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The Future of Development Aid in a Globalizing World with Climate Change

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Abstract:

This essay reviews the state of knowledge about the connection of climate change and development aid in a globalizing world and makes three contributions. First, it opts for an integrated treatment of short-term aid, striving for the urgent fulfillment of basic human needs, and long-term aid, striving for economic development and self-dependence. Against the background of environmental degradation and climate change, it opts for an integrated treatment of the human-society-economy dimension and the biodiversity-nature-earth dimension as well. Second, it proposes a “global insurance for survival”, for which everybody on earth is eligible. Besides, it advocates the creation of a direct link between foreign aid and foreign direct investment, associated with international technology diffusion. Economic activities should be backed up by a global legal system focusing on labor, the environment and innovation. Within this system, everybody should be able to claim against firms at an international court. The legal system relaxes intellectual property rights of life-essential and environmentally friendly products in order to enhance technology diffusion. Third, this essay suggests to finance the integrated system of development aid via a globally unified tax imposed on all people and firms on earth above a threshold income level. As a central novel element, the allocation of aid project funding occurs on a market base with the help of a certificate trading system. This mechanism achieves efficiency and flexibility across the aid dimensions identified in the first step.

Keywords: foreign aid, foreign direct investment, absorptive capacity, certificate trading

JEL classifications: H23, F23, F35, F63

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The responsibility for the contents of this discussion paper rests with the author. Since discussion papers are preliminary, it may be useful to contact the author about results or caveats.

1. Introduction

Insufficient political and economic institutions have been identified as one reason for persistent poverty traps (Acemoglu and Robinson, 2010). In retrospective development aid, or in other words foreign aid, has been fundamentally criticized for not overcoming these poverty traps or even exacerbating the problem (Moyo, 2009). Looking into the future, the challenges for a successful aid strategy are even more complex than in the past. Climate change is one new giant challenge (Stern, 2006; IPCC, 2014) that strongly affects economic development (World Bank, 2010; Edenhofer et al., 2010). Nonetheless, the climate change challenge has insufficiently been addressed via foreign aid in the past. The academic literature on foreign aid and climate change is very limited as well. Kretschmer et al. (2011), as an exception, show that official development assistance (ODA) has reduced energy intensities, but not emissions intensities of developing economies.

Foreign direct investment (FDI) in combination with international technology diffusion (cf. Saggi, 2002) is one pathway for achieving “green growth” that combines economic development and preservation of the environment (cf. Smulders, 1999). Some developing countries, such as East-Asian economies, have been very successful in opening up for international trade, attracting FDI, absorbing advanced foreign knowledge and technologies, and achieving high rates of economic growth. As a result, they have been able to catch-up to industrialized countries in terms of economic development (cf. World Bank, 2008). On the contrary, other developing countries, such as Sub-Saharan African countries, have failed to catch-up to the industrialized countries (cf. The Economist, 2014). In this context, the improvement of the absorptive capacity¹ via foreign aid is a key for successfully proceeding on this pathway (cf. Keller, 1996; Hübler, 2011).

Against this background, the research challenge of this essay is the development of a global concept of future foreign aid that integrates socio-economic and environmental aspects from a short-term as well as a long-term perspective. This integration aims at global sustainability in the sense of Schellnhuber et al. (2010). The essay has a macro-economic perspective and crystalizes the main strata of an integrated future aid concept without dealing with the details of their practical

¹ In this context, absorptive capacity encompasses any factors that help an economy adopt foreign knowledge, such as education and skills, infrastructure, the legal system or the business environment.

implementation. The proposed concept draws on integration and flexibility in order to improve economic efficiency of aid efforts. Compared to Sachs' (2005) strategy of country-specific recipes rather than a one-fits-all solution, the proposed concept achieves specificity and flexibility on a market base. Drawing upon the experience in the climate policy domain, it proposes a global certificate trading scheme that allows for flexibility across aid agents and projects. Following the humanitarian (ethical) view (Bleisch and Schaber, 2007), basic human needs are fulfilled in a kind of "global insurance for survival", for which everybody on earth is eligible. Due to financial constraints, the level of support in this "global insurance for survival" is substantially lower than the minimum appropriate living standard for every citizen of industrialized countries, as sometimes proposed in the political debate and in the literature (cf. van Parijs, 2004). It also integrates the dimensions human-society-economy and biodiversity-nature-earth. Addressing Moyo's (2009) aid curse argument, the concept advocated by the following essay avoids economic dependence via the combination of foreign aid with private (foreign direct) investment and innovation. The essay's message is in line with Jakob et al. (2014) who argue that appropriate design and governance of climate finance will likely avoid negative effects on developing countries. Drawing upon the climate policy domain, the concept fosters international technology diffusion. It emphasizes the role of FDI and multinational enterprises (MNEs) in enabling investment and technology diffusion. It achieves compliance of MNEs via an international legal framework focusing on labor (cf. Heydenreich et al., 2014), innovation and the environment. The legal system relaxes intellectual property rights of life-essential and environmentally friendly products in order to enhance technology diffusion. Everybody on earth may accuse multinational firms at an international court in case of non-compliance. This global concept of foreign aid is financed based on a globally unified tax rate. Liability for taxation encompasses all firms and people above a minimum income threshold. The essay chooses a macro-economic bird's eye view in order to reveal interdependencies between macro-economic dimensions and to avoid inefficiencies that occur when aid strategies focus on separated goals, such as preserving a rain forest, but ignoring education and insufficient job perspectives of the local youth.

The essay proceeds in the following way. Section 2 explains the dimensions of future foreign aid and their interdependencies. Based on this, section 3 develops an integrated concept of future aid. Section 4 explains how aid is financed in this concept. Section 5 concludes.

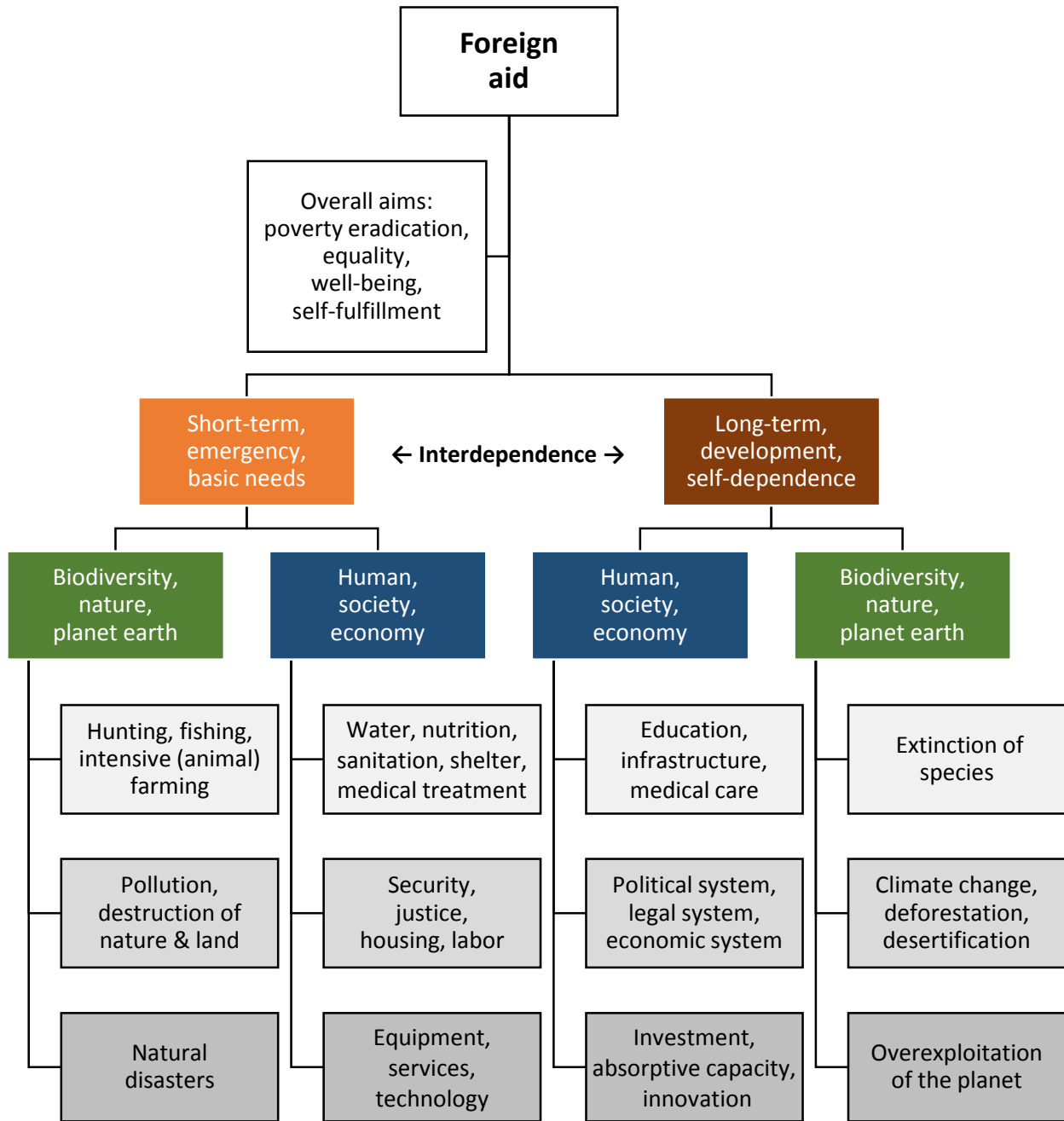


Figure 1: Interdependent dimensions of future foreign aid. The figure highlights key aspects of foreign aid without covering all relevant aspects.

2. Dimensions of future foreign aid

Poverty eradication, equality, well-being and personal self-fulfillment are deemed general goals of foreign aid. This section disentangles the underlying dimensions of foreign aid and their interdependencies. Figure 1 depicts the key dimensions and illustrates them with the help of examples. A clear understanding of these dimensions and interdependencies appears to be essential for designing an efficient integrated concept of future foreign aid. In this sense, the contents outlined in this section are part of the solution for a more effective global system of future foreign aid which will be developed in the consecutive sections. The first subsection opts for a better connection between the two dimensions short-term emergency, striving for the urgent fulfillment of basic human needs, and long-term development, striving for self-dependence and sustainability. The second subsection opts for a better integration of the two dimensions human, society and economy on the one hand, and biodiversity, nature and planet earth on the other hand.

2.1. Short-term urgency and long-term development: distinct but interdependent

Aid effectiveness has been questioned by a broad academic literature (cf. Tierney et al., 2011). The type of foreign aid scrutinized by this literature aims at long-term economic development. Hence, scholars attempt to measure its success with the help of economic indicators, often at the macro-level, such as per capita income or literacy rate. The economic success of foreign aid is, however, often not reflected by or measurable with the help of these indicators. In any case, decades of experience with aid for economic development call for fundamental improvement. For example, since foreign aid creates economic and political dependence of recipients on donors and donors may pursue specific interests via foreign aid (e.g. via so-called tied aid), self-dependence of recipients is essential in the long-term. The micro-level challenges for the practical implementation of foreign aid, such as corruption, are beyond the scope of the following analysis, though. This analysis identifies fundamental strata for improvement from a macro-economic point of view.

The public perception of short-term aid and its effectiveness, especially after natural disasters or civil wars, which are omnipresent throughout the media, is clearly better than that of

long-term aid. For example, a huge monetary volume of donations was collected after the Tsunami catastrophe in 2004. Different to the long-term dimension, successes in the short-term dimension are visible in the media and observable without sophisticated scientific methods. Despite the temporary public awareness of such catastrophes, a billion people are permanently in urgent need of water, food, medication, shelter and sanitation and struggle for survival with little public recognition or support.

Within the human-society-economy dimension, as displayed by Figure 1, short-term aid strives for the fulfillment of urgent basic human needs with the ultimate goal to help people survive and live in a humane way. Basic human needs include water, nutrition, sanitation, shelter and medical treatment. The persistent achievement of this short-term goal requires an adequate education system, infrastructure and medical care system in the long-term. If these long-term requirements are insufficient, the vulnerability to short-term shocks from the society-economy or nature-earth dimension will be high. Similarly, security, justice and well-functioning labor and housing markets in the short-term correspond to adequate and stable political, legal and economic systems in the long-term.

The strong interdependence of short- and long-term goals of foreign aid, as illustrated by Figure 1, is crucial with regard to refugees. According to the Refugee Agency of the United Nations, the global number of refugees has exceeded 50 million for the first time after Second World War. The European Union takes short-term action, not primarily to help migrants from Africa, but to repel them – and fails to envisage long-term solutions. Many politicians persistently ignore that the challenge of migration from the African to the European continent cannot be resolved via short-term activism, but only via wise long-term aid policy. This interdependence exists in the opposite direction, too. National and international migration of large parts of the population prevents the establishment of stable societal and economic structures that are prerequisites for successful long-term development. Homes, farms and factories are left, social structures are broken, brain drain effects occur, and so forth. Therefore, long-term strategies require the capability of successfully coping with short-term challenges, too.

The strong interdependence of the dimensions short- and long-term becomes crucial with respect to the climate change challenge. Immediate concerted action is required in order to reduce greenhouse gas emissions. The fruits of climate action will be harvested in the long-term when climate change damages will occur. If climate action, anticipating the long-term, is successful

today, future generations will face less occasions and lower costs of short-term action caused by floods, droughts etc.

What can we learn from the discussion of the short- and long-term dichotomy and interdependence? The current disconnection of short-term emergency aid and long-term development aid creates economic inefficiency. Although this essay does not provide empirical evidence, it seems that this disconnection is one reason for the limited success of development aid. And it seems that this disconnection is one reason for the high costs of short-term emergency action and the inability to resolve challenges like poverty-driven migration. Efficient short-term aid requires effective long-term aid and vice versa. This calls for an integrated concept that harmonizes short- and long-term targets across various agents involved in foreign aid.

2.2. Society and nature: naturally joint

The following subsection emphasizes the interdependence of the human-society-economy dimension (or simply society dimension) and the biodiversity-nature-earth dimension (or simply nature dimension) as depicted by Figure 1. So far, non-governmental organizations (NGOs) normally deal with either humanitarian or environmental issues. The climate change challenge highlights that this separation is not useful. Global economic activity generates greenhouse gases. The overuse of the atmosphere for the disposal of greenhouse gases will strike back in form of ecological and economic damages. The Stern (2006) review, for instance, estimates climate-change-related losses of up to ten percent of the global gross domestic product within this century. Hereby, the highest losses are expected to occur in developing countries.

Substantial contributors to greenhouse gases have been firms in industrialized countries. Firms are also responsible for local environmental degradation in combination with negative impacts on human health, e.g. through air or water pollution. Firms may destroy nature and displace people, for example through large-scale hydro power projects. The destruction of nature and the loss of biodiversity will negatively affect production and consumption possibilities of future generations. This includes opportunities for nature-seeking future tourism. Yet environmental degradation can also be caused by poverty and lack of alternative economic perspectives. For example, emissions created by primitive household cooking have been identified as a major short-

term cause of death via indoor air pollution (cf. Martin, 2011) as well as a contributor to long-term climate change and forest degradation. Climate change increases the likelihood of natural disasters like droughts, storms and floods that endanger humans, society and the world economy. This in turn exacerbates the refugee challenge, which governments are not even able to solve today. Though, poverty, tradition, lack of knowledge and of technologies in developing countries hinder the solution of the household cooking dilemma and require assistance. This creates a strong bidirectional interdependence between the nature and the society dimension.

What can we learn from the discussion of the society and nature dichotomy and interdependence? Like in the short-term-long-term case, the current disconnection of environmental and development aid and the undervaluation of the nature dimension result in economic inefficiency. Ignoring environmental changes and the destruction of the environment in aid-related decision making results in unnecessarily high costs and hinders sustainable development. It results in a mitigation of symptoms rather than a profound understanding and treatment of the underlying disease. Hence, not taking into account the nature dimension will substantially raise the costs of development aid. Like in the short-term-long-term case, efficient aid in the society dimension requires effective measures in the nature dimension and vice versa. This calls for an integrated concept that harmonizes short- and long-term targets as well as environmental, humanitarian and socio-economic targets.

3. An integrated concept of future aid

This section develops an integrated concept of future foreign aid that draws upon the insights of the previous section. The concept focuses on long-term development aid. Nonetheless, it includes the fulfillment of basic human needs, which has been introduced within the short-term aid dimension, as an essential requirement. Notably, the concept opts for the combination of foreign aid with private and public investment, especially with foreign direct investment, and with a global legal system. Figure 2 illustrates the integrated concept of future foreign aid that encompasses these aspects. The figure suppresses further aspects as detailed by Figure 1.

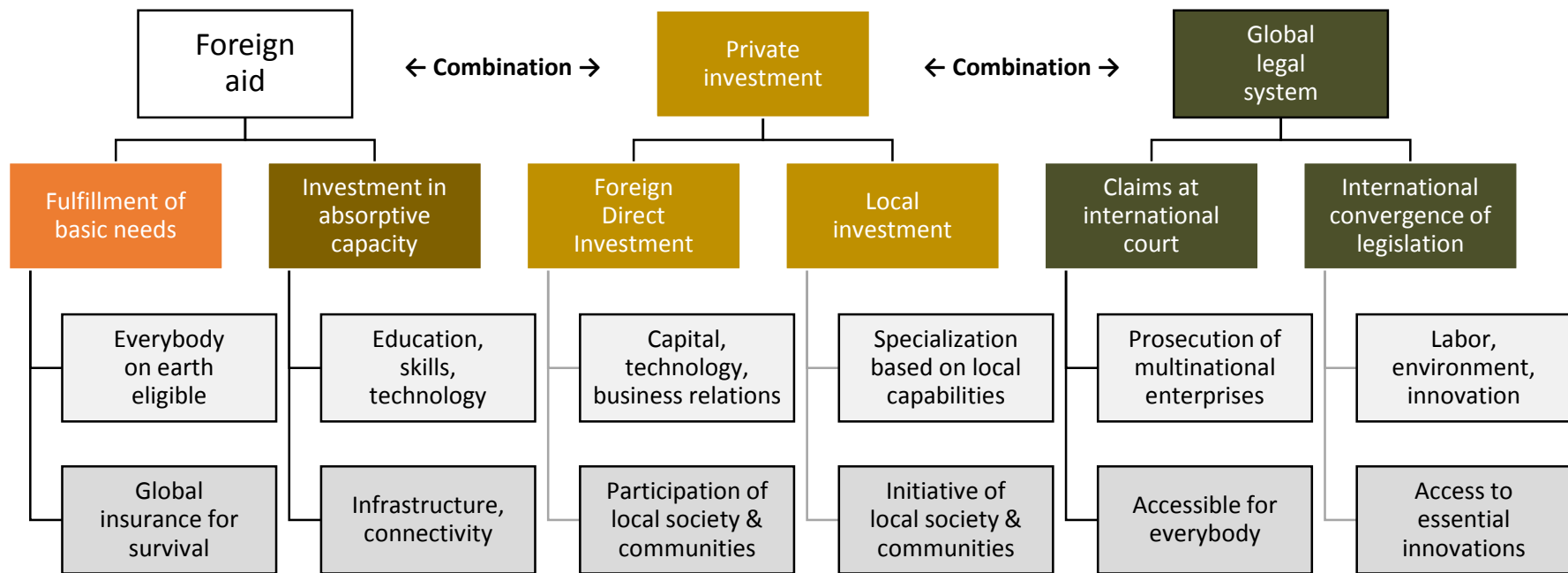


Figure 2: Integrated concept of future foreign aid. The figure focuses on the fulfillment of basic needs and the investment in absorptive capacity.

3.1. Fulfillment of basic human needs: a global insurance for survival

Independence is a target of long-term aid and refers to monetary and non-monetary independence from donors. Nonetheless, least developed countries are often incapable of fulfilling the essential human needs of their populations in situations of droughts, crop failures, epidemics or riots. Every day numerous children die due to under-nutrition and diarrhea although adequate foods are existing. People die due to yellow fever, malaria or aids, although the prevalence of these diseases and fatalities could be drastically reduced via information, vaccination, medication and practical measures and devices. Since the related costs can be deemed relatively low from the point of view of the industrialized countries, future generations may reproach us for our tentative behavior. It appears to be a moral obligation to provide at least minimum support so that everybody on planet earth has the chance to survive. Due to financial constraints, this support for survival in least developed countries must be substantially lower than the minimum appropriate living standard for everybody living in industrialized countries as sometimes proposed in the political debate and in the literature (cf. van Parijs, 2004). This implies that short-term aid with the aim to guarantee the life minimum should be integrated in the long-term aid dimension. Notably, the life minimum should not only be guaranteed when natural disasters or civil wars occur, but continuously.

To conclude, following a humanitarian point of view, this subsection opts for “a global insurance for survival”, for which everybody on earth, including children and elderly, is eligible. This “global insurance for survival” would improve the acceptability of our global civilization from a humanitarian (ethical) point of view.

3.2. Foreign aid plus investment: a private-public partnership

Developing countries that rely on natural resources may face a “Dutch disease” problem, i.e. the resource-based sector prospers at the expense of other sectors. Developing countries that rely on abundant cheap labor may face social problems, i.e. bad working conditions, unacceptably low wages and child labor. Yet the way from a factor-driven economy, drawing upon abundant natural resources or labor, via an efficiency-driven economy, investing in capital and technology adoption,

to an innovation-driven economy (following the notion of the World Economic Forum, Porter and Schwab, 2009) is challenging and requires investments in physical capital as well as in the domain of education, skills and technology. It requires private investment, from domestic and foreign sources, and public investment, where private investments are absent due to high risks, uncertain revenues or large investment volumes.² The involvement of private investment leads to independence from donors and creates own economic capabilities and comparative advantages. This is hardly achievable via foreign aid alone. Notwithstanding, foreign aid plays an important role in creating an attractive environment for (international) investors and innovators. This is why investment in the absorptive capacity has a central position in Figure 2.³ The absorptive capacity can be improved via foreign aid directed to education, skills, technologies and related knowledge. It can furthermore be improved via aid directed to infrastructure and connectivity. Therein, access to information and telecommunication technologies and the Internet play a central role in the information age. The absorptive capacity creates a direct link between foreign aid and private investment as depicted by Figure 2.

Private investment encompasses foreign direct investment (FDI) and local (domestic) investment. FDI has the advantage of transferring advanced technologies, knowledge and skills (cf. Saggi, 2002) and creating international business relations. International technology and knowledge diffusion – as well as economic openness as their prerequisite – are commonly viewed as key drivers of economic development and international convergence of per capita income (Grossman and Helpman, 1991). Given a sufficient absorptive capacity, functioning international investment together with international technology diffusion can avoid or remedy a poverty trap situation (cf. Hübler, 2011). Hence, by supporting foreign direct investment, foreign aid can actively contribute to international technology and knowledge diffusion. Local investment, on the contrary, allows specialization based on local natural and socio-economic capabilities. Furthermore, in the case of local investment, the initiative for starting a new business may directly originate from the local community based on its interests, needs and capabilities. This increases the likelihood of economic success. With respect to FDI, experiences in developing countries tell us that the local population can in many cases not participate in or benefit from the activities of multinational enterprises

² The difference between public investment and governmental aid is that public investment can originate from abroad as well as from the domestic public budget and that public investment may or may not be revenue-oriented (e.g. education expenditures versus state-owned enterprises).

³ Absorptive capacity also appears as a sub-aspect of the human-society-economy dimension in Figure 1. For a theoretical analysis of the role of absorptive capacity in economic development see Keller (1996).

(MNEs). On the contrary, the local population often suffers. This leads to the third domain of an integrated future aid system visualized by Figure 2, which will be discussed in the following subsection.

To conclude, economic self-dependence of developing economies as an ultimate goal of foreign aid, requires support of (international) investment and technology diffusion via aid directed to factors that improve the absorptive capacity, such as education, skills and infrastructure.

3.3. Not just money but justice: a global legal system

The discussion of the previous section was in favor of attracting foreign direct investment (FDI) by means of foreign aid. On the one hand, multinational enterprises (MNEs) that carry out FDI can induce substantial economic benefits for the local population via jobs, goods, energy, technologies, knowledge, profits and taxes (for a discussion of costs and benefits of attracting FDI see Hanson, 2001). On the other hand, the broad local population is often excluded from the benefits of MNEs. Economic growth may be enhanced and social elites benefit, whereas the poor are left behind. As a result, inequality rises. On the contrary, there are substantial dangers for the local population. Their traditional living environment is sometimes spoilt or destroyed so that they are forced to leave their traditional environment. If they stay, environmental pollution may endanger their health. If people decide to work for a MNE, wages are often low and working conditions bad, restrictive and detrimental for workers' health. Therefore, a foreign aid strategy that supports MNEs under all circumstances would be naïve.

A possible solution is that foreign aid, which attracts (international) investors, is backed up by a reliable global legal system. If a fully unified legal system cannot be achieved for political reasons, or if it cannot be achieved in all relevant legal areas, at least international convergence of national legislation should be fostered. Crucial foci are working conditions and environmental regulation. Common problems like child labor, extensive working hours, working with poisonous substances or the disposal or emission of pollutants would be legally regulated on a common global level. The existence of laws does not guarantee compliance, though, and the surveillance of compliance is hardly possible on a global level. As a consequence, everybody who feels illegally and significantly impaired by activities of MNEs must have the opportunity to take legal action.

Because local courts might be biased, the establishment of international courts, specialized in global law, is the preferable option. These courts must be accessible for everybody. This implies that there are no restrictive financial or intellectual impediments. Notably, the legal possibility of prosecuting a MNE in the sense of a juristic person needs to be introduced (cf. Heydenreich et al., 2014). To date, prosecution beyond private claims is in general only possible against real persons. MNEs are no real persons and often subject to complex international corporate structures so that it is not clear, which country's law is applicable and which court is responsible. The possibility to prosecute MNEs directly based on international law would substantially ease and fasten court procedures and create an effective instrument for achieving compliance.

Another crucial area for improvement in the juristic domain is innovation and the international diffusion of technologies, or in other words international technology transfer. Innovators need the guarantee to receive an adequate revenue for their research and development (R&D) costs and efforts. Otherwise, missing incentives will reduce R&D efforts and international technology diffusion (cf. Branstetter et al., 2006) – at the expense of society. This requires a global guarantee of intellectual property rights, in other words, patent protection. Notwithstanding, international technology diffusion is viewed as a key driver of international development. As a consequence, immoderately strict and long-lasting patent protection can hinder economic development and counteract aid efforts. This is especially true in the domain of life-essential and environmentally friendly products like pharmaceuticals, advanced climate resistant crops, low-polluting cook stoves or low-carbon electricity generators. The poor cannot afford expensive high-tech products, and it is not the responsibility of foreign aid to finance excessive profit margins of innovators. Hence, a compromise between subsidizing high-tech products and relaxing patent protection appears reasonable so that the neediest have access to life-essential and environmentally friendly products. If technologies are available in industrialized countries, but inaccessible in low-income countries, costs of foreign aid will rise. This creates another avoidable inefficiency. Therefore, it is inevitable to take innovation and international technology diffusion into account when designing a strategy for future foreign aid.

To conclude, international investment and technology diffusion need to be accompanied by an equalized global legal framework – or at least convergent national regulations – covering the core areas of labor markets, environmental regulation and intellectual property rights.

Notwithstanding, the poor need access to life-essential and environmentally friendly products and embodied technologies. Otherwise, intellectual property right will counteract aid efforts.

4. Financing future foreign aid with flexibility

Section 2 has outlined the dimensions of foreign aid. Section 3 has highlighted two main tasks of foreign aid, the fulfillment of basic human needs in a kind of “global insurance for survival” and the creation of absorptive capacity in order to attract (foreign) investors and innovators.

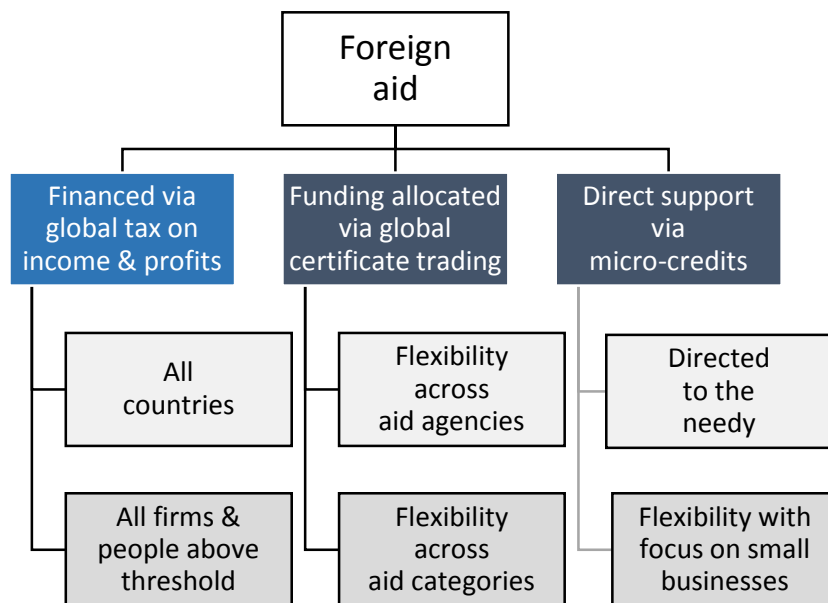


Figure 3: Financing short- and long-term aid. The figure highlights recent economic instruments that enable flexibility and efficiency.

The consecutive inevitable question is how to finance such an ambitious global system of foreign aid. This section not only answers this question, it also proposes an efficient mechanism for the

distribution of aid funding. The detailed challenges of the practical financial and political implementation are, however, beyond the scope of this macro-level discussion.

4.1. Financing short- and long-term aid: a global tax on income and profits

The empathy reflected by private charity donations is highly commendable. Yet it does not appear just. Those who contribute to environmental degradation and social harm, such as multinational enterprises (MNEs), have no obligation to directly contribute to foreign aid. Indirectly, they have the obligation to pay corporate taxes which in turn finance official development assistance (ODA). But current governmental aid expenditures are by far insufficient for financing an integrated global aid system. Therefore, section 3.2 favors aid that supports private (foreign direct) investment and innovation. This implies an indirect subsidy for MNEs. Against this backdrop, it appears economically reasonable that those who benefit from aid also contribute to financing it.

A just way of financing future foreign aid could be a globally harmonized tax on people's income and firms' profits. The tax revenues could be collected within the income and corporate tax schemes existing in each country. The focal point is to harmonize the aid-related tax rate on a global level.⁴ Liability for taxation should not be restricted to industrialized donor countries, because many developing countries are subject to high inequality with a high-income elite and large, profitable enterprises at the top. Citizens below a certain threshold income level, i.e. a poverty line, in all countries, no matter deemed industrialized or developing, need to be exempted from the tax. Clearly, the practical implementation of any globally harmonized system, no matter legal or financial, is difficult and requires a long time horizon. Nevertheless, the proposed tax represents a promising target under the premise of global equity and fairness.

4.2. Allocation of aid funding: a global aid certificate trading system

Despite the controversy about the effectiveness of micro-finance (cf. Hermes and Lensink, 2011), Figure 3 depicts micro-credits as a flexible mechanism of directly supporting the needy, in

⁴ Specific national design of the tax system and international tax competition are unaffected.

particular small-scale enterprises in developing countries. One criticism of micro-finance is its inability to reach the poorest. In this respect, the “global insurance for survival” proposed by section 3.1 is the means to fulfill basic human needs. Micro-finance goes beyond that by fostering self-dependent economic development.⁵

The current landscape of foreign aid provision is manifold. It includes official development assistance (ODA) by governments, covering numerous fields and purposes, and non-governmental organizations (NGOs), specialized in diverse fields such as environmental protection, human rights, medical care, nutrition etc. The previous sections emphasize the interdependencies between these domains and dimensions and opted for an integrated concept of future foreign aid. Nonetheless, a global central planner system of aid appears utopic and hardly implementable. Instead, an economic framework that integrates the relevant dimensions and enables flexibility of funding across the dimensions and across time appears to be a feasible and efficient option. The idea is borrowed from the climate policy domain, where emissions trading systems have been implemented in practice, prominently in form of the European Emissions Trading Scheme (EU ETS).

Some details and examples may illustrate how a market-based certificate trading scheme can work. On the certificate supply side, there are agencies, governed by the global aid system, that define and offer aid projects. They receive a specific total number of aid certificates as endowments, financed via the global tax system as discussed in the previous subsection. The performance of these agencies is monitored by the global aid system; and future endowments take past performance in project definition into account. The aid projects cover different dimensions, short- and long-term, society and nature, and offer a certain number of certificates depending on the importance of the project and the related costs. The definition of the importance of projects requires interdisciplinary expert judgment. For example, saving one hectare of Amazon rain forest offers W certificates. Carrying out a yellow fever vaccination campaign for thousand people in central Africa offers X certificates. Installing ten water wells offers Y certificates. Paying a teacher in Southeast Asia for one year offers Z certificates, and so forth. Yet the final number of certificates

⁵ A more detailed discussion of the advantages and disadvantages of micro-finance can be found in the literature (cf. Hermes and Lensink, 2011).

is subject to bargaining between the agencies defining aid projects and offering certificates and agents carrying out projects and demanding certificates.

On the certificate demand side, eligible aid agents, i.e. governmental or non-governmental organizations or private persons, can demand certificates. These aid agents must initially apply for eligibility and succeed in a rigorous test procedure. Any eligible aid agent can then apply for each project considering its capabilities and bargain over the number of provided certificates (W, X, Y, Z in the examples). In theory, the monetary value of the agreed number of aid certificates for an aid project will exactly reflect the costs of carrying out the project, which are revealed within the bargaining or auctioning process. When successfully carrying out an aid project, the agent receives the agreed number of certificates. Additionally, aid agents may receive an initial endowment of aid certificates from the global aid system in order to finance their fixed costs and to support their work. The endowment is based on the size of the organization and the past performance in carrying out aid projects. The agents can either exchange certificates for real money that they require for their project work and for investments at the global aid agency. Or they can sell certificates to other agents and forward the associated tasks to them. As a result, a unified market price for aid certificates will emerge that equates supply and demand of certificates. Aid categories or projects that are currently deemed urgent and important will offer a large number of certificates. Furthermore, aid categories or projects with high long-term benefits will offer a large number of certificates. This results in an efficient allocation of certificates across aid categories, such as social and environmental, as well as short-and long-term goals. Figure 4 summarizes and illustrates the global aid certificate system. It shows that agents can carry out aid several projects across various dimensions of aid.

The certificates act as a kind of intermediating currency, and the certificate market works like a stock market. What are the advantages? The price for aid certificates will rise if there is more demand for aid projects of any kind. This will attract more aid agents based on market incentives rather than regulation. If policy makers want to increase total foreign aid or if more financial means become available or if there is high demand for carrying out aid projects by a large number of aid agents, additional aid certificates can be fed into the market. This will, however, lower the certificate price and lead to a new market equilibrium.

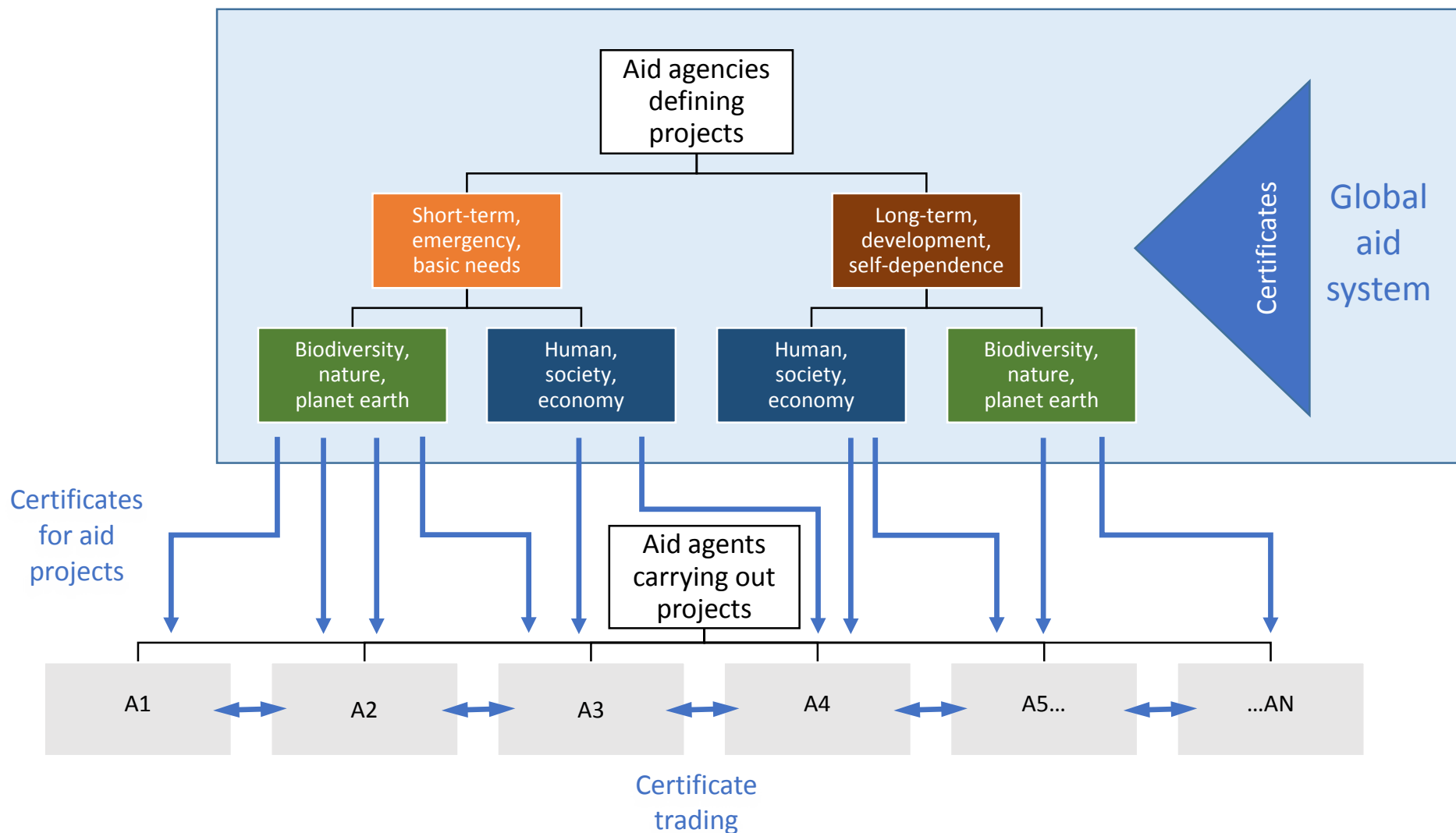


Figure 4: Global aid certificate trading system. The figure illustrates the flexible allocation of funding across the different dimensions of foreign aid.

If policy makers want to raise the price for aid certificates, because there are too few aid agents demanding certificates, policy makers can buy certificates and exclude them from the market. This policy intervention will attract more aid agents and eventually lower the certificate price until a new equilibrium is reached. Hence, in contrast to normal pricing, the certificate system offers more room for policy intervention that affects the overall aid system. Furthermore, the price for certificates is basically independent from the value of a standard currency such as the US-\$. This makes it more independent from speculation and fluctuations on financial markets, given that speculation on the price for aid certificates is prohibited. Consequently, compared to standard pricing, say in US-\$, the global aid certificate system improves flexibility, independence from other currencies, transparency and the possibility for policy intervention. Notably, it achieves economic efficiency across aid categories and time. Nonetheless, as in the climate policy domain, a unified global mechanism is difficult to bargain and to govern. Therefore, conventional project-based types of financing foreign aid and micro-finance need to coexist with the certificate trading system, especially within a transition phase that aims at a comprehensive global certificate trading system.

In summary, based on the previous analysis of interdependencies of future aid dimensions and the integrated concept of future aid, this subsection puts forward a unified global certificate trading scheme that allows for market-based flexibility across aid agencies and aid categories along the dimensions short- and long-term as well as nature and society.

5. Conclusion

The global concept of future foreign aid proposed in this essay integrates the human-society-economy dimension and the biodiversity-nature-earth dimension. It integrates the short-term and the long-term dimension as well. This integrated view has particularly become important with respect to the climate change challenge. The concept includes the fulfillment of basic human needs so that everybody on earth has the chance to survive.

The concept further includes the combination of foreign aid with private investments, especially foreign direct investment (FDI), so that economic dependence on donors and the “aid curse” are avoided. Within the concept, the activities of private investors, in particular

multinational enterprises (MNEs), are subject to a globally harmonized legislation, applied by international courts. FDI and multinational enterprises are strongly related to international trade. Since the essay focuses on foreign aid, it does not discuss trade policy reforms. Nevertheless, trade liberalization is crucial for enabling developing countries free and fair access to international markets. Trade liberalization has been discussed and postulated for decades, but failed because of strong political interests reflecting power and benefits of established interest groups like the European agricultural sector. Future support for developing countries will, however, only be efficient if the global aid system is accompanied by global trade reforms.

The integrated aid system is financed based on a globally harmonized tax rate. An important new element introduced by this essay is an aid certificate trading system. The certificate trading system helps allocate the financial resources that have been collected via the tax efficiently across the dimensions society and nature as well as short- and long-term.

This integrated concept of future foreign aid is ambitious and covers several areas. It has a macro-economic view based on economic efficiency and leaves the political challenges as well as the micro-economic challenges of the practical implementation open for future research. Notwithstanding, it highlights the ultimate goals of future foreign aid and sketches a pathway that leads towards them. When proceeding on this pathway, our planet will hopefully become a more humane and sustainable place.

References

Acemoglu, D. and J.A. Robinson (2010). Why is Africa Poor? *Economic History of Developing Regions* 25(1), 21–50.

Bleisch, B. and P. Schaber, eds. (2007). *Weltarmut und Ethik*. Ethica, Mentis Verlag, Paderborn, Germany.

Branstetter, L.G., R. Fisman and C.F. Foley (2006). Do Stronger Intellectual Property Rights Increase International Technology Transfer? Empirical Evidence from U.S. Firm-Level Panel Data. *The Quarterly Journal of Economics* 121(1), 312–349.

Edenhofer, O., J. Wallacher, M. Reder and H. Lotze-Campen, eds. (2010). *Global aber gerecht – Klimawandel bekämpfen, Entwicklung ermöglichen*. C.H. Beck, Munich, Germany.

- Grossman, G. and E. Helpman (1991). *Innovation and Growth in the Global Economy*. MIT Press, Cambridge, MA, USA.
- Hanson, G.H. (2001). Should Countries Promote Foreign Direct Investment? United Nations Conference on Trade and Development, Center for International Development, *Harvard University G-24 Discussion Paper Series*, Harvard, USA.
- Hermes, N. and R. Lensink (2011). Microfinance: Its Impact, Outreach, and Sustainability. *World Development* 39(6), 875–881.
- Heydenreich, C., A. Paasch, J. Kusch, S. Gehrman-Vollenweider, J. Otten and K. Schilder (2014). *Globales Wirtschaften und Menschenrechte: Deutschland auf dem Prüfstand*. Germanwatch and Misereor, Berlin, Germany.
- Hübler, M. (2011). Avoiding the Trap: The Dynamic Interaction of North–South Capital Mobility and Technology Diffusion. *The Journal of International Trade and Economic Development* 20(3), 401–427.
- IPCC (2014). Summary for policymakers. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability*. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, Cambridge, UK and New York, USA.
- Jakob, M., J.C. Steckel, C. Flachsland and L. Baumstark (2014). Climate finance for developing country mitigation: blessing or curse? *Climate and Development*, DOI: 10.1080/17565529.2014.934768.
- Keller, W. (1996). Absorptive Capacity: On the Creation and Acquisition of Technology in Development. *Journal of Development Economics* 49, 199–227.
- Kretschmer, B., M. Hübler and P. Nunnenkamp (2013). Does Foreign Aid Reduce Energy and Carbon Intensities of Developing Economies? *Journal of International Development* 25(1), 67–91.
- Martin II, M.J., R.I. Glass, J.M. Balbus and F.S. Collins (2011). A Major Environmental Cause of Death. *Science* 334, 180–181.
- Moyo, D. (2009). *Dead Aid: Why Aid Makes Things Worse and How There is Another Way for Africa*. Penguin Books, New York, USA.
- Sachs, J.D. (2005). *The End of Poverty: Economic Possibilities for Our Time*. The Penguin Press, New York, USA.
- Saggi, K. (2002). Trade, Foreign Direct Investment, and International Technology Transfer: a Survey. *The World Bank Research Observer* 17(2), 191–235.
- Schellnhuber, H.J., M. Molina, N. Stern, V. Huber and S. Kadner, eds. (2010). *Global Sustainability – A Nobel Cause*. Cambridge University Press, New York, USA.
- Smulders, S. (1999). Endogenous growth theory and the environment. In: J. van den Bergh (ed.), *Handbook of Environmental and Resource Economics*, Edward Elgar Publishing, Cheltenham, UK and Northampton, MA, USA, 610–621.
- Stern, N. (2006). *Review on Climate Change*. HM Treasury, London, UK.

The Economist (2014). Hold the catch-up. *The Economist*, London, UK, September 13th 2014, 15–16.

Tierney, M.J., D.L. Nielson, D.G. Hawkins. J.T. Roberts. M.G. Findley. R.M. Powers, B. Parks, S.E. Wilson and R.L. Hicks (2011). More Dollars than Sense: Refining Our Knowledge of Development Finance Using AidData. *World Development* 39(11), 1891–1906.

Porter, M.E. and K. Schwab (2009). *The Global Competitiveness Report 2008–2009*. The World Economic Forum, Geneva, Switzerland.

Van Parijs, P. (2004). Basic Income: A Simple and Powerful Idea for the Twenty-first Century. *Politics and Society* 32(1), 7–39.

World Bank (2008). *Global Economic Prospects 2008: Technology Diffusion in the Developing World*. The World Bank, Washington, DC, USA.

World Bank (2010). *World Development Report 2010: Climate and Development*. The World Bank, Washington, DC, USA.