

# A Better Governance for a Better Future

F. J. Radermacher  
University of Ulm  
Germany

---

## Abstract

*The paper deals with the issue of whether a sustainable future for humankind can be reached or not. If not, human existence would not come to an end, but the quality of existence would considerably deteriorate. For many reasons, it is not easy to get onto a sustainable track. Doing so will require the equivalent of surgery on a “living body”. And many powerful vested interests are in the way. If success can at all be achieved, it will require considerable changes in global governance. The restricted quality of global governance today is a key deficit of the world we live in today. The author was often asked, what system of global governance rules for the world to implement, if one had the power to do so. The paper gives the answer to that question in the form of twelve interrelated elements of global governance for a sustainable future.*

**key words:** global governance, green and inclusive markets, Club of Rome, sustainability, the role of crises, global two-class society, eco-social economy, climate change, climate neutrality, balanced income distributions, global democracy, WTO, global transfers, taxing the global commons, transparency of ownership rights, future information society, regulation of the financial sector, productive inequality range, basic needs, eco-taxation, total decoupling, feeding the world, the future of jobs

---

*“A green and inclusive global economy –  
the key for a sustainable future”*

## Introduction

This paper is the author’s effort to contribute to the special issue of the “Journal of Future Studies” on “Exploring paths to a viable future: obstacles and opportunities, requirements and strategies”. This is done against the background of a long history of thinking on the issue as a member of the Club of Rome. Maybe more than thirty years of efforts with different NGOs, such as the Global Marshall Plan Initiative, The Parliament of Cultures, UNESCO, the Ecosocial Forum Europe, the Senate of the Economy and the Rotarian Action Group for Population &

Development, come together in this context. Cultural and ecological diversity, avoiding a climate catastrophe, human rights and world peace are issues addressed, as is the topic of democracy within globalization and the so-called “Trilemma of the modern world” (Radermacher, 2004a, 2004b; Radermacher & Beyers, 2011).

Changing things is difficult. We have to do “**open-heart surgery on a living body**”, a human-technical superorganism – humankind, soon integrating ten billion people and maybe thirty billion intelligent technical components in the future internet of things. On top, this superorganism integrates assets worth maybe 300,000 billion Dollar (Piketty, 2014). If this gigantic “machine” gets into trouble, millions of people would starve and die.

Can anything be done? Yes, particularly at **times of great crises**, which often are **tipping points**. And crises will occur. This then is the moment of intervention. And one has to prepare for it long before the day arrives. Because others with other ideas prepare as well. Not all are up to sustainability and balance. Many want a **global two-class society**, getting rid of the middle class. Maybe, if things go totally wrong, we may even end up in an **ecological catastrophe**.

How can one get to a better future – if we will make it at all? This is the question of this special issue on “Exploring paths to a viable future: obstacles and opportunities, requirements and strategies”.

In the Club of Rome argumentation, we have to concentrate on two lines of interventions: On the one hand, **change the rules** of global political governance, above all economic governance. E.g. prices have to tell the truth – ecologically and socially. Among others, this deals with the internalization of external cost. For this to happen, **markets must be green and inclusive (eco-social)**, not just free or unregulated. On the other hand, it is about ideas that guide people, it is the “fight” for the words and, via words, for the **brains and spirits of people** (Lakoff, 2004). For instance, people should urgently understand that free markets are not free, e.g. the wording is a trick to **disguise reality**. Because they are only free for the most powerful actors to have their will, while the great majority of people will lose large parts of their freedom exactly because of this.

Against this background, it is interesting to see what changes, positively, have happened since the world financial crises. This is by far not enough change, but still much more than reasonably could have been expected.

To list a few points:

For those arguing for an **eco-social economy**, it was encouraging to see how the international orientation in economical issues changed since the world financial crises in 2007/2008. OECD, IWF and World Bank as well as the UN side now talk about the necessity of **green and inclusive markets** and green and inclusive growth.

That means that the dominance of the philosophy of free markets did come to an end. Concerning a world climate contract, that is envisioned for 30 November to 11 December 2015 in Paris, the states of the world did already agree on a so-called **Green Climate Fund** of at least 100 billion US-Dollar a year which the fully developed countries would have to fill up every year from 2020 on. This money is designated to support developing countries activities for mitigation, concerning climate protection, but also adaptation to the climate change already ongoing. This is an important new element of financial transfers from the fully developed countries to the other countries, particularly taking into account that the total volume of so-called **Official Development Assistance (ODA)**, that means financing of cooperation and

development, at the moment is (only) 135 billion US-Dollar a year, much less (not even half) than the 0.7 percent aim would mean, that is aimed at for many years on the UN level.

On the OECD/G20 level also by now the principle of **automatic data exchange** between banks and financial authorities has been agreed upon for about 50 states. Switzerland and others have modified the business model to a considerable extent.

The OECD also discusses the necessity of **balanced income distributions**, if economic well-being and sustainability is the aim. It also informs the rich countries to an opening gap in distributional issues and points at the negative consequences to be expected from this trend of opening gaps for the economical performance of those countries. With its consequent argumentation, the OECD has contributed to the introduction of a **minimal wage in Germany**.

Balance of income distribution, which is a very important concern for the eco-social movement / the movement for green and inclusive markets, is also one of the parameters in the sustainability index of the OECD, which is the **Better Life Index**.

Finally, the EU not only is continuing its work on the harmonization of the taxing basis of companies, now, finally, they also talk about minimal levels of taxation. The eco-social agenda has made considerable progress.

Against this background, we now ask what to do for the future. The author was asked many times what systems of rules he would implement globally, for a sustainable future, **if he had the power to do so**. This paper gives such a system of rules. In doing so, it takes into account early work on “Weltinnenpolitik” (von Weizsäcker, 1964), the “Earth Charter” (The Earth Charter, 2008) and on “Global Ethos” (Küng, 2012), as well as work, dealing with a better Global Governance (Daly, 2005; Frey, 2008, von Weizsäcker, 1997). We will also take into account an issue not so familiar to many people working for sustainability. It is connected with the author’s background as a professor for artificial intelligence. The issue is new developments in information technology, always more powerful machine intelligence, new approaches in big data and analytics, which, eventually, may lead to what is called singularity. As a consequence, millions of present-day high-qualified jobs, leading to high incomes, might be lost to intelligent machines (Brynjolfsson & McAfee, 2014; Mayer-Schönberger & Cukier, 2013). We at FAW/n are presently working on these issues in an OECD project “The Role of Data in Promoting Growth and Well-Being” - Big Data and Analytics – What are the Perspectives?

## **A governance structure for a sustainable future**

The governance structure proposed in this paper deals with twelve issues, many of which have been addressed by other authors and/or fora in one form or another. These twelve fields of intervention concern the three dimensions of sustainability, e.g. the economic, the social and the environmental side with three subcategories each. Integrating all is the topical group “Global governance”, with which we start. The three elements of this integrating umbrella interfere with all nine other subcategories considered. Note that in this paper, the aim is not only to propose something or to ask that something has to be done, such as to protect the Global Commons or to finance social security systems, globally. No, there is also named the responsibility for those issues and corresponding sources of financing. Actually, **responsibility**

**and financing** are most crucial (and insufficiently addressed) issues of governance in today's global politics.

Note that after dealing with the twelve issues, we will describe the connection to other proposals for a better world, not mentioned in the governance structure, such as the issue of total decoupling or a circular economy. The relations are very close, those issues are closely connected with the governance issues discussed, but this may not be obvious to all readers at first sight. What is obvious is that an **ordoliberal approach** is taken. That means, that societal, e.g. political interventions have their place on the level of the framework conditions of the market system, not on details of e.g. technology paths. So, markets are the drivers for innovations, but the social and ecological regulation of the markets, i.e. via **eco-taxation** (Daly, 2005), is an essential issue to indirectly influencing the market place, particularly to incorporate ecological and social aspects into the price structure of markets, in particular global markets. This is **to stir innovation in the right direction** and to force changes in behaviour and consumption patterns of people. Of course, all that is closely coupled with the political system, which here concerns, in particular, the **future of global governance**. The lines followed are supranational or multilateral contracts or agreements. The nature of the required contracts have somehow the flavour of a world that is ruled via a **global democracy** (Bummel, 2005; Kauppi, Leinen, Watson & Onesta, 2007; Schwartzberg, 2012), something not feasible for a long time, but hopefully possible at some point in the future. This concerns the important issues of **much more cross financing** of developing countries and the correspondent general acceptance of **(development-state dependent) standards** which is the line democracies usually care for, but the world up to now not follows. Elements of this kind are incorporated into the twelve governance categories presented.

## I. Global Governance

### (1) Integrate global regimes

*Integrate UN rule sets, WTO ruling and world financial market rulings into one coherent Global Governance regime (including co-financing). This should follow the principle of subsidiarity and favour a green and inclusive economy, human rights, a world-democratic perspective and a sustainable development.*

The author has for a long time argued that the world of today is essentially governed by three sets of rules, in some sense three "different United Nations" (Radermacher, 2004a, 2004b): First, concerning peace, culture, social issues and others and quite weak in implementation, this is done via the **UN system**, based on participation of all 193 states. Second comes the area of trade, intellectual property rights and others done via the **WTO** (with 161 states participating), and third, there the financial sector, building on institutions such as the **International Monetary Fund**, the **World Bank** or the **Bank of International Settlements**, Basel, with some 188 states participating. Those three systems contradict each other in important aspects, e.g. the systems are not compatible. There is also no political or legal place to make it then consistent. In particular, one system, viz. the WTO, allows child labour or environmental destruction as part of supply chains, while another one, viz. the UN, may forbid this. These contradictions could be overcome, but that would require a system of massive cross funding. Rule 1 aims at implementing the

binding together of the three regimes described in a way that puts human rights into the centre, makes the WTO and the financial sector to some degree responsible for implementing human rights and using the instrument of cross funding from rich to poor to make this practically possible (Radermacher, 2004a, 2004b).

## (2) Protect cultural diversity

*Protect cultural diversity (also against economic forces favouring uniformity).*

Cultural diversity is seen as a major asset for humankind. The states of the world agreed on protection of cultural diversity in an UN Convention on the topic. The message: Cultural diversity should be promoted. This means, in particular, that economically weaker states associated with certain cultures may need extra support, maybe also **some protection**. Free market rules should not endanger cultural diversity.

## (3) Develop the information society with great care

*Take care for strict data security, generate much less data with a personal identity link, control machine intelligence, govern the internet (and the upcoming internet of things/entities) in the interest of humankind, e.g. promoting a global governance favouring human rights and green and inclusive markets.*

We are on the route to Big Data and the Internet of Things, binding together eventually 10 billion of people and many times more billions of intelligent software systems. There are huge chances for a better future in that (OECD, 2014), but also big dangers, e.g. that humans may become **totally transparent**. On this way, there might be a loss of individuality and democracy. To change this will require a different approach to the basic architecture of corresponding software systems. Data on transactions and activities must be decoupled from full personal details as far as possible and exchange of information has generally to be **encrypted**. There is a lot to do. But total transparency is not the only problem ahead. Another issue concerns possible losses of hundreds of millions of decent jobs of today to intelligent machines without the creation of alternative new jobs. We have to be careful not to come to a **global two-class society**. In the proposal, this is prevented by caring politically for a reasonable distribution of income – if needed, independent of people having a job. This means to stay within the so-called **efficient inequality range** (Herlyn, 2012; Kämpke, Pestel & Radermacher, 2003; Kämpke & Radermacher, 2015). Also, we have to be careful with the level of intelligence we eventually allow to technical systems. We have to control them, not – eventually – they us.

## II. Economics and the financial sector

### (4) Make property transparent and responsible

*Make property (via catasters) and financial transactions (via documentation) transparent to the (international) taxation and financial authorities. Take care for all property taking social responsibility. No legal protection for intransparent property ownership and for intransparent financial transactions.*

Social inequality and distributional issues of income and property are of highest importance for our future. Stiglitz (2012) and Piketty (2014) are mentioned as major references. Note that caring for equal opportunities – which have never been reached – is important but not alternative to caring for balance and no pretext for not caring

for balance. Note that it is easily seen that inequality of wealth is much greater than inequality in income. Also, if property is too much concentrated, returns on property are high and growth is little, always more income will go to the few (the 1 percent) that holds most of the assets. This will then add to increase of imbalance of income. This is described in detail in Piketty's work.

Half of global assets is buildings. Usually, property rights concerning buildings are documented quite strictly. For the other half of assets that is not in general the case. The proposal here is the one going back to Piketty (2014) and Zucman (2015) to give legal protection to property only to the extent that property is registered in cadasters accessible to state authorities. That might be restricted to properties up from a certain size, not to interfere too much with ordinary life.

Once we know, who is the owner of something, we can put full responsibility to him to deal with property in a way that also helps the general well-being – as it is asked for explicitly in the German constitution, that builds on the experiences with World War II and the years before the war. If ownership is transparent, insider issues could be checked much better than today. In particular, the taxation issue can much better be dealt with if ownership is known to public authorities as if it is not. Of course, transference of property, including inheritance and gifts, need then also an adequate regulation. Again, this may be restricted to transfers or heritage above a certain threshold. Note that property need only be fully transparent to respective legal bodies, not to the society in general. The same is true for all transactions and transaction systems, in particular in the **financial sector** (Solte, 2007; Zucman, 2014).

##### (5) Create a global antitrust body

*Create a global antitrust body / avoid companies to become too big and too powerful.*

This is an obvious need and concerns a big deficiency of today's global markets. Antitrust regulation is an old requirement, even by most market-radicals. It works against monopolies and oligopolies.

This has to be managed on the global level, where huge monopolies or oligopolies are now commonplace. There are great deficiencies today concerning this important issue. A consequent antitrust approach could be combined with legal requirements that make it impossible for companies to become **too big**. Not only too big to fail, but also to big to be acceptable for society.

##### (6) Regulate and tax the financial sector consequently

*Implement a strict regulation of the global financial market / control „wrapping“ / dry off tax havens / make aggressive tax avoiding schemes impossible. Build on current G20/OECD work on these issues.*

The financial sector is of utmost importance for the well-being of societies. It has a big influence on distributional issues and indirectly on politics (Atkinson, 2014, 2015; Piketty, 2014). In particular, **taxation of cross border activities** has to be dealt with carefully. Such regulations, as they are now discussed on the OECD / G20 level, have to be extended. Aggressive tax planning must be totally prevented. It is good that there are now decisions on information exchange between financial and tax authorities and banks of some 50 OECD countries. This has to be further extended. Nice is the intention of the EU, now not only to harmonize the corporate

tax base, but also to implement **minimal levels of corporate taxation**. Part of a future governance should be, that new financial instruments need control and an official allowing before they are allowed to be brought into the market. Because such new instruments might be toxic – as we saw in the last big financial crises in 2007/2008. As Warren Buffett put it: “Derivatives are financial weapons of mass destruction, carrying dangers that, while now latent, are potentially lethal” [<http://www.berkshirehathaway.com/letters/2002pdf.pdf>].

### III. Social Balance

#### (7) Societies should care for balanced income distributions

*Care for a proper balance of the distribution of income and of property (stay within in the productive inequality range). Deal carefully with mean and median values. Go for a proper, progressive taxation of income, property, heritage.*

For the future, ranges of desirable spectra concerning the distributions under debate have to be fixed, separately for the area of income and the area of property. This has been an active research field of the author and his co-workers for many years (Herlyn, 2012; Kämpke, 2009; Kämpke, Pestel & Radermacher, 2003; Kämpke & Radermacher, 2015; Radermacher & Beyers, 2011). We can also build on the work of Piketty, Stiglitz and others (Atkinson, 2014, 2015; Piketty, 2014; Stiglitz, 2012; Zucman, 2015). Wanted are distributions that belong to the so-called efficient inequality range. In this area, we find now the OECD states, among them the USA as a border case on the edge to too much inequality, the Northern Europeans as the best working examples for achievement. The constraints put onto the economic systems have to care for the right balance over the next decades, globally and on the level of states, where, today, the global picture is the most negative one (**Global Apartheid**).

The issue is closely connected with the topic of (**progressive**) **taxation**, also taxation of cross national economic activities. It also will have to deal with **inheritance tax and gift tax**. Very important in this context is dealing with the **Global Commons**, their protection, the taxing of their usage on the UN level. This will, on the one hand, **internalize external cost** into the market, because prices “tell the truth” and “stealing” on the Commons will be stopped. On the other hand, it will make the money available on the UN level to **cross-fund** global societal security, e.g. via **social insurance**, but also for the preservation of rain forests, protection against climate change, incentivating a green economy. This must be organized coherently and should avoid opportunities for rent-seeking and corruption. A big issue in this context is a possible future with **intelligent software systems** replacing many highly qualified people in well-paid jobs without replacement via new types of work (Brynjolfsson & McAfee, 2014; Mayer-Schönberger & Cukier, 2013). Via the need to have balanced income distributions, taxation will eventually reach intelligent machines and robots in such a dimension that the financing of all people in a decent way stays possible, whatever the demand for work by humans will be.

#### (8) Implement social security systems, globally

*Implement social security systems, worldwide and co-finance them (including a Global Marshall Plan).*

This is a very important issue, one of the biggest deficit areas in the present

system. We will need **social security systems** everywhere in this world. Everybody should eventually have a decent income, also access to basic healthcare, basic pension etc. All these concerns need **massive co-financing**. This will partly come from taxing the use of Global Commons. The approach incorporates the idea of a Global Marshall Plan. The Green Climate Fund, presently required for a global climate regime – if it comes – is of that character (Radermacher, 2013a).

#### (9) Responsibility of the states for all basic needs

*The states on their territory and all states together for the world have the responsibility for issues related to basic needs, infrastructure for all, care for health and education systems and social security. In particular, guarantee a minimum daily allowance for every human and overcome hunger, once and for all. Involvement of the private sector in caring for basic needs is possible, but only under adequate regulation, leaving untouched the final responsibility of politics for the delivery of all basic services.*

Part of the responsibilities of governments is basic services, is to deal with **basic needs**. It is partly financed via taxation, including taxation of the Global Commons. This is not just an issue of free markets and the question who can pay for a service and thus finance it. Instead, **basic services are required for all** and they have to be paid for from taxes in general. With this, politics stays in obligation and responsibility – on the level of states, but, hopefully, in the future also globally. This directly corresponds to a global responsibility of caring for human rights on an **individual level**, in general. Requirements concern basic infrastructures, particularly water, energy, traffic, access to internet services etc., but also caring for needed facilities in case of **illness**. Of particular importance is **basic education** for all around the globe as a public responsibility of the states, but also of the world community as a whole. Note that this formulation goes far beyond the extremely soft requirements of e.g. the Millennium Development Goals and its envisioned successors, the **Sustainability Goals 2015-2050**.

Services may be outsourced to private actors – but organizing them with companies owned by municipalities and the states is also o.k. And if services are privatized, contracts must make sure that the final responsibility concerning fulfilling those basic needs stays with politics.

### IV. Environmental Issues

#### (10) Make the UN responsible for all Global Commons

*Protect consequently the environment and all critical resources. Increase considerably the financial power of the UN level. In particular, care for and tax the use of all Global Commons, appropriately. Use this money for co-financing international concerns. Also, add democratic elements to the international political level. Start with a parliamentary assembly at the United Nations.*

The UN must be strengthened. According to (1), it has to be consistently combined with markets and with the financial sector. On the long run, a **world-democratic dimension** has to be added (Bummel, 2005; Kauppi et al., 2007; Schwartzberg, 2012). International care for the global commons, including the atmosphere as a sink for greenhouse gases, the oceans, the arctic and outer space and again the atmosphere as the basis for all kind of communication processes is



urgently required. The UN must have a much stronger role in all this. Responsibility in dealing with the global commons has to be enforced. That also means a reasonable pricing (**eco-taxing**) for using those commons. This will generate an income on the international level that should be available to the international governance system for needed transfers and financing. A special area is **climate**, e.g. solving the climate problem, which is closely connected with a new energy system (Radermacher & Beyers, 2011; Radermacher, 2013a). Financing aspects concern mitigation as well as adequate adaptation to climate change. On the long run, we need a **new energy system** that is available everywhere, cheap, environmentally friendly and climate neutral.

### (11) Protect biological diversity

*Protect biological diversity, preserve important biological sites and regions, above all rain forests. Pay for protection.*

Biodiversity is of big importance for our future and a core issue of sustainability. It implies responsibility of the global community for biodiversity in general and for all kind of important and critical biotopes, among them and above all, **rainforests**. These biotopes have to be strictly protected. Of course, the world community will also have to pay/compensate the owners properly for offering this kind of protection and services to the world. This will partly become possible via taxing the use of the Global Commons, as described.

### (12) Solve the climate issue

*Solve the climate problem / limit global CO<sub>2</sub> emissions accordingly / create new energy technologies / promote voluntary climate neutrality of the private sector / invest massively into biological sequestration (global reforestation programmes / enhancement of agriculture) / co-finance needed technological developments and the transition to a post-carbon energy system. Fill the promised green climate funds of at least 100 billion US-Dollar a year. This is to support countries in development in climate-related fields of action.*

The climate issue is one of the greatest challenges we face. The atmosphere is a crucial Global Commons, **essentially unregulated**. It is the deposition sink for CO<sub>2</sub>, but it is under “stress”. CO<sub>2</sub> emissions come, in particular, from the use of fossil fuels. They are at the heart of industrialization and the production of wealth. The issue of justice associated with the emissions of CO<sub>2</sub> is multidimensional and complicated. The author still sees a chance for reaching the **2°C aim**, building on a pledge-based and not highly ambitious agreement for Paris at the end of 2015 (Radermacher, 2013a). This is to be combined with voluntary activities of the private sector (organizations, companies, individuals) under the motto of **climate neutrality** and the route to a new economic system. Issues of compensation of owners of huge carbon deposits, which no longer will be allowed to be exploited, must be addressed.

**Climate neutrality** should be developed as a major voluntary orientation line for private actors. This will require much more concern for agriculture, for dealing with soils, with waste water, and it will, in particular, involve a **global reforestation programme** on 1 billion hectares of degraded land in the tropics (Bonn Challenge & Radermacher, 2013a; World Resources Institute, 2010).

## Relation to other debates

### Limits to growth

In the Club of Rome, there is a long debate concerning **limits to growth** (Meadows et al., 1974; Randers, 2012). In the approach taken here, the limits to growth are consequences of the limits to the resource side and to the required social balance. If the proposed regime could be implemented, probably the result will be a **shrinking world population from 2050 onward**. There is every chance for more material growth in the sense of services and goods, where limitations will come from the sustainability requirement, as it is then incorporated into the global economic system, e.g. prices would finally tell the truth. As the use of the Global Commons will be taxed, and as all economic activities are taxed properly (eco-taxation), it will become possible to finance the required social transfer system, crucial for global and national balance. Hunger will be eliminated this way.

### Total decoupling

The issue of decoupling and total decoupling are incorporated massively. Because on the global level, prices are set right, i.e. they tell ecologically and (socially) the truth (von Weizsäcker et al., 2009). Also property rights for exploitation might be cancelled and compensated.

### Circular economy

Proposals concerning a circular economy or cradle-to-cradle approaches need no explicit debate in the approach chosen in this paper. In a sense, it is also **not important whether the economy is circular or not** (Stahel, 2010). The important thing is that we achieve sustainability and that we can do with the resources we have without problems for the environment or social balance and that we achieve social balance and global peace. It is to be expected that in order to get there, the economy will have to become more circular. But this is then an issue of markets which will do this job, if prices tell the truth. I.e. there is little need for political intervention on the level of technological alternatives of this type.

### Agriculture and feeding the world

There is much debate now about the future of agriculture and whether we can feed all people. A related issue is **overcoming poverty** (Yunus, 1999; Yunus & Weber, 2009). In the approach taken, this is handled again via the constraints. The social security systems will give every person enough money to purchase sufficient amounts of food. So, there is no principal problem any more with hunger. It will also mean that there is a certain share of food then going to all people in a way, guaranteeing that no one will starve. This will happen, because poor people would essentially be willing to give the respective part of their **(transfer) income** for that purpose and the social systems would take care that the income even of very poor people is big enough for that purpose. The power of the agricultural system is great enough, too. Already today, **we could feed 13 billion people** as vegetarians (Radermacher, 2013b, 2014).

### **Better agriculture and reforestation**

The link to **reforestation**, but also to agriculture from a CO<sub>2</sub> point of view, is coming from the constraints concerning climate (Biesalski, 2013; Radermacher, 2013a). The architecture of agriculture would have to be modified. Everybody would have enough food, while modifications would be such that concerning climate, agriculture would become much more climate-positive than it is today. This is in particular also true for cattle, if animals, much more than today, would essentially live on **grazing** and, by doing so, add to the formation of humus, thus taking CO<sub>2</sub> out of the atmosphere.

### **The current debate concerning the future of jobs**

As a consequence of always more intelligent systems and Big Data, many high qualified and well-paid jobs might be lost without replacement. In other words, the **“race between education and technology”** would eventually be lost for education (Brynjolfsson & McAfee, 2014; Goldin & Katz, 2010). As a consequence, we might lose the **middle class**, while the 1 percent property owners might get even richer. In the regime described, this would not happen and we would not move to a global two-class society, as the income distributions will politically be kept within the efficient inequality range. Taxations and transfers will be done in a way that in the end we have a reasonable distribution of incomes, independent of the question to what extent people with certain kind of education and skills are economically needed in the job system. The balance parameter will handle that aspect. Among others, the 20 percent highest incomes should not have more than a 50 percent share of total income and not less than 35 percent, while the lower 80 percent of incomes should have in total at least 50 percent and at most a 65 percent share of total income. **Eventually, machines would be taxed.** This is a most crucial element of future regulation as described in this text. Luckily, a balance parameter is already now part of **OECD’s Better Life Index**.

The danger for the balance parameter coming from asymmetric property as described by Piketty (2014) is also handled, namely by having respective bandwidths for income and property as well. All this requires, however, adequate global political innovations, i.e. an adequate global governance.

### **Balancing the income and wealth distribution in the form of the so-called efficient inequality range**

It has by now become clear that balance of income is the crucial issue for good working societies (Herlyn, 2012; Kämpke, 2009; Kämpke, Pestel, Radermacher, 2003; Kämpke & Radermacher, 2015). The author was involved in debates on this issue in research projects of the European research programmes in cooperation with the Club of Rome (Pestel & Radermacher, 2003). The issue is found in more detail in (Radermacher, 2004b). Very interesting in this context is (Wilkinson, Pickett, 2010), but also the important book of Stiglitz (2012). Important contributions go back to Atkinson, in particular the so-called Atkinson Theorem (Atkinson, 1970; Atkinson 2015). More details can be found in (Herlyn, 2012; Kämpke & Radermacher, 2015). The issue reached society in general with the important book of Piketty (2014) but also with the shift of OECD, IWF and others from a market-radical point of view to the **promotion of a social and inclusive economy**. In the governance proposal

made in this paper, balancing the income and the wealth distribution is probably the most crucial issue in this respect. It is in particular the instrument to deal with potentially very high losses of qualified jobs to always more intelligent machines.

### **Making property transparent and responsible**

The extreme accumulation of property in the hands of very few people, the resulting negative impacts on the proper balance of the income distribution, on the tax base of states, aggressive tax avoidance and others are all closely related to **huge intransparencies** in international economic activities, competition of states in prisoner's dilemma-like situations among each other and inhomogeneous rulings between different states (Piketty, 2014; Stiglitz, 2012; Zucman, 2015). There is a "black hole" in international money transfers. 4000 million Dollars disappear each year (Eichhorn & Solte, 2015; Solte, 2007; Zucman, 2014). What is needed is to make property and ownership transparent, at least to state authorities. This is the proposal of Piketty (2014) and Zucman (2014), which points to an absolute must for a better future: legal protection for property only to the extent it is transparent to state authorities. Developments in ICT make it easier to implement this.

### **Correspondence**

F. J. Radermacher

University of Ulm

Research Institute for Applied Knowledge Processing (FAW/n)

Forschungsinstitut für anwendungsorientierte Wissensverarbeitung/n (FAW/n), Lise-Meitner-Str. 9, 89081 Ulm, Germany

Tel: +49(0)731-50-39100

Fax +49(0)731-50-39111

E-mail: radermacher@faw-neu-ulm.de; franz-josef.radermacher@uni-ulm.de

### **References**

- Atkinson, Anthony B. (1970). On the measurement of inequality. *J. Econ. Theory* 2, 244-263.
- Atkinson, Anthony B. (2015). *Inequality. What can be done?* Massachusetts, USA: Harvard University Press.
- Atkinson, Anthony B., & Brandolini, A. (2014). Unveiling the ethics behind inequality measurement: Dalton's contribution to economics. *Working paper*. Oxford: Nuffield College.
- Biesalski, Hans Konrad. (2013). *Der verborgene Hunger – Satt sein ist nicht genug*. Berlin, Heidelberg: Springer-Verlag.
- Bonn Challenge. Retrieved on March 9, 2016, from <http://www.bonnchallenge.org/>
- Brynjolfsson, E., & McAfee, A. (2014). *The Second Machine Age – Work, Progress and Prosperity in a Time of Brilliant Technologies*. New York: W. W. Norton & Company.
- Bummel, A. (2005, Mai). Internationale Demokratie entwickeln – Für eine Parlamentarische Versammlung bei den Vereinten Nationen – Ein *Strategiepapier* des Komitees für eine demokratische UNO. Stuttgart, Germany: Horizonte Verlag.

- Daly, H. E. (2005). Economics in a full world. *Scientific American*, 293(3), 100-107.
- Eichhorn, Wolfgang & Dirk Solte. (2015). *Swellmoney & sustainability: Unriddle our destiny*. Tutzing, Germany: Global Marshall Plan Initiative.
- Frey, Armin. (2008). *Zielerreichung internationaler Verträge - Das Konzept Weltvertrag*. Baden, Germany: Nomos Verlag.
- Goldin, C., & L. F. Katz. (2010). *The Race between Education and Technology*. Cambridge, MA: Belknap Press.
- Herlyn, Estelle. (2012). *Einkommensverteilungsbasierte Präferenz- und Koalitionssanalysen auf der Basis selbstähnlicher Equity-Lorenzkurven – Ein Beitrag zur Quantifizierung sozialer Nachhaltigkeit*. Wiesbaden, Germany: Springer Gabler Verlag.
- Kämpke, Thomas. (2009). The use of mean values vs. medians in inequality analysis. *Journal of Economic and Social Measurement*, 35(1, 2), 43-62.
- Kämpke, T., Pestel, R., & Franz Josef Radermacher. (2003). A computational concept for normative equity. *European Journal of Law and Economics*, 15(2), 129-163.
- Kämpke, Thomas, & Franz Josef Radermacher. (2015). *Income Modeling and Balancing – A Rigorous Treatment of Distribution Patterns*. Switzerland: Springer Verlag.
- Kauppi, P.-N., Leinen, J., Watson, G., & Onesta, G. (2008). *The Case for Global Democracy – Advocating a United Parliamentary Assembly*. United Kingdom: Contract Printing.
- Küng, Hans. (2012). *Handbuch Weltethos – Eine Vision und ihre Umsetzung*. München, Germany: Piper Verlag.
- Lakoff, G. (2004). *Don't think of an Elephant! Know your Values and Frame the Debate*. Vermont: Chelsea Green Publishing.
- Mayer-Schönberger, V., & Cukier, K. (2013). *Big Data. A Revolution That Will Transform How We Live, Work and Think*. London: John Murray.
- Meadows, D., Meadows, D., Randers, J., & W. W. Behrens III. (1974). *The Limits to Growth. A Report to the Club of Rome's Project on the Predicament of Mankind* (1st ed.). NY: Universe Books.
- OECD. (2014, October). Synthesis Report on Data-driven Innovation for Growth and Well-Being. Retrieved March 9, 2016, from <http://www.oecd.org/sti/innodata-driven-innovation-interim-synthesis.pdf>.
- Pestel, Robert, & Franz Josef Radermacher. (2003). Equity, Wealth and Growth: Why Market Fundamentalism Makes Countries Poor. *Manuscript to the EU Project TERRA 2000*, FAW.
- Piketty, Thomas. (2014). *Capital in the Twenty-First Century*. Cambridge, MA: The Belknap Press.
- Radermacher, Franz Josef. (2004a). *Global Marshall Plan / A Planetary Contract. For a Worldwide Eco-Social Market Economy*. Hamburg: Global Marshall Plan Foundation (ed.).
- Radermacher, Franz Josef. (2004b). *Balance or Destruction: Ecosocial Market Economy as a Key to Global Sustainable Development*. Vienna, Austria: Ökosoziales Forum Europa (ed.).
- Radermacher, Franz Josef, & Bert Beyers. (2011). *Welt mit Zukunft – Die Ökosoziale Perspektive*. Hamburg, Germany: Murmann Verlag.
- Radermacher, Franz Josef. (2013a). Climate Policy after Doha – Turning Obstacles

- into Solutions. *Cadmus*, 2(1), 93-99.
- Radermacher, Franz Josef. (2013b). Wie können wir Food, Filet und Fuel versöhnen? *Forum Nachhaltig Wirtschaften*. Retrieved on March 9, 2016, from [http://old.forum-csr.net/scripts/basics/eco-world/wirtschaft/basics.prg?session=42f94e025462d004\\_441416&a\\_no=7131](http://old.forum-csr.net/scripts/basics/eco-world/wirtschaft/basics.prg?session=42f94e025462d004_441416&a_no=7131)
- Radermacher, Franz Josef. (2014). Humanity's Situation on Alimentation – Thoughts on a Highly Sensitive Topic. *Manuscript* FAW/n Ulm, (Translation of a German article „Die Ernährungssituation der Menschheit - Überlegungen zu einem brisanten Thema“. in: Kongressband “125 Jahre VDLUFA im Dienste von Landwirtschaft, Umwelt- und Verbraucherschutz. Berlin: Verband Deutscher Landwirtschaftlicher Untersuchungs- und Forschungsanstalten e.V., VDLUFA-Schriftenreihe 69, 18-27.
- Randers, Jorgen. (2012). *2052 – A Global Forecast for the Next Forty Years*. VT: Chelsea Green Pub Co.
- Schwartzberg, Joseph E. (2012). *Creating a World Parliamentary Assembly. An Evolutionary Journey*. Committee for a Democratic U.N.
- Solte, Dirk. (2007). *Weltfinanzsystem am Limit - Einblicke in den “Heiligen Gral” der Globalisierung* (1st ed. 2007, 2nd ed. 2009). Berlin, Germany: Terra Media Verlag.
- Stahel, Walter R. (2010). *The Performance Economy* (2nd ed.). Basingstoke, England: Palgrave Macmillan.
- Stiglitz, Joseph. (2012). *The Price of Inequality – How Today's Divided Society Endangers our Future*. NY: Norton & Company.
- The Earth Charter. (2008). The Earth Charter – A declaration of fundamental principles for building a just, sustainable, and peaceful global society in the 21st century. Brochure. Retrieved on August 18, 2015, from <http://www.earthcharter.org>
- von Weizsäcker, C. F., & G. Picht. (1964). *Bedingungen des Friedens*. Göttingen, Germany: Vanenhog und Ruprecht.
- von Weizsäcker & Ernst Ulrich. (1997). *Erdpolitik. Ökologische Realpolitik als Antwort auf die Globalisierung* (5th ed.). Darmstadt, Germany: Primus Verlag.
- von Weizsäcker, Ernst Ulrich, U.K. Hargroves, M. Smith, C. Desha, & P. Stasinopoulos. (2009). *Factor Five: Transforming the Global Economy through 80 % Improvements in Resource Productivity*. Oxford, UK: Taylor & Francis Group Ltd.
- Wilkinson, Richard, & Kate Pickett. (2010). *The Spirit Level. Why Equality is Better for Everyone*. London, UK: Penguin.
- World Resources Institute. (2014). Atlas of Forest Landscape Restoration Opportunities. Retrieved on March 9, 2016, from <http://www.wri.org/resources/maps/atlas-forest-and-landscape-restoration-opportunities>. Washington DC.
- Yunus, Muhammad. (1999). *Banker to the Poor: Micro-Lending and the Battle Against World Poverty*. NY: PublicAffairs.
- Yunus, Muhammad, & K. Weber. (2009). *Creating a World Without Poverty: Social Business and the Future of Capitalism*. NY: Perseus Books.