Chapter 15
Emissions Distribution in Post-Kyoto International Negotiations:
A Policy Perspective

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ABSTRACT

An abundant scientific literature about climate change economics points out that the future participation of developing countries in international environmental policies will depend on their amount of pay offs inside and outside specific agreements. Though these contributions represent a corner stone in the research field investigating future plausible international coalitions and the reasons behind the difficulties incurred over time to implement emissions stabilizing actions, they cannot disentangle satisfactorily the role that equality plays in inducing poor regions to tackle global warming. Scholars recently outline that a perceived fairness in the distribution of emissions would facilitate a wide spread participation in international agreements. In this chapter the authors overview the literature about distributional aspects of emissions by focusing on those contributions investigating past trends of emissions distribution through empirical data and future trajectories through simulations obtained by integrated assessment models. They will explain methodologies used to elaborate data and the link between "real data" and those coming from simulations. A particular attention will be devoted to the role that technological change will play in affecting the distribution of emissions over time and to how spillovers and experience diffusion could influence equality issues and future outcomes of policy negotiations.

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INTRODUCTION

The Conference of Parties in Copenhagen at the end of 2009 represents a crucial step for future negotiations about emissions stabilizing policies. The world is facing one of the biggest challenges to development that has never experienced in the past: the strong environmental and socioeconomic problems deriving from global warming caused by economic activity. A wide majority of scientists and policy makers agree on the fact that if appropriate policies will not be implemented within a reasonable lapse of time, the human kind could experience disasters that will strongly affect standards of life of future generations. If we consider the Brundtland's Report definition (WCED, 1987; p. 43) of sustainability according to which sustainable development is intended as a form of development that satisfies "the needs of the present generation without compromising the ability of future generations to meet their own needs" we can understand why weak and fragmented actions against global warming can lead to undesirable growth paths.

Within this perspective the priority is to set up the most effective policies to curb the increasing trend of emissions over time that until now does not appear to stabilize yet. A strand of literature in environmental economics refers to the well known Environmental Kuznets Curve (EKC) hypothesis. The prior idea behind this concept (Grossman and Krueger, 1991) is that if we are able to identify a bell shaped relationship between the level of income and pollution and a turning point beyond which the level of emissions begins to decrease the best way to deal with environmental problems is to foster growth (see Figure 1). Though some EKC evidence has been found for many pollutants, evidence is very weak for pollutants generating climate change (Figure 2).

One of the main reasons would mainly lie in the public good nature of clean air. In other words, all countries face an incentive to "free ride" by enjoying positive externalities deriving from emissions reduction policies without bearing the relative costs (Ansuategi and Escapa, 2002). If we focus on the Stern Review findings stressing that climate change will generate heavy damages and policy actions will be costly in a finite time horizon, we understand why there is a great incentive to "free ride" in order to exploit benefits from emissions reduction efforts of others. The reluctance of poor countries in joining international agreements is mainly supported by historical responsibility of rich regions in generating atmospheric carbon concentration, whereas rich countries claim that emissions stabilizing policies will be effective only when developing countries will join them.

The main finding of the EKC in a context of increasing emissions is that growth is not the best tool to deal with global warming, but appropriate policies are needed to reach a turning point in the relationship between income and emissions.

As mentioned by the scientific literature (Cantore and Canavari, in press), the main problem concerning climate change policies is that to reduce effectively the level of emissions a very strong condition is needed: the involvement and a high reduction burden for developing countries. This finding seems to meet the main concern raised by the past Bush American administration claiming that a USA participation in climate change international policies would depend on a strong commitment of emerging areas in meeting pollution mitigation constraints. The involvement of Annex B[1] countries in emissions stabilizing policies that created the conditions for the signature of the well known Kyoto Protocol was frustrated by the refusal of the main polluter country, namely USA, to ratify the agreement. The stop to a full implementation of the Kyoto agreement generated many doubts on its effectiveness to tackle global warming in the short run and uncertainty in the negotiations to set up post Kyoto international emissions constraint agreements.

The argument provided by the past USA administration to refuse the commitment to climate policies does not take into account the main