"Common, but Differentiated Responsibilities" in a new international climate regime based on cumulated per-capita emission rights

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Abstract

Climate change is one of the most severe global problems in the 21st century. Worldwide problems such as the global financial crisis of 2008/2009 seem to be only transitional issues. However, global climate change is a long-term problem requiring long-term policies and measures to deal with. Main drivers are the combustion of fossil fuels, the emissions of industrial gases, emissions from agricultural sites and animal husbandry as well as deforestation which increased dramatically since the beginning of the industrial revolution in the mid 18th century. These drivers lead to an increase of mean surface temperature and different changes in the global climate system, especially changes in extreme weather and climate events, and a warming of the oceans, ice mass loss, and sea level rise. Impact of climate change is on ecosystems, food production, costal erosion, industry settlements and society, water supply etc. China and India are vulnerable to these impacts, especially in coastal regions. A new cooperative climate regime is necessary to meet the world's energy and environmental problems against the background of China's and India's energy consumption growth.

The new regime has to be founded on the principle of "common but differentiated responsibilities". It is one of the cornerstones of sustainable development and the sharing of the burden of emission reductions between countries. "Common but differentiated responsibilities" are based on the equality principle, the polluter pays principle and the ability to pay principle. In the UNFCCC Kyoto Protocol, this principle was taken into account through an exclusive quantitative reduction obligation for the industrialized countries. However, the world has changed since the Kyoto Protocol came into force:

- Annex I countries are responsible for the majority of historical emissions
- Non-Annex I countries, notably China, are responsible for most of the additional emissions in the future

Different approaches have been discussed how to design the new climate regime (Contraction and Convergence; Soft Landing in Emission Growth; Global Preference Score Approach; the 'Brazilian Proposal'; Ability to Pay and a Multi-Stage Approach. The currently discussed approaches, however, have a common weakness that

(a) they do not acknowledge the historical responsibilities of the industrialized countries for the historical greenhouse gas emissions and the responsibility of developing countries for a large fraction of the future emissions, and
(b) they do not provide for a fair distribution of emissions.

The proposed new climate regime is based on cumulative CO_2-emissions rights per capita. It differs from the "Brazilian" approach as it is based on a per-capita distribution of CO_2-emissions rights rather than an absolute budget.

The proposed post Kyoto regime allocates emission rights to every person on Earth to an amount of 247 resp. 355 $t_{CO2,cum}$ as a budget for each individual of a country in the world just allowing for the stabilization of a 400ppm (247 $t_{CO2,cum}$ – 450 ppm (355 $t_{CO2,cum}$) concentration of CO_2 in the atmosphere based on cumulative CO_2-emissions since 1750. The CO_2-concentration of 400-450 ppm can be translated into an acceptable 2°C increase of global mean temperature with a probability of 75% to 50% and assumes that the 1.5°C target of the UNFCCC Paris Agreement most probably will not be reached. The end of 2007 marked the beginning of the budget period of the Kyoto Protocol. The final

reference year for the population must be determined politically. A fixed reference year of the population is important, otherwise an increasing population over time would lead to an increase in a country's budget.

The new international climate regime corresponds with principle of common but differentiated responsibility:

- **Principle of equality** (shared ownership of the climate -> shared responsibility and equal per capita emissions budget)
- **Polluter pays principle** (inclusion of historical emissions)
- **Efficiency principle** (different time limits for achieving the emissions budget)
- **Adequacy** (calculation based on cumulated per capita emission allowances)

However, there are still challenges for all countries: E.g. China will reach (depending on the scenario) CO2-emission budget 2025-2038. Annex I countries must reduce their cumulative CO_2-emissions to 1950 levels on average. Technically, it is possible through "negative emissions": Renewable energies plus carbon storage.

To implement such as system, political hurdles have to be overcome. A cumulative emission approach provides a larger financial burden for the Annex-I countries. The fear of negative implications for the domestic industry may be reasonable. However, the private investments in green energy may also provide for a considerable increase in employment in these countries. In addition, the global financial crisis of 2008 or the current war in the Ukraine shows that governments are also willing to spend huge amounts of finance to mitigate their negative impacts. As for climate change, it is obvious that the later the emission reduction is started, the more expensive it is for everyone.

But assuming constant CO_2-emission reduction costs of 50 US$ per ton, the mitigation of climate change for the Annex- I countries would be costly, about 34 trillion US$ (400 ppm) resp. 27 trillion US$. Per capita, however, these are between 20,000 and 26,000 US$, about two to three times, e.g. the German government reserved as guarantees and government spending for the international financial crisis in 2008 and roughly corresponding to the total German national debt per capita (26,500 Euro). The investments of other Non-Annex-I countries such as China have not even been taken into the calculation. China and other newly industrialized countries have to take a much larger share in global climate change mitigation investments.

Management Mediation in China:
Case-Experience, Theory and Avenues for Future Research.

Abstract:
China is becoming increasingly important for the German economy. Conflict management is an important issue for the Chinese economy. Currently, many critical voices in Germany arise towards China, arguing Germany should separate economically with China. This political framework leads to increased conflict between managers from different cultures (such as from Germany and from China). This presentation focuses on the challenges, prerequisites and applicability of western mediation methods as a tool for conflict management in China. It discusses cultural issues. Possible other influencing factors such as gender and hierarchy are of interest. Two real-life case studies are used to generate theory and lay out new directions and hypotheses of empirical research.

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Concentration and Co-Location of Retail Stores in Germany –
An empirical Study using Data from Social Networks

Sascha Frohwerk[1] [2]

Abstract

A good location is one of the most important success factors for any retail store. While we observe some types of stores distributed over space, some others are clustered together. The aim of this paper is to identify retail services that tend to cluster with similar stores and also with other types of stores. With the emergence of new datasets, in our case Google Places, micro data is available at large scale and in good quality facilitating the application of more sophisticated algorithms.

First, we discuss different measures of concentration like Ripley's K-function[3] and the Kd-function by Duranton & Overman (2005) and apply them to data of different areas in Germany. Then we use intertype functions to identify co-location patterns of different types of retail services.

We can clearly show that concentration patterns differ between different types of stores. For example, grocery stores are far less concentrated than clothing stores. We also find that certain types of stores tend to co-locate, even if the concentration is low (e.g., automobile dealers and furniture outlets).

This research contributes to two different areas. One is the topic of the optimal retail location. This is dominated by the gravitation model by Huff (1964) and different types of logit models. Both propose a distribution of shops over the area since they only take the competition effect into account, but not the agglomeration effect of a location. The other topic is spatial planning. Understanding co-location patterns helps to plan business areas that are attractive to customers. Vital central business districts are important for communities, especially with the raise of ecommerce. To our knowledge the are only studies of this type from Sweden available[4] while his paper provides insights into the German market. At the same time, it demonstrates the usage of innovative community contributed data.

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