved Israeli military occupation of West Bank and the spreading the lacerating problems; by the even wider implications of the spreading conflicts and terrorism from the Great Middle East to Europe, Africa, USA and Asia.

Economics and real economy could add a better rationality, the real substance, the very bright thinking behind these events: the technological revolution; the “health of nations”, prolonging life beyond any expectations; the environmental issue passing from a deficit spending to a factor of production; the human capital incorporated into innovation becoming the crucial factor of production; the new concept of security and defense; wider inequalities destabilizing the so called developed world and its central social stability, with two quintiles of middle classes inhabitants happily in power. All these issues give now enough reason to a “re-visitation” of the chaos theories, as the world collapse in fact did not come and will not come looking to the developments taking place in this end of 2015-beginning 2016 scenario.

The Transition Towards 2030-2050

We are simply in a major transitional period of worldwide growth and governance towards 2030-2050. Good point to restart with our present and future. Two cornerstones in the academic and intellectual debate had certainly been the in depth research analyses with “A Contribution to the Empirics of Economic Growth” by Romer-Mankiv-Weil¹², the trio from Berkeley University, published in preview by the prestigious NBER on December 1990, a real turning point in the Economic Sciences theoretical architecture on production, growth, institutions, technology and policy choices. The second was the silent, initially almost unknown scientific activity with a sophisticated value added of the contributions by Ronald H. Coase¹³, who was Nobel Prize of Economic Sciences

12 N. Gregory Mankiw, David Romer, David N. Wei , “A Contribution to the Empirics of Economic Growth”, NBER Working Paper No. 3541, 1990

13 Professor Ronald H. Coase was Clifton R. Musser Professor Emeritus of Economics at the University of Chicago Law School. For his discovery and clarification of the significance of transaction costs and property rights for the institutional structure and functioning of the economy, Ronald Coase received the Alfred Nobel Memorial Prize in Economic Sciences in 1991.

in 1991, with his memorable lecture in Stockholm on “The Institutional Structure of Production”.

I copy and paste first the presentation of these assumptions on the Empirics of Economic Growth with no further comments, as we can all agree for a global standing scientific acclamation.

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A CONTRIBUTION TO THE EMPIRICS
OF ECONOMIC GROWTH

N. Gregory Mankiw
David Romer
David N. Weil
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A CONTRIBUTION TO THE EMPIRICS
OF ECONOMIC GROWTH
ABSTRACT

This paper examines whether the Solow growth model is consistent with the international variation in the standard of living. It shows that an augmented Solow model that includes accumulation of human as well as physical capital provides an excellent description of the cross-country data. The model explains about 80 percent of the international variation in income per capita, and the estimated influences of physical-capital accumulation, human-capital accumulation, and population growth confirm the model’s predictions. The paper also examines the implications of the Solow model for convergence in standards of living—that is, for whether poor countries tend to grow faster than rich countries. The evidence indicates that, holding population growth and capital accumulation constant, countries converge at about the rate the augmented

Solow model predicts.

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But Ronald Coase¹⁴ too had been really a lighthouse and maritime compass in the early spring of the economic research at that time. He was announcing the great, impressive change, in his Nobel Lecture on “The Institutional Structure of Production” and in a following interview from where I take some more lines of reference.

“In my long life I have known some great economists but I have never counted myself among their number nor walked in their company. I have made no innovations in high theory. My contribution to economics has been to urge the inclusion in our analysis of features of the economic system so obvious that, like the postman in G.K. Chesterton’s Father Brown tale, *The Invisible Man*, they have tended to be overlooked. Nonetheless, once included in the analysis, they will, as I believe, bring about a complete change in the structure of economic theory, at least in what is called price theory or microeconomics. What I have done is to show the importance for the working of the economic system of what may be termed the institutional structure of production. In this lecture I shall explain why, in my view, these features of the economic system were ignored and why their recognition will lead to a change in the way we analyse the working of the economic system and in the way we think about economic policy, changes which are already beginning to occur. I will also speak about the empirical work that needs to be done if this transformation in our approach is to increase our understanding. In speaking about this transformation, I do not wish to suggest that it is the result of my work alone. Olivier Williamson, Harold Demsetz, Steven Cheung, among others, have made outstanding contributions to the subject and without their work and that of many others, I doubt whether the significance of my writings would have been recognized”. And now the incipit of Professor Coase’s¹⁵ interview. “What I’m going to talk about today is why economics will change. I talk about it because I don’t only think it will change, I think it ought to change. And also I’d like to say something about the part which the University of Missouri will play in bringing it about. It will take a long time. It won’t be an easy task, but I’m glad there are people here who are willing to undertake it. What I’m saying today is not in an ordinary sense a lecture, it is just a talk, perhaps one would say a battle cry. It is just intended to give my views

14 These citations are from Professor Ronald H. Coase’s Nobel Prize Lecture in Stockholm and following comments.

15 “The Institutional Structure of Production” interview

on this subject, why I think that economics will change. It is a striking – and for that matter depressing – feature of economics that it has such a static character. It is still the subject that Adam Smith created. It has the same shape, the same set of problems”.

“Now of course we’ve made improvements, we’ve corrected some errors, we’ve tightened the argument, but one could still give a course based on Adam Smith. He was perhaps the greatest economist who has ever been, but the difference between what has happened in economics and what we find in the natural sciences such as physics, chemistry, or biology is really quite extraordinary. Isaac Newton was a great man. He made a great contribution, but you wouldn’t really base a lecture today in physics on Isaac Newton, or in chemistry on Lavoisier, or in biology on Charles Darwin. Charles Darwin was a great man, but we no longer accept his views on inheritance and therefore on how evolution works. Changes in physics, chemistry, and biology continue to this day. It so happens that before taking a degree in commerce, for a short period I started to take a degree in chemistry. What was taught then as chemistry was completely different from what is taught today. Francis Crick has called the old chemistry just a series of recipes. And my recollection of what I was taught suggests that was accurate”.

Deutsche Bank Research Formel-G¹⁶

From the theories to the applications the distance was really short. Few years later, Deutsche Bank Research elaborated the Formel-G, a chapter of a frame program on Megatrend 2020 prepared in Frankfurt. Summarizing all the giant elaborations and testing done by the DBR Division, I focus now on the Report three crucial passages.

Theory and methodology

After the first results have been presented and the analytical framework has been outlined, the next two sections explain the fundamentals of modern theoretical and empirical growth analysis. An important element of Formel-G will be derived: the econometric equation.

Searching for technological progress

Growth forecasts must have a solid theoretical foundation. The basis of most growth analyses is the neoclassical production function in which output Y is a function of labour input L , capital input K and the level of technology A (Solow residual; usually called “total factor productivity”). Growth decompositions divide actual growth into these three components. However, over the long-term, the sole driver of any growth of per capita output is the progress of technology A . It also is crucial for the long-term increase in the capital stock per capita¹⁷. Therefore, forecasts of economic growth with the help of simple growth decompositions require more or less arbitrary assumptions

¹⁶ Deutsche Bank Research Formel-G

¹⁷ This is set out very clearly by Barro, Sala-i-Martin (2004), pp. 457 and 460. Hanna

on technological progress¹⁸. They do not explain the really interesting variable A but bury it in an assumption. Therefore, simple growth decompositions are not suitable for forecasting.

Theoretical foundation: the production function ¹⁹

Production function in the Solow model

$$Y_t = K_t^\alpha \cdot (A_t \cdot L_t)^{1-\alpha}$$

The often assumed absolute convergence of income levels between countries (i.e. poor countries' GDP grows faster than rich countries') also lacks theoretical and empirical support. There is no automatism: higher income levels do not fall from heaven like manna but require hard work²⁰. GDP of a country only converges to the country-specific income level that is determined by that country's growth drivers.

Therefore, any useful model of the future has to explain technological progress. This is easier said than done, however. Mankiw/Romer/Weil made a path breaking contribution in 1992 by incorporating human capital H as a measure for the quality of labour input into the empirical growth analysis. Human capital describes a person's ability to produce output efficiently and to develop new products. This important additional variable helped significantly in explaining historic income differences across countries. The often assumed absolute convergence of income levels between countries (i.e. poor countries' GDP grows faster than rich countries') also lacks theoretical and empirical support. There is no automatism: higher income levels do not fall from heaven like manna but require hard work. GDP of a country only converges to the country-specific income level that is determined by that country's growth drivers. Therefore, any useful model of the future has to explain technological progress. This is easier said than done, however. Mankiw/Romer/Weil made a path breaking contribution in 1992 by incorporating human capital H as a measure for the quality of labour input into the empirical growth analysis. Human capital describes a person's ability to produce output efficiently and to develop new products. This important additional variable helped significantly in explaining historic income differences across countries.

Production function in the Mankiw/Romer/Weil model:

$$Y_t = K_t^\alpha \cdot H_t^\beta \cdot (\tilde{A}_t \cdot L_t)^{1-\alpha-\beta}$$

For empirical growth analysis, this was a great step forward but not fully satisfactory yet. Both theoretical and empirical work of the last ten years tried to model the remaining, unexplained share of technological change after human capital is taken into consideration. The objective is to explain economic growth as fully as possible in the model by incorporating a further policy variable P (or several variables). Exogenous, unexplainable influences are to be minimised.

18 For example, filter techniques with averages of the past are applied or absolute convergence with other countries is assumed.

19 Theoretical foundation: the production function

20 Easterly and Levine (2001) even observe a divergence in income levels.

Production function in Formel-G

$$Y_t = K_t^\alpha \cdot H_t^\beta \cdot (P_t \cdot \tilde{A}_t \cdot L_t)^{1-\alpha-\beta}$$

The search for P gave rise to a flourishing literature dealing with the role of politics, institutions, knowledge and innovation²¹. In their overview, Durlauf, Johnson and Temple²² (2004) identify 42 “growth theories” using a total of 102 variables – which may be combined in different variations²³.

Although theory does not produce a clear conclusion on the “correct” growth model (the “correct” P) it helps us identify potential growth drivers. The decision as to which additional variables really have a statistically and economically significant link with growth will have to be based on econometric analysis.

As I have now presented in this very visual impact “facts”, the entire system of reporting and analyzing the world main factors and variables had simply jumped from the past to the future, without passing for any intermediate rest, even at the price of some scientific weakness open to the further in depth debate in all the research community. In Annex I, you will find an advanced globalization Index prepared annually by KOF Index of Globalization by the Swiss Federal Institute of Technology in Zurich (ETHZ), is one of top reference ranking, measurement and weighting of the before mentioned variable P. The KOF Index of Globalization offer the full countries ranking on the following three main indicator: Political Globalization, Social Globalization, Economic Globalization and a overall Globalization index. For more definition and methodologic details visit the <http://globalization.kof.ethz.ch/>²⁴

Last but not Least

A special attention must be dedicated to Environment, Welfare (Annex 2), Human Capital, Higher Education and University, in one word to the institutional choices main crucial priorities, the Public Policy at global level. Just consider the relevance of the Environment and Climate in absorbing governmental expenditures worldwide. And see how much our countries public budgets are investing for the Welfare in a broad accession. Laws, regulations, juridical and judicial, policies and fight against corruption²⁵ (Annex 3 and 4) are the becoming top priorities for all the countries. Sound economy and political systems are incompatible with corruption. Corruption, the abuse of entrusted power for private gain, is the single greatest obstacle to economic and social development around the world. It distorts markets, stifles economic growth, debases democracy and undermines the rule of law (Annex 5).

21 The World Bank, the IMF, the OECD and the NBER have contributed many new insights with new data sets and a large number of publications.

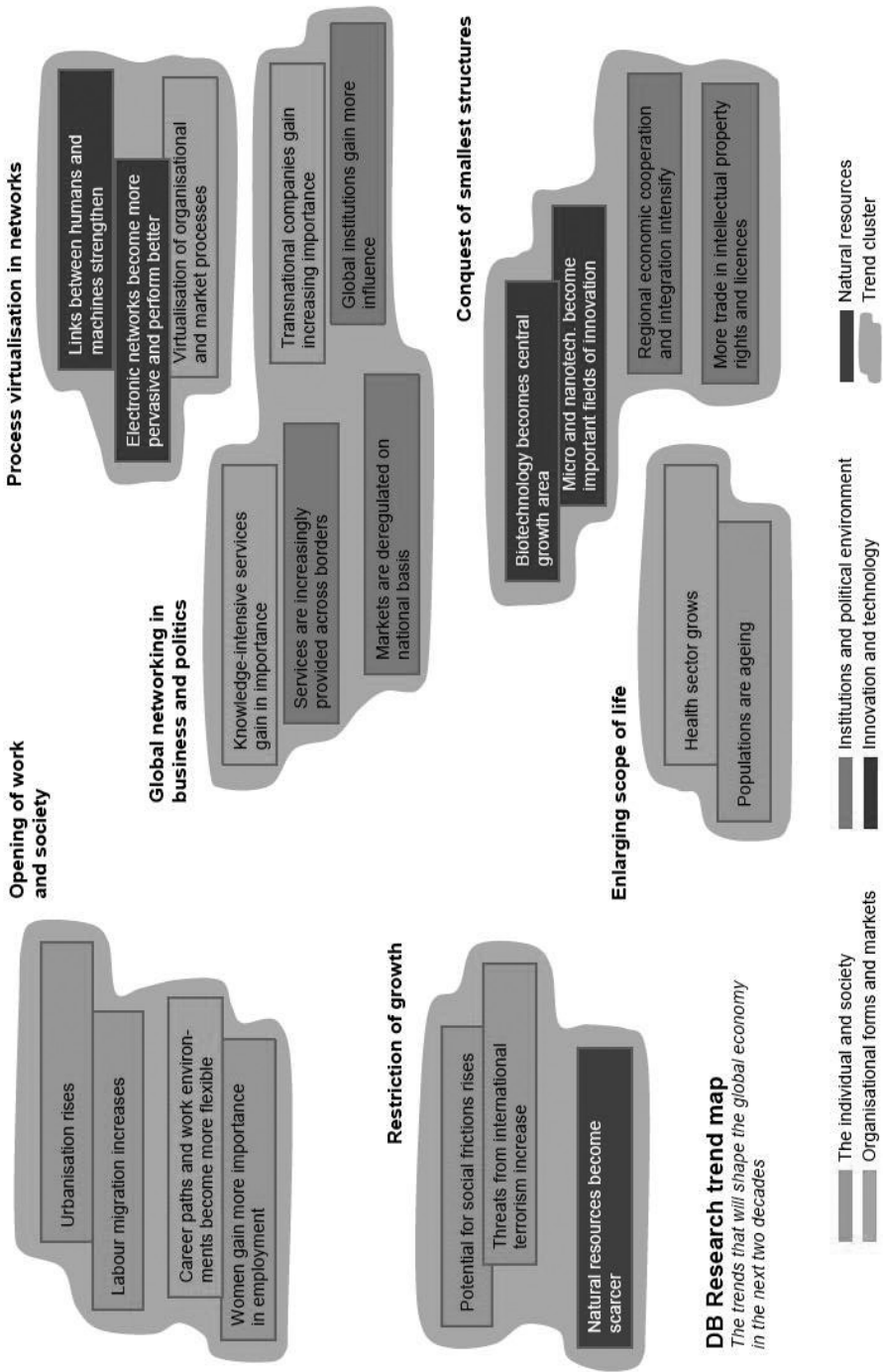
22 Durlauf, Johnson and Temple (2004)

23 Temple (1999) also gives an excellent overview.

24 KOF Index of Globalization by the Swiss Federal Institute, 2015: <http://globalization.kof.ethz.ch/>

25 T. Persson, G. Tabellini and F. Trebbi, Electoral Rules and Corruption, Journal of the European Economic Association, Journal of the European Economic Association, Volume 1, Issue 4, pages 958–989, June 2003; Annex 3 and Corruption Perception Index 2014 and Clean Business is Good Business, Annex 4, 2008.

Figure 1 DBR - Deutsche Bank Research's trend map



Spreading around the world, representing 5-7 % of the global GDP and let's see also the ranking as they are meaningful. Corruption, the abuse of entrusted power for private gain, is the single greatest obstacle to economic and social development around the world. It distorts markets, stifles economic growth, debases democracy and undermines the rule of law. Electoral systems are quite often connected to the relevance of this phenomena in the public investments and procurements, where I add in Annex the data showing almost 25% of these expenditures are absorbed by direct or indirect "corruption" of public and private sectors. More than these data, I have added the OECD SOCIAL EXPENDITURE UPDATE 2014²⁶, (Annex 2), with an overview on the crucial welfare and social standing of the worldwide regions and countries

Conclusions

Arriving at the conclusions of this paper, I have to introduce a specular model by Paul Romer²⁷, as the Romer deeply tied to New Growth Theories are in fact two: David Romer, one of the great scholars trio at Berkley University and previously at Princeton University, to whom I have assigned a tribute and recognition for his outstanding innovative contribution to a breakthrough in the previous theories of endogenous growth, without dismissing them; Paul Michael Romer, coincidentally two homonymous authors as David, an eclectic researcher and entrepreneurial spirit, professor of economics at the Stern School of Business at New York University and previously senior fellow at Stanford University's Center for International Development.

What distinguish the two thinkers and their vision of the New Theories of Growth is in fact the degree of emphasis and the implications of a major role of policy choices and governments in what was before supposed to be mainly an endogenous results from the upcoming relevant factors of production, namely human capital and technology. Even if I had perceived perceive the trio Romer-Mankiv-Weil²⁸ as the really one introducing a new general approach to the theoretical assumptions and applied implications, I must say that the visions emerging from his model of the New Theory of Growth - where the diffidence for a too large and thaumaturgic roles attributed to governments, institutions and policy choices accompanies in background the rigorous theoretical flows of the "Contribution to the Empirics of Economic Growth" - is very attractive and intriguing at the same time.

Let's see his crucial point on "Endogenous Technological Change", written in 1989 when he was still at the University of Chicago: "Growth - says Paul Romer in this model - is driven by technological change that arises from intentional investment decisions made by profit-maximizing agents. The distinguishing feature of the technology as an input is that it is neither a conventional good nor a public good; it is a nonrival, partially excludable good. Because of the nonconvexity introduced by a nonrival good, 26 OECD SOCIAL EXPENDITURE UPDATE, Directorate for Employment, Labour and Social Affairs, Paris, 2014, Annex 2

27 N. Gregory Mankiw, David Romer, David N. Wei, "A Contribution to the Empirics of Economic Growth", NBER Working Paper No. 3541, 1990

28 Paul M. Romer, Endogenous Technological Change The Journal of Political Economy, Vol. 98, No. 5, Part 2, 1990

price-taking competition cannot be supported. Instead, the equilibrium is one with monopolistic competition. The main conclusions are that the stock of human capital determines the rate of growth, that too little human capital is devoted to research in equilibrium, that integration into world markets will increase growth rates, and that having a large population is not sufficient to generate growth”.

Old and New will continue to compete in the long run but the Theory of Growth has already achieved the status of the robust theoretical guideline for a reasonable global governance.

Annex 1

2015 KOF Index of Globalization Annex 1

| country | Globalization Index | country | Economic Globalization | country | Social Globalization | country | Political Globalization |
|----------------------------|---------------------|-------------------------|------------------------|---------------------------|----------------------|------------------------|-------------------------|
| 1. Ireland | 91.30 | 1. Singapore | 95.69 | 1. Austria | 91.54 | 1. Italy | 97.52 |
| 2. Netherlands | 91.24 | 2. Ireland | 92.59 | 2. Singapore | 90.83 | 2. France | 97.51 |
| 3. Belgium | 91.00 | 3. Luxembourg | 91.12 | 3. Switzerland | 90.80 | 3. Austria | 96.76 |
| 4. Austria | 90.24 | 4. Netherlands | 90.33 | 4. Netherlands | 90.53 | 4. Belgium | 96.51 |
| 5. Singapore | 87.49 | 5. Malta | 90.31 | 5. Ireland | 90.50 | 5. Spain | 96.17 |
| 6. Sweden | 86.59 | 6. Belgium | 87.99 | 6. Belgium | 90.05 | 6. United Kingdom | 95.93 |
| 7. Denmark | 86.30 | 7. United Arab Emirates | 87.77 | 7. Cyprus | 88.41 | 7. Sweden | 94.86 |
| 8. Portugal | 86.29 | 8. Estonia | 87.39 | 8. Canada | 88.36 | 8. Brazil | 94.23 |
| 9. Switzerland | 86.04 | 9. Hungary | 86.35 | 9. Denmark | 86.79 | 9. Netherlands | 93.52 |
| 10. Finland | 85.64 | 10. Finland | 84.77 | 10. France | 86.50 | 10. Egypt, Arab Rep. | 93.46 |
| 11. Hungary | 85.49 | 11. Bahrain | 84.71 | 11. United Kingdom | 85.84 | 11. Switzerland | 93.40 |
| 12. Canada | 85.03 | 12. Czech Republic | 84.59 | 12. Portugal | 84.77 | 12. Portugal | 93.39 |
| 13. Czech Republic | 84.10 | 13. Mauritius | 84.50 | 13. Sweden | 84.10 | 13. Canada | 93.39 |
| 14. Spain | 83.71 | 14. Austria | 84.16 | 14. Norway | 84.10 | 14. Turkey | 92.97 |
| 15. Luxembourg | 83.56 | 15. Sweden | 83.21 | 15. Germany | 83.75 | 15. Argentina | 92.83 |
| 16. Cyprus | 83.54 | 16. Slovak Republic | 83.20 | 16. Slovak Republic | 82.63 | 16. United States | 92.41 |
| 17. Slovak Republic | 83.52 | 17. Portugal | 82.73 | 17. Finland | 82.46 | 17. Germany | 92.17 |
| 18. Norway | 83.30 | 18. Denmark | 81.77 | 18. Spain | 82.36 | 18. Norway | 91.99 |
| 19. United Kingdom | 82.96 | 19. Georgia | 81.04 | 19. Australia | 82.11 | 19. Denmark | 91.84 |
| 20. France | 82.65 | 20. New Zealand | 80.92 | 20. Czech Republic | 81.90 | 20. India | 91.74 |
| 21. Australia | 81.64 | 21. Cyprus | 80.90 | 21. United Arab Emirates | 80.77 | 21. Finland | 91.42 |
| 22. Italy | 79.51 | 22. Panama | 80.36 | 22. Kuwait | 80.72 | 22. Hungary | 91.40 |
| 23. Poland | 79.43 | 23. Latvia | 80.31 | 23. Hungary | 80.59 | 23. Greece | 91.29 |
| 24. Estonia | 79.35 | 24. Malaysia | 80.30 | 24. Greece | 79.84 | 24. Australia | 91.03 |
| 25. Greece | 79.08 | 25. Qatar | 80.10 | 25. Liechtenstein | 79.57 | 25. Nigeria | 90.95 |
| 26. Malaysia | 79.05 | 26. Trinidad and Tobago | 79.18 | 26. Luxembourg | 79.39 | 26. Ireland | 90.67 |
| 27. Germany | 78.86 | 27. Chile | 77.94 | 27. Poland | 77.98 | 27. Korea, Rep. | 90.37 |
| 28. New Zealand | 78.29 | 28. Oman | 77.45 | 28. United States | 77.95 | 28. Japan | 90.10 |
| 29. United Arab Emirates | 76.71 | 29. Lithuania | 77.28 | 29. Italy | 77.79 | 29. Romania | 90.09 |
| 30. Slovenia | 76.34 | 30. Mongolia | 76.86 | 30. Monaco | 77.12 | 30. Morocco | 90.08 |
| 31. Bulgaria | 76.11 | 31. Norway | 76.17 | 31. Israel | 75.95 | 31. Chile | 89.48 |
| 32. Croatia | 75.69 | 32. Spain | 76.08 | 32. Andorra | 75.79 | 32. Pakistan | 89.38 |
| 33. Malta | 75.48 | 33. Montenegro | 76.00 | 33. Malta | 75.37 | 33. Poland | 89.30 |
| 34. United States | 74.81 | 34. Iceland | 75.82 | 34. Malaysia | 74.65 | 34. Senegal | 88.43 |
| 35. Lithuania | 72.71 | 35. Switzerland | 75.72 | 35. Estonia | 74.36 | 35. Indonesia | 87.57 |
| 36. Israel | 72.41 | 36. Canada | 75.48 | 36. Saudi Arabia | 74.18 | 36. South Africa | 87.53 |
| 37. Romania | 72.27 | 37. Bulgaria | 74.88 | 37. New Zealand | 73.59 | 37. Jordan | 86.63 |
| 38. Qatar | 72.25 | 38. Slovenia | 74.45 | 38. San Marino | 73.43 | 38. Czech Republic | 86.59 |
| 39. Chile | 71.08 | 39. Australia | 74.33 | 39. Puerto Rico | 73.06 | 39. Peru | 86.56 |
| 40. Latvia | 71.06 | 40. Israel | 73.89 | 40. Slovenia | 72.81 | 40. Ukraine | 86.01 |
| 41. Thailand | 71.02 | 41. Poland | 73.79 | 41. Latvia | 71.54 | 41. Croatia | 85.99 |
| 42. Ukraine | 69.50 | 42. Peru | 73.10 | 42. Croatia | 71.06 | 42. Philippines | 85.34 |
| 43. Bahrain | 69.34 | 43. Croatia | 73.07 | 43. Bulgaria | 71.00 | 43. China | 85.32 |
| 44. Turkey | 69.02 | 44. Namibia | 72.77 | 44. Aruba | 70.40 | 44. Slovak Republic | 85.22 |
| 45. Kuwait | 68.40 | 45. Brunei Darussalam | 72.06 | 45. Guam | 70.39 | 45. Bulgaria | 85.17 |
| 46. Jordan | 68.08 | 46. Thailand | 71.55 | 46. New Caledonia | 70.24 | 46. Tunisia | 85.16 |
| 47. Iceland | 67.96 | 47. Swaziland | 71.20 | 47. Iceland | 69.60 | 47. Ghana | 84.94 |
| 48. Montenegro | 67.27 | 48. United Kingdom | 70.53 | 48. Bahamas, The | 68.91 | 48. Russian Federation | 84.91 |
| 49. Panama | 66.84 | 49. Barbados | 70.26 | 49. Bahrain | 68.85 | 49. Uruguay | 84.33 |
| 50. Bosnia and Herzegovina | 66.18 | 50. Kazakhstan | 69.69 | 50. Romania | 68.06 | 50. Guatemala | 84.29 |
| 51. Morocco | 65.97 | 51. Greece | 69.43 | 51. Macao, China | 67.86 | 51. Slovenia | 84.06 |
| 52. Mauritius | 65.90 | 52. Congo, Rep. | 69.35 | 52. Lithuania | 67.17 | 52. Malaysia | 83.70 |
| 53. Russian Federation | 65.90 | 53. Papua New Guinea | 68.78 | 53. Dominican Republic | 66.69 | 53. Ethiopia | 83.62 |
| 54. Japan | 65.87 | 54. Italy | 68.25 | 54. Japan | 66.58 | 54. Kenya | 83.48 |
| 55. Uruguay | 65.68 | 55. France | 67.85 | 55. Lebanon | 66.14 | 55. Algeria | 82.04 |
| 56. Serbia | 65.49 | 56. Ukraine | 67.52 | 56. Brunei Darussalam | 65.76 | 56. Thailand | 81.99 |
| 57. Brunei Darussalam | 65.38 | 57. Macedonia, FYR | 67.16 | 57. Turkey | 65.23 | 57. New Zealand | 81.45 |
| 58. Saudi Arabia | 65.27 | 58. Jamaica | 66.88 | 58. Serbia | 65.05 | 58. Ecuador | 81.13 |
| 59. Peru | 65.09 | 59. Jordan | 66.01 | 59. Russian Federation | 64.80 | 59. Colombia | 80.38 |
| 60. Lebanon | 64.85 | 60. Lebanon | 65.72 | 60. Virgin Islands (U.S.) | 64.23 | 60. Cyprus | 80.16 |

| country | Globalization Index | country | Economic Globalization | country | Social Globalization | country | Political Globalization |
|---------------------------|---------------------|----------------------------|------------------------|--------------------------------|----------------------|-------------------------------|-------------------------|
| 61. South Africa | 64.82 | 61. Guyana | 65.05 | 61. Costa Rica | 63.40 | 61. El Salvador | 79.65 |
| 62. Korea, Rep. | 64.65 | 62. South Africa | 65.04 | 62. Qatar | 63.25 | 62. Luxembourg | 79.16 |
| 63. Georgia | 63.84 | 63. Germany | 64.10 | 63. Thailand | 62.93 | 63. Paraguay | 78.35 |
| 64. Trinidad and Tobago | 63.56 | 64. Armenia | 64.09 | 64. Mauritius | 62.77 | 64. Bosnia and Herzegovina | 77.73 |
| 65. Moldova | 62.45 | 65. Honduras | 63.99 | 65. Bosnia and Herzegovina | 62.67 | 65. Sri Lanka | 77.47 |
| 66. Costa Rica | 62.16 | 66. Uruguay | 63.88 | 66. Belarus | 61.58 | 66. Bolivia | 76.72 |
| 67. Oman | 61.58 | 67. Romania | 63.76 | 67. Macedonia, FYR | 60.90 | 67. Bangladesh | 76.68 |
| 68. Dominican Republic | 61.50 | 68. Vanuatu | 63.72 | 68. Antigua and Barbuda | 60.67 | 68. Burkina Faso | 76.36 |
| 69. El Salvador | 61.00 | 69. Cambodia | 63.62 | 69. Ukraine | 59.95 | 69. Mali | 76.15 |
| 70. Guatemala | 60.99 | 70. Costa Rica | 62.67 | 70. Bermuda | 59.44 | 70. Estonia | 75.46 |
| 71. Mexico | 60.77 | 71. Vietnam | 62.64 | 71. Moldova | 59.15 | 71. Qatar | 74.44 |
| 72. Belarus | 60.70 | 72. Mexico | 62.14 | 72. Montenegro | 58.85 | 72. Lithuania | 74.40 |
| 73. Jamaica | 60.64 | 73. Azerbaijan | 62.10 | 73. Faeroe Islands | 58.42 | 73. Benin | 74.36 |
| 74. Macedonia, FYR | 60.34 | 74. Albania | 61.81 | 74. Panama | 57.87 | 74. Cote d'Ivoire | 74.24 |
| 75. China | 60.15 | 75. Lesotho | 61.52 | 75. Jordan | 57.22 | 75. Niger | 74.07 |
| 76. Kazakhstan | 60.06 | 76. Bosnia and Herzegovina | 61.49 | 76. Oman | 57.02 | 76. Zambia | 74.06 |
| 77. Brazil | 59.74 | 77. Zambia | 61.21 | 77. Georgia | 56.90 | 77. Togo | 73.42 |
| 78. Paraguay | 59.29 | 78. Kuwait | 60.78 | 78. Morocco | 56.50 | 78. Guinea | 73.27 |
| 79. Namibia | 59.23 | 79. Serbia | 60.73 | 79. Samoa | 55.52 | 79. Jamaica | 72.97 |
| 80. Colombia | 59.17 | 80. Moldova | 60.62 | 80. Trinidad and Tobago | 55.25 | 80. Serbia | 72.67 |
| 81. Honduras | 58.68 | 81. Nicaragua | 60.26 | 81. Seychelles | 55.23 | 81. Cameroon | 72.37 |
| 82. Tunisia | 58.64 | 82. Nigeria | 60.07 | 82. Barbados | 54.99 | 82. Honduras | 72.30 |
| 83. Armenia | 57.76 | 83. El Salvador | 59.83 | 83. Grenada | 54.71 | 83. Mexico | 72.24 |
| 84. Mongolia | 57.57 | 84. Indonesia | 59.65 | 84. Cayman Islands | 54.53 | 84. Mongolia | 72.17 |
| 85. Argentina | 57.48 | 85. Angola | 59.37 | 85. Uruguay | 54.48 | 85. Singapore | 71.37 |
| 86. Indonesia | 57.39 | 86. Korea, Rep. | 59.30 | 86. Fiji | 53.73 | 86. Nepal | 71.19 |
| 87. Azerbaijan | 57.19 | 87. Mauritania | 59.22 | 87. French Polynesia | 53.71 | 87. Uganda | 70.96 |
| 88. Philippines | 57.13 | 88. Guatemala | 59.03 | 88. West Bank and Gaza | 53.46 | 88. Rwanda | 70.77 |
| 89. Fiji | 57.06 | 89. Timor-Leste | 58.96 | 89. Palau | 52.75 | 89. Fiji | 70.45 |
| 90. Barbados | 56.88 | 90. United States | 58.77 | 90. China | 52.61 | 90. Zimbabwe | 70.36 |
| 91. Egypt, Arab Rep. | 56.33 | 91. Morocco | 58.41 | 91. St. Lucia | 52.36 | 91. Kazakhstan | 70.10 |
| 92. Ecuador | 54.68 | 92. Dominican Republic | 58.28 | 92. Argentina | 52.07 | 92. Moldova | 69.75 |
| 93. Ghana | 54.32 | 93. Saudi Arabia | 57.99 | 93. Korea, Rep. | 51.95 | 93. Iran, Islamic Rep. | 68.51 |
| 94. Bahamas, The | 54.27 | 94. Yemen, Rep. | 57.88 | 94. Chile | 51.80 | 94. Armenia | 68.03 |
| 95. Grenada | 54.16 | 95. Paraguay | 57.69 | 95. Mexico | 51.52 | 95. Montenegro | 67.43 |
| 96. Nicaragua | 54.09 | 96. Kyrgyz Republic | 57.43 | 96. Azerbaijan | 50.61 | 96. Madagascar | 67.04 |
| 97. Nigeria | 54.05 | 97. Colombia | 57.10 | 97. Venezuela, RB | 49.92 | 97. Kyrgyz Republic | 66.91 |
| 98. Senegal | 54.00 | 98. Bolivia | 57.03 | 98. Suriname | 49.90 | 98. Yemen, Rep. | 66.80 |
| 99. Kyrgyz Republic | 53.91 | 99. Botswana | 56.99 | 99. El Salvador | 49.22 | 99. Belarus | 66.67 |
| 100. Bolivia | 53.76 | 100. Tunisia | 56.66 | 100. South Africa | 48.89 | 100. Sierra Leone | 66.65 |
| 101. Gambia, The | 52.96 | 101. Sierra Leone | 56.40 | 101. St. Kitts and Nevis | 47.97 | 101. Venezuela, RB | 66.56 |
| 102. Albania | 52.95 | 102. Belize | 56.33 | 102. St. Vincent and the Grens | 47.75 | 102. Djibouti | 66.37 |
| 103. Samoa | 52.90 | 103. Ghana | 56.05 | 103. Paraguay | 47.62 | 103. Mozambique | 66.10 |
| 104. Swaziland | 52.29 | 104. Gabon | 55.94 | 104. Guatemala | 46.73 | 104. Malawi | 65.41 |
| 105. Venezuela, RB | 51.83 | 105. Turkey | 55.63 | 105. Belize | 46.69 | 105. Israel | 65.25 |
| 106. Sri Lanka | 51.56 | 106. Belarus | 55.43 | 106. Ecuador | 46.48 | 106. Mauritania | 65.22 |
| 107. Pakistan | 50.99 | 107. Gambia, The | 55.24 | 107. Colombia | 46.46 | 107. Namibia | 64.83 |
| 108. Zambia | 50.86 | 108. Philippines | 54.57 | 108. Jamaica | 46.14 | 108. Gambia, The | 64.66 |
| 109. India | 50.77 | 109. Suriname | 54.53 | 109. Nicaragua | 45.43 | 109. Cuba | 64.04 |
| 110. Antigua and Barbuda | 50.30 | 110. Russian Federation | 53.27 | 110. Maldives | 45.20 | 110. Congo, Dem. Rep. | 63.57 |
| 111. Guyana | 50.11 | 111. Cote d'Ivoire | 51.61 | 111. Armenia | 44.61 | 111. Tajikistan | 63.13 |
| 112. Djibouti | 50.00 | 112. Uganda | 51.40 | 112. Greenland | 44.56 | 112. Saudi Arabia | 62.44 |
| 113. Cote d'Ivoire | 49.69 | 113. Senegal | 51.04 | 113. Swaziland | 44.41 | 113. Chad | 61.97 |
| 114. Zimbabwe | 49.61 | 114. Brazil | 50.96 | 114. Brazil | 44.24 | 114. Papua New Guinea | 61.79 |
| 115. Belize | 49.54 | 115. Fiji | 50.85 | 115. Dominica | 44.20 | 115. Lebanon | 61.78 |
| 116. Togo | 49.47 | 116. Cape Verde | 50.49 | 116. Honduras | 44.19 | 116. Cambodia | 61.67 |
| 117. Algeria | 49.36 | 117. Togo | 50.32 | 117. Kazakhstan | 43.92 | 117. Panama | 61.17 |
| 118. Papua New Guinea | 49.18 | 118. Zimbabwe | 50.07 | 118. Sri Lanka | 42.97 | 118. Kuwait | 61.09 |
| 119. Cambodia | 49.17 | 119. Mozambique | 49.94 | 119. Gambia, The | 42.69 | 119. Central African Republic | 61.04 |
| 120. Vietnam | 49.13 | 120. China | 49.80 | 120. Peru | 42.60 | 120. Burundi | 61.00 |
| 121. Gabon | 49.01 | 121. Myanmar | 49.74 | 121. Egypt, Arab Rep. | 42.58 | 121. Liberia | 60.94 |
| 122. Seychelles | 48.66 | 122. Mali | 49.67 | 122. Albania | 42.56 | 122. Tanzania | 60.05 |
| 123. Suriname | 48.49 | 123. Haiti | 49.31 | 123. Namibia | 42.42 | 123. Azerbaijan | 59.92 |
| 124. Yemen, Rep. | 47.82 | 124. Congo, Dem. Rep. | 49.07 | 124. Tunisia | 42.17 | 124. Costa Rica | 59.65 |
| 125. Palau | 47.59 | 125. Tajikistan | 48.48 | 125. Kyrgyz Republic | 41.56 | 125. Dominican Republic | 58.43 |
| 126. Lesotho | 47.41 | 126. Japan | 47.57 | 126. Cape Verde | 41.24 | 126. Nicaragua | 58.10 |
| 127. Mauritania | 47.10 | 127. Syrian Arab Republic | 45.98 | 127. Uzbekistan | 40.46 | 127. Latvia | 57.60 |
| 128. St. Lucia | 46.75 | 128. Malawi | 45.50 | 128. Gabon | 40.41 | 128. Iraq | 55.93 |
| 129. Botswana | 46.13 | 129. Ecuador | 44.09 | 129. Philippines | 40.04 | 129. Vietnam | 55.78 |
| 130. Kenya | 46.04 | 130. Egypt, Arab Rep. | 43.83 | 130. Syrian Arab Republic | 40.00 | 130. Albania | 55.75 |
| 131. Mozambique | 45.91 | 131. Rwanda | 43.72 | 131. Botswana | 39.47 | 131. Brunei Darussalam | 55.62 |
| 132. Mali | 45.85 | 132. Guinea | 43.54 | 132. Guyana | 38.94 | 132. United Arab Emirates | 55.60 |
| 133. Uganda | 45.81 | 133. Bahamas, The | 43.39 | 133. Djibouti | 38.67 | 133. Lesotho | 55.28 |
| 134. Sierra Leone | 45.75 | 134. Venezuela, RB | 43.15 | 134. Turkmenistan | 37.69 | 134. Sudan | 55.20 |
| 135. Syrian Arab Republic | 45.34 | 135. India | 42.84 | 135. Libya | 37.10 | 135. Malta | 55.17 |
| 136. Cuba | 45.15 | 136. Sri Lanka | 41.78 | 136. Pakistan | 36.91 | 136. Iceland | 54.78 |
| 137. Tajikistan | 45.02 | 137. Madagascar | 41.35 | 137. Tonga | 35.71 | 137. Trinidad and Tobago | 54.03 |
| 138. Congo, Rep. | 45.00 | 138. Cameroon | 40.83 | 138. Algeria | 35.21 | 138. Grenada | 53.36 |
| 139. Cape Verde | 43.76 | 139. Algeria | 40.49 | 139. Zimbabwe | 34.82 | 139. Libya | 52.59 |
| 140. Guinea | 43.75 | 140. Kenya | 39.16 | 140. Bolivia | 34.76 | 140. Syrian Arab Republic | 52.20 |
| 141. Rwanda | 43.68 | 141. Tanzania | 39.10 | 141. Indonesia | 34.36 | 141. Gabon | 51.88 |
| 142. Burkina Faso | 43.55 | 142. Pakistan | 37.91 | 142. Vanuatu | 33.52 | 142. Georgia | 50.15 |
| 143. Vanuatu | 43.52 | 143. Argentina | 37.52 | 143. Bhutan | 33.51 | 143. Macedonia, FYR | 50.09 |
| 144. Aruba | 43.47 | 144. Burkina Faso | 37.23 | 144. Micronesia, Fed. Sts. | 33.43 | 144. Afghanistan | 49.28 |
| 145. Malawi | 43.45 | 145. Chad | 36.58 | 145. Iran, Islamic Rep. | 33.29 | 145. Samoa | 49.11 |
| 146. Libya | 43.44 | 146. Niger | 36.09 | 146. Senegal | 33.02 | 146. Bahrain | 48.85 |

| country | Globalization Index | country | Economic Globalization | country | Social Globalization | country | Political Globalization |
|--------------------------------|---------------------|-------------------------------------|------------------------|-------------------------------|----------------------|--------------------------------|-------------------------|
| 147. Cameroon | 43.30 | 147. Bangladesh | 35.28 | 147. Sao Tome and Principe | 32.49 | 147. Haiti | 48.23 |
| 148. New Caledonia | 42.59 | 148. Benin | 34.66 | 148. Togo | 32.10 | 148. Bahamas, The | 48.10 |
| 149. Uzbekistan | 42.34 | 149. Central African Republic | 33.90 | 149. Cuba | 32.08 | 149. Angola | 47.56 |
| 150. Macao, China | 42.08 | 150. Guinea-Bissau | 32.60 | 150. Vietnam | 31.64 | 150. Oman | 46.30 |
| 151. Angola | 42.05 | 151. Iran, Islamic Rep. | 30.18 | 151. Ghana | 31.48 | 151. Timor-Leste | 46.24 |
| 152. Bangladesh | 41.92 | 152. Sudan | 28.05 | 152. Cote d'Ivoire | 30.87 | 152. Guyana | 45.64 |
| 153. Niger | 41.61 | 153. Nepal | 26.77 | 153. India | 29.98 | 153. Guinea-Bissau | 45.63 |
| 154. Iran, Islamic Rep. | 41.38 | 154. Ethiopia | 25.99 | 154. Kiribati | 29.41 | 154. Uzbekistan | 45.05 |
| 155. Dominica | 41.15 | 155. Burundi | 21.79 | 155. Iraq | 29.34 | 155. Mauritius | 44.79 |
| 156. Benin | 40.90 | 156. Afghanistan | | 156. Tajikistan | 29.19 | 156. Belize | 44.30 |
| 157. Madagascar | 40.76 | 157. American Samoa | | 157. Mongolia | 29.05 | 157. Congo, Rep. | 41.92 |
| 158. Haiti | 40.70 | 158. Andorra | | 158. Lesotho | 28.49 | 158. Barbados | 41.14 |
| 159. St. Vincent and the Grens | 40.69 | 159. Antigua and Barbuda | | 159. Comoros | 28.40 | 159. Botswana | 40.79 |
| 160. Timor-Leste | 40.42 | 160. Aruba | | 160. Mozambique | 28.11 | 160. Palau | 40.14 |
| 161. Congo, Dem. Rep. | 40.35 | 161. Bermuda | | 161. Haiti | 27.27 | 161. Seychelles | 39.16 |
| 162. Iraq | 40.22 | 162. Bhutan | | 162. Nepal | 27.17 | 162. St. Lucia | 38.64 |
| 163. St. Kitts and Nevis | 39.55 | 163. Cayman Islands | | 163. Burkina Faso | 26.87 | 163. Turkmenistan | 38.36 |
| 164. Liberia | 39.55 | 164. Channel Islands | | 164. Cambodia | 26.74 | 164. Suriname | 38.14 |
| 165. Nepal | 38.54 | 165. Comoros | | 165. Kenya | 26.70 | 165. Cape Verde | 38.11 |
| 166. Maldives | 38.07 | 166. Cuba | | 166. Malawi | 26.29 | 166. Swaziland | 37.61 |
| 167. Turkmenistan | 37.96 | 167. Djibouti | | 167. Guinea-Bissau | 25.73 | 167. Dominica | 36.73 |
| 168. Chad | 37.62 | 168. Dominica | | 168. Cameroon | 25.54 | 168. Antigua and Barbuda | 35.31 |
| 169. Ethiopia | 37.43 | 169. Equatorial Guinea | | 169. Yemen, Rep. | 25.09 | 169. San Marino | 35.16 |
| 170. Tanzania | 37.17 | 170. Eritrea | | 170. Zambia | 24.93 | 170. Myanmar | 35.14 |
| 171. Bermuda | 36.77 | 171. Faeroe Islands | | 171. Rwanda | 24.89 | 171. Comoros | 35.14 |
| 172. Faeroe Islands | 35.83 | 172. French Polynesia | | 172. Liberia | 24.74 | 172. Lao PDR | 33.97 |
| 173. Central African Republic | 34.95 | 173. Greenland | | 173. Niger | 24.43 | 173. Sao Tome and Principe | 33.39 |
| 174. West Bank and Gaza | 34.46 | 174. Grenada | | 174. Eritrea | 24.33 | 174. Andorra | 33.35 |
| 175. Cayman Islands | 33.53 | 175. Guam | | 175. Bangladesh | 24.21 | 175. Equatorial Guinea | 32.98 |
| 176. Guinea-Bissau | 33.41 | 176. Iraq | | 176. Solomon Islands | 24.21 | 176. Monaco | 32.90 |
| 177. Myanmar | 33.01 | 177. Isle of Man | | 177. Congo, Rep. | 23.89 | 177. Eritrea | 31.17 |
| 178. Sao Tome and Principe | 32.86 | 178. Kiribati | | 178. Equatorial Guinea | 23.69 | 178. St. Vincent and the Grens | 30.49 |
| 179. French Polynesia | 32.82 | 179. Korea, Dem. Rep. | | 179. Benin | 23.69 | 179. Vanuatu | 30.12 |
| 180. Burundi | 32.26 | 180. Lao PDR | | 180. Guinea | 23.53 | 180. Somalia | 28.95 |
| 181. Tonga | 31.89 | 181. Liberia | | 181. Uganda | 23.06 | 181. Liechtenstein | 28.94 |
| 182. Sudan | 31.54 | 182. Libya | | 182. Mauritania | 23.00 | 182. Maldives | 27.75 |
| 183. Comoros | 31.15 | 183. Liechtenstein | | 183. Somalia | 22.93 | 183. St. Kitts and Nevis | 27.40 |
| 184. Afghanistan | 30.62 | 184. Macao, China | | 184. Nigeria | 22.77 | 184. Korea, Dem. Rep. | 26.94 |
| 185. Bhutan | 29.30 | 185. Maldives | | 185. Burundi | 22.37 | 185. Solomon Islands | 26.77 |
| 186. Equatorial Guinea | 27.49 | 186. Marshall Islands | | 186. Madagascar | 22.03 | 186. Tonga | 26.37 |
| 187. Eritrea | 27.13 | 187. Micronesia, Fed. Sts. | | 187. Lao PDR | 22.02 | 187. Bhutan | 23.20 |
| 188. Lao PDR | 26.91 | 188. Monaco | | 188. Chad | 21.76 | 188. American Samoa | 22.77 |
| 189. Kiribati | 26.00 | 189. Netherlands Antilles | | 189. Papua New Guinea | 21.75 | 189. Kiribati | 21.06 |
| 190. Somalia | 25.39 | 190. New Caledonia | | 190. Angola | 21.72 | 190. Marshall Islands | 18.98 |
| 191. Solomon Islands | 25.26 | 191. Northern Mariana Islands | | 191. Mali | 21.24 | 191. Micronesia, Fed. Sts. | 17.97 |
| 192. American Samoa | . | 192. Palau | | 192. Sierra Leone | 21.12 | 192. West Bank and Gaza | 6.99 |
| 193. Andorra | . | 193. Puerto Rico | | 193. Tanzania | 19.51 | 193. Netherlands Antilles | 5.90 |
| 194. Channel Islands | . | 194. Samoa | | 194. Timor-Leste | 18.68 | 194. Macao, China | 4.81 |
| 195. Greenland | . | 195. San Marino | | 195. Sudan | 18.51 | 195. Aruba | 4.54 |
| 196. Guam | . | 196. Sao Tome and Principe | | 196. Central African Republic | 17.91 | 196. Bermuda | 3.99 |
| 197. Isle of Man | . | 197. Seychelles | | 197. Afghanistan | 17.71 | 197. Cayman Islands | 3.18 |
| 198. Korea, Dem. Rep. | . | 198. Solomon Islands | | 198. Ethiopia | 16.38 | 198. Faeroe Islands | 3.18 |
| 199. Liechtenstein | . | 199. Somalia | | 199. Congo, Dem. Rep. | 15.98 | 199. Puerto Rico | 3.18 |
| 200. Marshall Islands | . | 200. St. Kitts and Nevis | | 200. Myanmar | 15.56 | 200. French Polynesia | 2.63 |
| 201. Micronesia, Fed. Sts. | . | 201. St. Lucia | | 201. American Samoa | . | 201. Greenland | 2.63 |
| 202. Monaco | . | 202. St. Vincent and the Grenadines | | 202. Channel Islands | . | 202. Guam | 2.63 |
| 203. Netherlands Antilles | . | 203. Tonga | | 203. Isle of Man | . | 203. New Caledonia | 2.63 |
| 204. Northern Mariana Islands | . | 204. Turkmenistan | | 204. Korea, Dem. Rep. | . | 204. Virgin Islands (U.S.) | 2.09 |
| 205. Puerto Rico | . | 205. Uzbekistan | | 205. Marshall Islands | . | 205. Northern Mariana Islands | 1.54 |
| 206. San Marino | . | 206. Virgin Islands (U.S.) | | 206. Netherlands Antilles | . | 206. Isle of Man | 1.27 |
| 207. Virgin Islands (U.S.) | . | 207. West Bank and Gaza | | 207. Northern Mariana Islands | . | 207. Channel Islands | 1.00 |

*Note: Rankings are based on raw data for the year 2012.

Source:

Dreher, Axel, 2006, Does Globalization Affect Growth? Empirical Evidence from a new Index, *Applied Economics* 38, 10: 1091-1110.

Updated in:

Dreher, Axel; Noel Gaston and Pim Martens, 2008, *Measuring Globalization - Gauging its Consequence*, New York: Springer.

Annex 2

SOCIAL EXPENDITURE UPDATE

Social spending is falling in some countries, but in many others it remains at historically high levels

Insights from the OECD Social Expenditure database (SOEX), November 2014

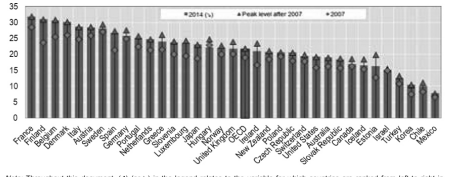


Directorate for Employment, Labour and Social Affairs

Public social expenditure is worth more than 20% of GDP on average across the OECD

In 2014, OECD countries devote more than one-fifth of their economic resources to public social support. Public social spending to GDP ratios are highest at over 30% of GDP in Denmark, Belgium, Finland and France

Public social spending is worth 22% of GDP on average across the OECD



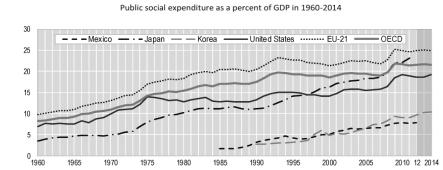
Note: Throughout this document, (*) in the legend relates to the variable for which countries are ranked from left to right in increasing (or decreasing) order.

*Peak level after 2007 refers to the highest social spending to GDP ratio over the period 2007-2014, i.e. to 2009 except for the Slovak Republic (2011), Greece and Mexico (2012), Belgium, Denmark, France, Italy, Finland, Portugal, Slovenia, Switzerland (2013), Australia, the Czech Republic, Finland, Korea and the Netherlands (2014).

For data on the underlying methodology regarding estimates for recent years, and the extended social expenditure programme data, see the box 'What is SOEX?' below. Data for the most recent year for Japan concern 2011, 2012 for Mexico and 2013 for Chile, Israel, New Zealand and Turkey.

Figure 1. At the other end of the spectrum are non-European countries as Turkey, Korea, Chile and Mexico which spend less than 15% of GDP on social support. Spending levels in the latter three countries are now similar to what they were in Europe in the 1960s.

Comprehensive social welfare systems were developed over a long period of time



Social spending is coming down in some countries, but in many countries it remains high.

In an economic downturn, social spending to GDP ratios usually increase as public spending goes up to address greater need for social support, while simultaneously economic growth falters (GDP as the denominator). At the onset of the Great Recession both these features contributed to a rapid increase in public social spending to GDP ratios on average across the OECD from 18.9% in 2007 to 21.9% in 2009, and estimates for recent years suggest it has declined a little since it was 21.6% of GDP in 2014.

However, while in most countries social spending has not fallen much in recent years, in some OECD countries there has been a significant decline since spending peaked in 2009. Since then spending to GDP ratios declined by 1.5 to 2.5 percentage points in Canada, Germany, Hungary, Iceland, Ireland, the United Kingdom, and by 3.5% of GDP in Estonia. The most rapid decline was recorded for Greece, where the social spending to GDP ratio fell by almost 2 percentage points since peak in 2012 (Figure 1).

When comparing current social spending levels with pre-crisis levels in 2007, public social spending to GDP ratios are more than 4 percentage points higher in 2014 in Belgium, Denmark, Ireland, Japan (2013), Luxembourg, Spain and 2.9%, in Finland. Only in Hungary are public social spending to GDP ratios now lower (by almost 1 percentage point) than in 2007, while Canada, Germany and Israel have public social spending to GDP ratios that are within 1 percentage point of 2007 levels.

What is in SOEX?

The new release of the OECD Social Expenditure database (SOEX) includes detailed social expenditure programme data for 1960-2011 for 34 OECD countries. SOEX presents public and private benefits with a social purpose grounded around the following policy areas: old age, survivors, incapacity-related benefits, health, family, active labour market programmes, unemployment, housing and other social policy areas.

SOEX also includes indicators on net (after tax) social expenditure for 35 countries for 2011 information on taxation of benefits other than direct taxation of benefit income, indirect taxation of consumption of out-of-benefit income, and tax breaks with a social purpose.

Data for 24 European countries were provided by Eurostat as based on the information in their European systems of integrated social protection (ESIPROD), while information for other countries is provided by national correspondents. Data on health and active labour market programmes were taken from OECD Health Data and the OECD/IEA Database on Labour Market Policies. Information on the taxation of benefit income and breaks with a social purpose was provided by the Committee on Fiscal Affairs Working Party No. 2 on Tax Policy Analysis and Tax Statistics.

It should be borne in mind that the quality of data on indirect taxes (especially not on excise duties) is not as high as the quality of information on budgetary allocations to social programmes. For more detail regarding the scope and methodology underlying SOEX and its indicators on social spending, see Adema, W. P. From and Mariani, L. (2011) 'The European Welfare State: Why More European? Publications on Social Expenditure 1960-2012' and a Manual of the OECD Social Expenditure database (SOEX), OECD Social, Employment and Migration Working Paper No. 124 (www.oecd.org/social/workingpapers/).

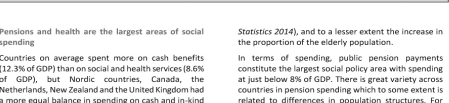
Public social expenditure in Brazil, China, India, Indonesia and South Africa

Amongst emerging economies, such as Brazil, China, India, Indonesia and South Africa there is huge variation in type and levels of social spending. Public social spending in Brazil is just over half of OECD average, while in China it is only a third. Brazil's public social benefits amount to almost 10% of GDP (which is a conservative estimate, see the note to Figure 3), compared to 6% of GDP on average across the OECD. This is all after a relatively young population with only 42% of persons of working age are senior citizens, twice as many as in the OECD on average.

In 2009 public social spending in China amounted to around 7% of GDP, comparable to average social spending in the Asia/Pacific region (OECD, 2014, Society at a Glance: Asia/Pacific). Spending on old-age cash benefits amounted to about 2.5% of GDP with social assistance payments making just over half a percent of GDP. By comparison public social spending in India (with spending on labour market programmes at 0.6% of GDP) and Indonesia is much lower. However, the available data on public social spending is likely to underestimate public social efforts by state and other local governments in these populous countries as under-reported.

Finally, public spending in South Africa amounted to around 8.7% of GDP in 2012, of which about half is public expenditure on health. Other spending includes important support programmes for the working age population, such as the 'Community Work Programme', the 'Extended Public Works Programme' and the 'Child Support Grant'.

Public social expenditure as a percent of GDP in 2012 or last year available



Note: Public spending on health was taken from the World Health Organization (WHO) Global Health Expenditure Database (GHE) (http://apps.who.int/infocore/databases/other_sources/used) and other sources used were obtained from health forms necessary to avoid double counting. Data for Brazil refer to total social expenditure as taken from Castro, J. de, J. Ribeiro, J. C. Ribeiro and J. Duarte (2012), 'Growth Social Expenditure: macroeconomic no growth 1998-2009', Brasília, September. These data do not include spending by local authorities, including on Social and Municipal civil servants. Benefits by private and non-profit organisations are excluded from the figures. The time period for 2008 covers 2007-2008, while the time period for 2012 covers 2011-2012. For more information on the data sources used for Brazil, South Africa, India and Indonesia see the 'Methodology' section of the 'Social Expenditure Update 2014'. For South Africa see the National Treasury of the Republic of South Africa (2014), National Budget 2014, estimates of national expenditure.

Pensions and health are the largest areas of social spending

Countries on average spend more on cash benefits (12.3% of GDP) than on social and health services (8.6% of GDP), but Nordic countries, Canada, the Netherlands, New Zealand and the United Kingdom had a more equal balance in spending on cash and in-kind benefits. Low-spending countries like Mexico and Korea have a greater focus on services in social support (Figure 3).

Cash income support to the working age population accounts for 4.4% of GDP on average across the OECD (Figure 3), of which 1% GDP towards unemployment benefits, 1.8% on disability/sickness benefits, 1.3% on family cash benefits and another 0.4% on other social policy cash supports.

Public expenditure on health is another important social policy area (Figure 3). On average across the OECD, public expenditure on health has increased from 4% in 1980 to 6% of GDP. This increase was related to various factors including rising relative health prices and the cost of medical technology (OECD, 2014, Health

Statistics 2014), and to a lesser extent the increase in the proportion of the elderly population.

In terms of spending, public pension payments constitute the largest social policy area with spending at just below 8% of GDP. There is great variety across countries in pension spending with to some extent related to differences in population structures. For example, public spending on pensions in Italy accounted for 15.8% of GDP while this was only 1.8% of GDP in Mexico, but Mexico is a relative young country with three times as many as Italy. (OECD, 2014, Society at a Glance). At the same time, Italian and Japanese populations have a similar age profile, but public pension spending in Japan is 5.6 percentage points of GDP higher than in Italy: the nature of pension systems also plays a key role in determining pension spending.

Since 1980 public spending on pensions has increased by 2 percentage points of GDP on average across the OECD, and demographic change continues to exert upward pressure on pension expenditure. Pensions of OECD, 2013) and Pensions Outlook

Pensions and health are the main areas of public social spending

Public social expenditure by broad social policy area, as a percent of GDP, in 2012 or last year available*

Table with columns for Cash benefits and Services, and rows for various countries including Mexico, Japan, Korea, United States, EU-21, and OECD average. The table shows percentages for each category and a total percentage for each country.

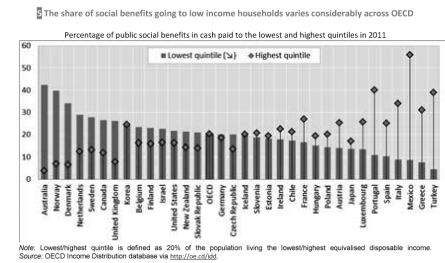
Note: Countries are ranked by decreasing order of public social expenditure as a percent of GDP. Spending on active labour market programs (ALMP) cannot be split by cash/benefits breakdown. They are however included in total public spending (shown in brackets). Income support to the working age population refers to spending on the following SOEX categories: incapacity benefits, family cash benefits, unemployment and other social policy areas categories. Data for Australia, Canada, Chile, Israel, Korea, New Zealand and the United States refer to 2012; other data refer 2011.

OECD, 2012) show that in many countries pension reforms have improved the financial sustainability of pension systems through, e.g. less generous

indexation procedures for benefits payments, a greater reliance on private and/or defined contribution schemes, or higher retirement ages. For example, the gradual increase in the minimum age for 'New Zealand Superannuation' from 60 to 65 over the 1992-2001 period contributed to a decline in public pension spending in New Zealand from 6.8% to 4.6% of GDP over the 1992-2001 period.

Are social transfers made to richer or poorer households?

Social cash benefits can be made for different reasons to different households, including because people are retired, disabled, unemployed, or otherwise without source of income, or to help out with the cost of children or support households when they are on leave taking care of very young children or sick and/or elderly dependents. Benefits receipt can thus depend on different contingencies; it does not necessarily mean the receiving household is poor.



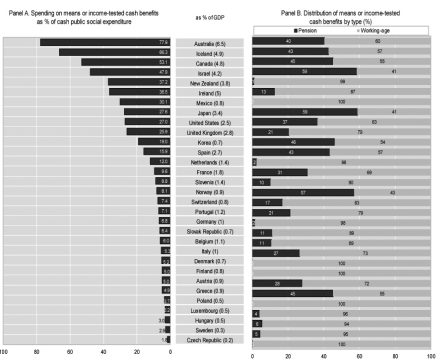
Note: Lowest/higher quintile is defined as 20% of the population living the lowest/highest equipped disposable income. Source: OECD Income Distribution Database (<http://www.oecd.org/ia/>)

Figure 5 shows the share of cash benefits paid to the lowest quintile and the highest income quintiles in OECD countries. Clearly, there is considerable variation across OECD countries in the extent to which social transfers are made to low and high income households. The share of cash benefits paid to households in the bottom income exceeds 25% of all cash benefits in the United Kingdom, Canada, the Netherlands and is highest in Norway and Australia at 40%, compared to around 10% in Mediterranean countries and 5% in Turkey. By contrast, in these latter countries social transfers often go to richer households, because these benefits are more often related to a work history in the formal sector, and often concern pension payments to retired workers. Earnings related social insurance payments also underlie substantial cash transfers to the top income quintile in Austria, France and Luxembourg.

Income-testing in cash benefits
Getting a relatively high level of spending on cash benefits to lower income households can be related to high levels of overall expenditure on cash benefits and/or a high degree of targeting within social programmes (Adema et al. 2014). The provision of social support can be made directly contingent on household income and/or means (e.g. assets), and governments are increasingly looking at income-testing as a tool to ensure delivery of social support to the least well-off in the face of budgetary pressures.

Income-testing of social support plays a limited role in continental Europe

Public spending on income and means-tested benefits as a percent of public social spending on cash benefits (and GDP in brackets), 2012 or latest year available



Note: The following cash income-tested spending items are included: spending on 'other contingencies', other social policy areas as in the OECD Social Expenditure Database (SOCX), income-tested spending on the unemployed (e.g. unemployment assistance payments for Germany), income-tested support payments to elderly and disabled (e.g. Belgium and the UK, other income-tested payments (survivor payments, family cash transfers) but do not include spending on ALMPs, housing or income-tested medical services.

In the United States public social spending is relatively low, but total social spending is the second highest in the world.

Thus far, the discussion focused on public social spending on cash benefits and social health services, and in the United States and other non-European OECD countries such spending is lower than in most European countries. However, a focus on public budgets misses two important features that affect social spending totals and international comparisons of social expenditure: 1) private social expenditure and 2) the impact of tax systems.

Private social expenditure concerns social benefits delivered through the private sector (not transfers between individuals) which involve an element of compulsion and/or inter-personal redistribution, for example through the pooling of contributions and risk sharing in terms of health and longevity. Pensions constitute an important part of both public and private social expenditure. Private pension payments can derive from mandatory and voluntary employer-based (sometimes occupational and industry wide) programmes (e.g. in the Netherlands or the United Kingdom), or tax-subsidised individual pension plans (e.g., individual retirement accounts in the United States). In 2011, private pension benefit payments were around 3% of GDP in Canada, Iceland,

3. Governments can also use so-called "tax breaks with a social purpose" (TSPs) to support social support or with the aim to stimulate the private provision of social support

TSPs which directly provide support to households are similar to cash benefits and often concern support for families with children, e.g. child tax allowances or child tax credits. Such TSPs amounted to around 1% of GDP in the Czech Republic, France, Germany, Portugal and Hungary – which introduced a Child Tax Credit in 2011.

TSPs to stimulate provision of "current" private social benefits is largest in the United States at around 1.4% of GDP, of which almost 80% concerns exclusion of employer contributions of medical insurance contributions.

Accounting for these features, results in a "net tax effect" (Figure 7). The value of benefit income clawed back through direct and indirect taxation exceeds the value of TSPs in almost all countries, particularly in Europe, and the claw-back is 5% of GDP or more in Austria, Finland, Luxembourg, the Netherlands, Norway, Sweden, and is highest at 8.9% of GDP in Denmark. In non-European OECD countries, the overall tax claw-back over social spending is much smaller and negligible in Korea and Mexico, and in the United States the value of TSPs and the tax claw-back over benefit income is broadly similar.

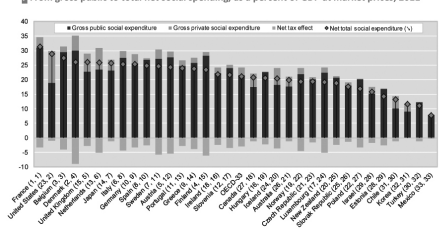
Cross-country rankings

Putting together the information on gross public and private social spending and the impact of tax systems leads to an indicator on net total social expenditure (Figure 7). This indicator shows greater similarity in spending levels across countries and changes in the ranking among countries.

Because of the large "net tax effect" Austria, Luxembourg and Scandinavian countries drop down the rankings (Figure 7). The "net tax effect" is also considerable in Italy, the United Kingdom and the Netherlands, but the large role of private social benefits ensures that in spending terms these countries move up the rankings when considering net total social expenditure.

The combination of small "net tax effects" and considerable private social spending ensures that Austria, Canada, Japan and in particular the United States move up the international social spending ladder. As private social spending (including health) is so much larger in the United States compared with other countries, its inclusion moves the United States from 23rd in the ranking of the gross public social spending to 2nd place when comparing net total social spending across countries.

From gross public to total net social spending, as a percent of GDP at market prices, 2011



Note: The figures in brackets refer to the ranking of countries in terms of gross public social expenditure from number 1 being the highest spender to the lowest 30 in the United States since 2011 OECD's term of gross public social expenditure and 20th term of net total social expenditure 2011 data on TSPs for New Zealand were estimated using available information for 2009. Indicators on direct taxation of benefit income and TSPs for Poland were also estimated on basis of available information for 2009. The "net tax effect" includes direct taxes and social contributions, indirect taxes and net tax breaks for social purposes similar to cash benefits (TSPs). TSPs also include favourable tax treatment of current private social benefits (e.g. donations to charities or exemptions of private health insurance contributions) and favourable treatment of pension saving that ultimately benefits households (e.g. favourable tax treatment of private funds). The value of the TSPs lowest "current" private benefits is not included in this figure, as it is equivalent to financing of private social benefits, and thus has to be excluded to avoid double counting when calculating total net public and private social spending. For methodological reasons there is no comprehensive cross-national comparable dataset on the value of TSPs for pensions. Because of the complexities with calculating the value of tax reliefs for pensions that are given at various stages (e.g. including tax exemptions for contributions to private pensions and tax relief for investment income of capitalised pension funds) there is no fully comparable cross-national data set available on TSPs for pensions. Hence, available data are not included in the overall calculation of net total social spending.

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More information on Employment Labour and Social Affairs, Maryline.Ladague@oecd.org, Tel: +33 1 45 24 87 44

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Source:
Please source this document as: OECD (2014), "Social Expenditure Update – Social spending is falling in some countries, but in many others it remains at historically high levels", <http://onlinelibrary.wiley.com/doi/10.1111/ISSM.12488-2488>. This document as well as all figures and underlying data can be downloaded via www.oecd.org/social/expenditure.htm. En Français: <http://www.oecd.org/fr/social/depenses.htm>

SOCX is available via the OECD statistical browser: OECD Data. To facilitate international comparisons, this information is related to gross domestic product, gross national income, total government expenditure, and in purchasing power parities per head.

Annex 3

Electoral Rules and Corruption

Torsten Persson. Guido Tabellini. Francesco Trebbi¹

Is corruption systematically related to electoral rules? A number of studies have tried to uncover economic and social determinants of corruption but, as far as we know, nobody has yet empirically investigated how electoral systems influence corruption. We try to address this lacuna in the literature, by relating corruption to different features of the electoral system in a sample from the late nineties encompassing more than 80 (developed and developing) democracies.

Our empirical results are based on traditional regression methods, as well as non-parametric estimators. The evidence is consistent with the theoretical models reviewed in the paper. Holding constant a variety of economic and social variables, we find that larger voting districts and thus lower barriers to entry are associated with less corruption, whereas larger shares of candidates elected from party lists - and thus less individual accountability - are associated with more corruption. Altogether, proportional elections are associated with more corruption, since voting over party lists is the dominant effect, while the district magnitude effect is less robust.

[...]These are all models of electoral competition predicting that the extraction of rents is increasing in political instability, as more instability makes the perceived probability of winning less sensitive to rent extraction. Persson and Tabellini (1999) also contrast equilibrium behavior by politicians in two stylized electoral systems: one with PR in a single nation-wide district, another with plurality rule in a number of single-member districts. Electoral competition becomes stiffer in the latter system, as the candidates are induced to focus their attention on winning a majority, not in the population at large, but in marginal districts containing a large number of swing voters.

As these voters are more willing to switch their votes in response to policy, candidates become more disciplined and extract less equilibrium rents. This prediction is less precise than those above, in that the argument does not distinguish well between district magnitude and the electoral formula. Countries with majoritarian electoral systems typically combine single-member districts and plurality rule, however.

At the opposite extreme, some proportional systems indeed have large districts and voters choose among party lists (Israel e.g. have just one nation-wide district where all representatives are elected and very low thresholds). But in between these polar cases you find intermediate systems, involving different district magnitudes, different size thresholds, and multi-tier systems mixing plurality rule and PR2. This institutional variation is fortunate in that it allows us to test separately the different hypotheses outlined above.

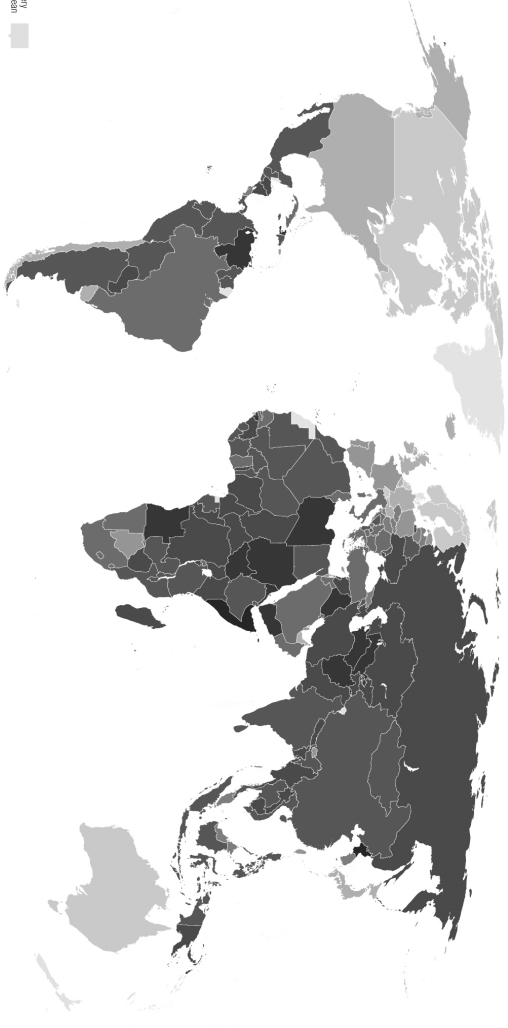
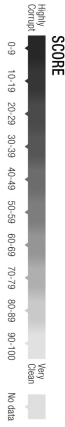
¹ NBER Working Paper 8154. www.nber.org/papers/w8154

These can be summarized as follows:

H1: *Ceteris paribus*, countries with larger district magnitude and lower thresholds for representation should have less corruption (the barriers-to-entry effect).

H2: *Ceteris paribus*, countries with a larger share of representatives elected as individuals rather than as members of lists should have less corruption (the career-concern effect).

H3: *Ceteris paribus*, plurality rule in single-member districts should be associated with less corruption than PR in large districts; moreover, corruption should be larger, the larger is political instability (the electoral-competition effect).



| RANK | COUNTRY/TERRITORY | SCORE | RANK | COUNTRY/TERRITORY | SCORE | RANK | COUNTRY/TERRITORY | SCORE | RANK | COUNTRY/TERRITORY | SCORE |
|------|----------------------------------|-------|------|----------------------------------|-------|------|-------------------|-------|------|-------------------|-------|
| 1 | Denmark | 92 | 21 | Chile | 73 | 91 | Niger | 38 | 161 | Yemen | 19 |
| 2 | New Zealand | 91 | 22 | Uruguay | 73 | 92 | Indonesia | 38 | 162 | Eritrea | 18 |
| 3 | Finland | 89 | 23 | Austria | 72 | 93 | Philippines | 38 | 163 | Uzbekistan | 18 |
| 4 | Sweden | 87 | 24 | Bahrain | 71 | 94 | Peru | 38 | 164 | Tajikistan | 17 |
| 5 | Norway | 86 | 25 | United Arab Emirates | 70 | 95 | Armenia | 38 | 165 | Turkmenistan | 17 |
| 6 | Switzerland | 84 | 26 | France | 69 | 96 | Ecuador | 38 | 166 | Libya | 18 |
| 7 | Singapore | 84 | 28 | Qatar | 69 | 97 | Albania | 38 | 167 | Tanzania | 20 |
| 8 | Netherlands | 83 | 29 | Saint Vincent and the Grenadines | 67 | 98 | Costa Rica | 40 | 168 | Sierra Leone | 21 |
| 9 | Luxembourg | 82 | 30 | Spain | 65 | 99 | Yemen | 38 | 169 | Burundi | 20 |
| 10 | Canada | 81 | 31 | Bolivia | 65 | 100 | Chad | 37 | 170 | Iraq | 16 |
| 11 | Australia | 80 | 32 | Georgia | 63 | 101 | Guatemala | 37 | 171 | South Sudan | 15 |
| 12 | Germany | 79 | 33 | Malaysia | 62 | 102 | Uzbekistan | 37 | 172 | Anguilla | 12 |
| 13 | Iceland | 79 | 34 | Czech Republic | 62 | 103 | Myanmar | 37 | 173 | South Sudan | 15 |
| 14 | United Kingdom | 78 | 35 | Slovakia | 61 | 104 | Egypt | 37 | 174 | South Sudan | 15 |
| 15 | Belgium | 78 | 36 | Poland | 61 | 105 | Yemen | 37 | | | |
| 16 | Japan | 76 | 37 | Taiwan | 61 | 106 | Yemen | 37 | | | |
| 17 | Barbados | 74 | 38 | Israel | 60 | 107 | Bahrain | 37 | | | |
| 18 | Hong Kong | 74 | 39 | Lebanon | 60 | 108 | Yemen | 37 | | | |
| 19 | Ireland | 74 | 40 | Dominica | 59 | 109 | Yemen | 37 | | | |
| 20 | United States | 74 | 41 | Lithuania | 58 | 110 | Yemen | 37 | | | |
| 21 | Chile | 73 | 42 | Sweden | 58 | 111 | Yemen | 37 | | | |
| 22 | Uruguay | 73 | 43 | Saudi Arabia | 58 | 112 | Yemen | 37 | | | |
| 23 | Austria | 72 | 44 | Switzerland | 57 | 113 | Yemen | 37 | | | |
| 24 | Bahrain | 71 | 45 | Costa Rica | 55 | 114 | Yemen | 37 | | | |
| 25 | United Arab Emirates | 70 | 46 | China | 55 | 115 | Yemen | 37 | | | |
| 26 | France | 69 | 47 | Hungary | 54 | 116 | Yemen | 37 | | | |
| 27 | Finland | 69 | 48 | Denmark | 54 | 117 | Yemen | 37 | | | |
| 28 | Qatar | 69 | 49 | Spain | 54 | 118 | Yemen | 37 | | | |
| 29 | Saint Vincent and the Grenadines | 67 | 50 | Slovenia | 53 | 119 | Yemen | 37 | | | |
| 30 | Spain | 67 | 51 | Slovenia | 53 | 120 | Yemen | 37 | | | |
| 31 | Botswana | 65 | 52 | Belgium | 53 | 121 | Yemen | 37 | | | |
| 32 | Georgia | 63 | 53 | Canada | 52 | 122 | Yemen | 37 | | | |
| 33 | Malaysia | 63 | 54 | Belgium | 52 | 123 | Yemen | 37 | | | |
| 34 | China | 63 | 55 | Canada | 52 | 124 | Yemen | 37 | | | |
| 35 | Malta | 63 | 56 | Canada | 52 | 125 | Yemen | 37 | | | |
| 36 | Costa Rica | 63 | 57 | Canada | 52 | 126 | Yemen | 37 | | | |
| 37 | Hungary | 62 | 58 | Canada | 52 | 127 | Yemen | 37 | | | |
| 38 | Denmark | 62 | 59 | Canada | 52 | 128 | Yemen | 37 | | | |
| 39 | Slovenia | 62 | 60 | Canada | 52 | 129 | Yemen | 37 | | | |
| 40 | China | 62 | 61 | Canada | 52 | 130 | Yemen | 37 | | | |
| 41 | China | 61 | 62 | Canada | 52 | 131 | Yemen | 37 | | | |
| 42 | China | 61 | 63 | Canada | 52 | 132 | Yemen | 37 | | | |
| 43 | China | 61 | 64 | Canada | 52 | 133 | Yemen | 37 | | | |
| 44 | China | 61 | 65 | Canada | 52 | 134 | Yemen | 37 | | | |
| 45 | China | 61 | 66 | Canada | 52 | 135 | Yemen | 37 | | | |
| 46 | China | 61 | 67 | Canada | 52 | 136 | Yemen | 37 | | | |
| 47 | China | 61 | 68 | Canada | 52 | 137 | Yemen | 37 | | | |
| 48 | China | 61 | 69 | Canada | 52 | 138 | Yemen | 37 | | | |
| 49 | China | 61 | 70 | Canada | 52 | 139 | Yemen | 37 | | | |
| 50 | China | 61 | 71 | Canada | 52 | 140 | Yemen | 37 | | | |
| 51 | China | 61 | 72 | Canada | 52 | 141 | Yemen | 37 | | | |
| 52 | China | 61 | 73 | Canada | 52 | 142 | Yemen | 37 | | | |
| 53 | China | 61 | 74 | Canada | 52 | 143 | Yemen | 37 | | | |
| 54 | China | 61 | 75 | Canada | 52 | 144 | Yemen | 37 | | | |
| 55 | China | 61 | 76 | Canada | 52 | 145 | Yemen | 37 | | | |
| 56 | China | 61 | 77 | Canada | 52 | 146 | Yemen | 37 | | | |
| 57 | China | 61 | 78 | Canada | 52 | 147 | Yemen | 37 | | | |
| 58 | China | 61 | 79 | Canada | 52 | 148 | Yemen | 37 | | | |
| 59 | China | 61 | 80 | Canada | 52 | 149 | Yemen | 37 | | | |
| 60 | China | 61 | 81 | Canada | 52 | 150 | Yemen | 37 | | | |
| 61 | China | 61 | 82 | Canada | 52 | 151 | Yemen | 37 | | | |
| 62 | China | 61 | 83 | Canada | 52 | 152 | Yemen | 37 | | | |
| 63 | China | 61 | 84 | Canada | 52 | 153 | Yemen | 37 | | | |
| 64 | China | 61 | 85 | Canada | 52 | 154 | Yemen | 37 | | | |
| 65 | China | 61 | 86 | Canada | 52 | 155 | Yemen | 37 | | | |
| 66 | China | 61 | 87 | Canada | 52 | 156 | Yemen | 37 | | | |
| 67 | China | 61 | 88 | Canada | 52 | 157 | Yemen | 37 | | | |
| 68 | China | 61 | 89 | Canada | 52 | 158 | Yemen | 37 | | | |
| 69 | China | 61 | 90 | Canada | 52 | 159 | Yemen | 37 | | | |
| 70 | China | 61 | 91 | Canada | 52 | 160 | Yemen | 37 | | | |
| 71 | China | 61 | 92 | Canada | 52 | 161 | Yemen | 37 | | | |
| 72 | China | 61 | 93 | Canada | 52 | 162 | Yemen | 37 | | | |
| 73 | China | 61 | 94 | Canada | 52 | 163 | Yemen | 37 | | | |
| 74 | China | 61 | 95 | Canada | 52 | 164 | Yemen | 37 | | | |
| 75 | China | 61 | 96 | Canada | 52 | 165 | Yemen | 37 | | | |
| 76 | China | 61 | 97 | Canada | 52 | 166 | Yemen | 37 | | | |
| 77 | China | 61 | 98 | Canada | 52 | 167 | Yemen | 37 | | | |
| 78 | China | 61 | 99 | Canada | 52 | 168 | Yemen | 37 | | | |
| 79 | China | 61 | 100 | Canada | 52 | 169 | Yemen | 37 | | | |
| 80 | China | 61 | 101 | Canada | 52 | 170 | Yemen | 37 | | | |
| 81 | China | 61 | 102 | Canada | 52 | 171 | Yemen | 37 | | | |
| 82 | China | 61 | 103 | Canada | 52 | 172 | Yemen | 37 | | | |
| 83 | China | 61 | 104 | Canada | 52 | 173 | Yemen | 37 | | | |
| 84 | China | 61 | 105 | Canada | 52 | 174 | Yemen | 37 | | | |
| 85 | China | 61 | 106 | Canada | 52 | 175 | Yemen | 37 | | | |
| 86 | China | 61 | 107 | Canada | 52 | 176 | Yemen | 37 | | | |
| 87 | China | 61 | 108 | Canada | 52 | 177 | Yemen | 37 | | | |
| 88 | China | 61 | 109 | Canada | 52 | 178 | Yemen | 37 | | | |
| 89 | China | 61 | 110 | Canada | 52 | 179 | Yemen | 37 | | | |
| 90 | China | 61 | 111 | Canada | 52 | 180 | Yemen | 37 | | | |
| 91 | China | 61 | 112 | Canada | 52 | 181 | Yemen | 37 | | | |
| 92 | China | 61 | 113 | Canada | 52 | 182 | Yemen | 37 | | | |
| 93 | China | 61 | 114 | Canada | 52 | 183 | Yemen | 37 | | | |
| 94 | China | 61 | 115 | Canada | 52 | 184 | Yemen | 37 | | | |
| 95 | China | 61 | 116 | Canada | 52 | 185 | Yemen | 37 | | | |
| 96 | China | 61 | 117 | Canada | 52 | 186 | Yemen | 37 | | | |
| 97 | China | 61 | 118 | Canada | 52 | 187 | Yemen | 37 | | | |
| 98 | China | 61 | 119 | Canada | 52 | 188 | Yemen | 37 | | | |
| 99 | China | 61 | 120 | Canada | 52 | 189 | Yemen | 37 | | | |
| 100 | China | 61 | 121 | Canada | 52 | 190 | Yemen | 37 | | | |

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Annex 5

Clean Business Is Good Business

The Business Case against Corruption

A joint publication by the International Chamber of Commerce, Transparency International, the United Nations Global Compact and the World Economic Forum Partnering Against Corruption Initiative (PACI).



Facts and Figures*

Corruption, the abuse of entrusted power for private gain, is the single greatest obstacle to economic and social development around the world. It distorts markets, stifles economic growth, debases democracy and undermines the rule of law.

- Estimates show that the cost of corruption equals more than 5% of global GDP (US \$2.6 trillion), with over US \$1 trillion paid in bribes each year.
- Corruption adds up to 10% to the total cost of doing business globally, and up to 25% to the cost of procurement contracts in developing countries.
- Moving business from a country with a low level of corruption to a country with medium or high levels of corruption is found to be equivalent to a 20% tax on foreign business.

International Law

The international legal framework that companies are facing is changing fast and has been strengthened during recent years. It now includes the following intergovernmental instruments:

- Inter-American Convention Against Corruption (1996)
- OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions (1997)
- European Union Instruments on Corruption
- Council of Europe Conventions on Corruption (1997-1999)
- The African Union Convention on Preventing and Combating Corruption (2003)
- United Nations Convention Against Corruption (2003)

Governmental instruments are also increasingly being adopted at the national level; sometimes with global implications to companies, i.e. the Foreign Corrupt Practices Act and the Sarbanes-Oxley Act in the US.

Why Should Your Company Engage?

Companies are subject to extortion and some play a role in paying bribes. Accordingly, the private sector is also part of the problem and can also be part of the solution (for example, by sharing responsibility for finding ways to effectively fight corruption).

What Can Your Company Do?

An increasing number of companies are demonstrating leadership by implementing effective anti-corruption programmes within their companies. Common features of such programmes include:

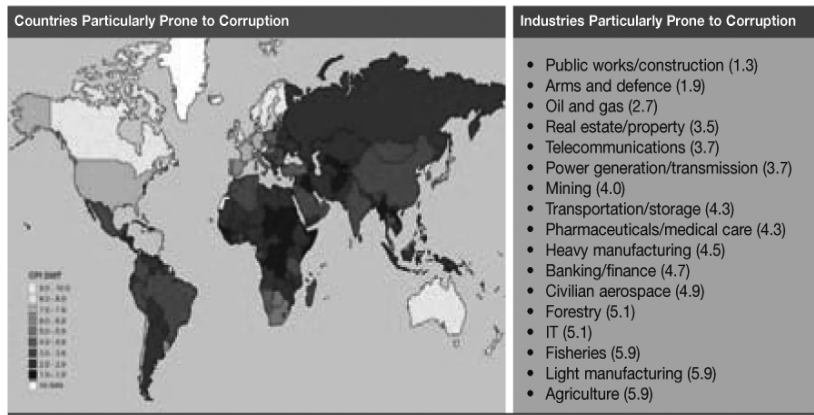
- Detailed policies on company-specific bribery issues such as kickbacks, extortion, protection money, facilitation payments, conflicts of interest, gifts and hospitality, fraud and money laundering, and political and charitable contributions
- Management systems and procedures outlining frameworks for risk assessment, training, sanctions, whistle-blowing, continuous internal self-review and external reporting

Companies are increasingly engaging in sector-specific or multi-industry initiatives, locally, regionally and/or globally, to share their experiences, learn from peers and, in partnership with other stakeholders, contribute to levelling the playing field.

There are a number of principles, recommendations and guidance and implementation tools available to companies. They have been developed in cooperation with companies and tested in real corporate environments. See the back of the leaflet for further information.

*Source: World Bank

Corruption Remains a Serious Problem for Companies in Most Parts of the World and across Industries



Note: The map is based on Transparency International's 2007 Corruption Perceptions Index. The score relates to perceptions of the degree of corruption ranging between 10 (highly clean) and 0 (highly corrupt). The Industries ranking is drawn from Transparency International's 2002 Bribe Payers Index. The scores, similarly from 0 to 10, reflect the propensity of companies in different sectors to pay bribes.

| The Business Rationale for Fighting Corruption | | |
|--|---|--|
| | Benefits of Engaging | Risks of Not Engaging |
| Individual Company Action | <ul style="list-style-type: none"> • Reduce the cost of doing business • Attract investments from ethically oriented investors • Attract and retain highly principled employees, improving employee morale • Obtain a competitive advantage of becoming the preferred choice of ethically concerned customers/consumers • Qualify for reduced legal sanctions in jurisdictions like the US and Italy | <ul style="list-style-type: none"> • Criminal prosecution, in some jurisdictions both at company and senior management levels which can lead to imprisonment • Exclusion from bidding processes, e.g. for international finance institutions and export credit agencies • "Casino risk" – no legal remedies if a counterpart does not deliver as agreed and/or keeps increasing the price for doing so • Damage to reputation, brand and share price • Tougher fight for talent when hiring new employees • Regulatory censure • Cost of corrective action and possible fines |
| Collective Action by Business | <ul style="list-style-type: none"> • Create a level playing field overcoming the "prisoner's dilemma" • Improve public trust in business • Influence future laws and regulations | <ul style="list-style-type: none"> • Missed business opportunities in distorted markets • Increased magnitude of corruption • Policy-makers responding by adopting tougher and more rigid laws and regulations – internationally, regionally and nationally |

“ MWH has a core value to be a trustworthy business partner. Honesty, professionalism, ethical behaviour and integrity with our staff, clients and supply chain are integral to the way we do business. ”

Robert Uhler, Chief Executive Officer, MWH Global, USA

“ Corruption is the single greatest obstacle to economic and social development, and the fight against it is imperative. With our considerable resources, practical experience and front line position, international business must take a stand, for it is no longer enough to simply be against corruption or other unethical business practices. Global business leaders must be fully engaged in eradicating them and levelling the competitive playing field for all. ”

Alan L. Boeckmann, Chairman and Chief Executive Officer, Fluor Corporation, USA

“ Good governance is a requirement for sustainable development and effective markets. StatoilHydro supports the global fight against corruption. ”

Helge Lund, President and Chief Executive Officer, StatoilHydro, Norway

“ MTN subsists on five brand values – integrity, leadership, relationships, innovation and can-do. These values are the essence of MTN, defining our people, policies and practices. Integrity is a promise that we have made to all our stakeholders – of fairness, transparency, honesty and accountability in all our dealings. As we maintain our leadership position in Nigerian telecommunications, we are committed to also leading the way in zero tolerance for corrupt practices. ”

Ahmad Farroukh, Chief Executive Officer, MTN Nigeria, Nigeria

“ Our objective in this area is to make it clear to governments that the business interest lies in the widest possible international commitment to anti-corruption rules, so that we may compete on a level playing field on a sound ethical and legal basis. ”

Paul Skinner, Chairman, Rio Tinto, United Kingdom

“ There is no business which is so important that we will jeopardize our business ethics. ”

Lars Rebien Sorensen, President and Chief Executive Officer, Novo Nordisk, Denmark

Global, Multi-industry Initiatives

Even companies demonstrating anti-corruption leadership are facing challenges that they cannot effectively solve themselves, i.e. eliminating facilitation payments and the prisoner's dilemma. Four mutually supportive global, multi-industry initiatives work together with companies to address such collective business challenges:

International Chamber of Commerce (ICC)

ICC speaks with authority on behalf of enterprises from all sectors around the world. In 2005, it issued a revised version of its Rules and Recommendations to Combat Extortion and Bribery, first published in 1977. The ICC Commission on Anti-Corruption brings together experts from a wide range of business sectors and national backgrounds. It promotes self-regulation by enterprises in confronting extortion and bribery and provides business input into international initiatives to fight corruption. For more information, visit www.iccwbo.org or contact viviane.schiavi@iccwbo.org.

Transparency International (TI)

TI, the global coalition against corruption, addresses corruption through a wide range of tools and over 90 national chapters. In 2002, it worked with a multistakeholder and international steering committee of companies, business associations, academics, union representatives and civil society organizations to publish an anti-corruption code entitled Business Principles for Countering Bribery. This code formed the basis for the PACI Principles, developed with the World Economic Forum. Since then, insights gained from workshops held around the world have led to the development of a suite of tools to support companies in developing and implementing anti-corruption policies, monitoring their effectiveness and publicly reporting their results. For more information, visit www.transparency.org or contact businessprinciples@transparency.org.

United Nations Global Compact (GC)

In 2004, a 10th Principle was added to the United Nations Global Compact, a multistakeholder initiative, sending a strong signal that the private sector shares responsibility for eliminating corruption. The principle states: "Businesses should work against corruption in all its forms, including extortion and bribery." The adoption of the 10th Principle commits the almost 4,000 Global Compact participants not only to avoid bribery, extortion and other forms of corruption, but also to develop policies and concrete programmes to address it. The United Nations Global Compact is a voluntary initiative with a mandatory requirement for business participants to disclose, on an annual basis, performance changes in the issue areas. For more information, visit www.unglobalcompact.org or contact makinwa@un.org.

World Economic Forum Partnering Against Corruption Initiative (PACI)

PACI is a platform for companies to commit themselves to develop, implement and monitor their anti-corruption programmes through peer network meetings and provision of private sector-driven support tools. Driven by the private sector, the initiative helps to consolidate industry efforts in fighting corruption and shape the evolving regulatory framework. PACI was initiated by World Economic Forum member company CEOs in Davos in 2004. Since then, the PACI Principles for Countering Bribery have been developed, and the nature of the initiative has become multi-industry and multinational. The Principles have received CEO commitment from almost 150 companies, representing an annual turnover of more than US\$ 800 billion. For more information, visit www.weforum.org/paci or contact paci@weforum.org.

“ Falck Group believes in and operates for a sustainable development and growth based on ethics principles. Falck Group has in place a full system of corporate governance to obtain such goals and, furthermore, shares these cultural values with all employees. ”

Achille A. Colombo, Managing Director,
Falck Group Italy, Switzerland

“ Corruption not only attacks the moral fibre of our society and the integrity of our markets, but it also conflicts with the core principles on which Sanlam's business strategy is based. Our commitment to our ethical values and our strategic vision demand that we shall not tolerate any form of corruption in our business dealings. ”

Johan van Zyl, Group Chief Executive, Sanlam, South Africa