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Innovative Financial Mechanisms to Conserve Biodiversity

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Executive summary

The global loss in biodiversity continues to increase year by year. Due to the rising demand for food and goods, land-use changes are frequent and considered to be the main cause of biodiversity loss. There are a number of reasons why a rich biodiversity is of utmost importance. The services provided by biodiversity can be classified into provision (i.e., the provision of food and timber), regulation (i.e., water filtration), support (i.e., photosynthesis), and cultural services (i.e., enriched recreational experiences). These services are of crucial significance and have proven to increase economic productivity, reduce health risks, and enhance our experience of nature. Moreover, high biodiversity has a positive influence on ecosystem resilience which—due to the uncertainties related to climate change, in particular—should not be neglected, either. The economic justification why conservation measures are not intensified despite the benefits of biodiversity is the failure of markets to attribute a valid price to biodiversity. The reasons for this market failure are threefold: the existence of externalities, the fact that biodiversity conservation is a public good, and incomplete information. Therefore, other measures to value biodiversity have to be found. Notwithstanding intensified research, the valuation of biodiversity continues to pose problems. Unfortunately, it seems that biodiversity loss will persist as long as no monetary value can be attributed to biodiversity. By introducing the factor of uncertainty in this discussion, additional reasons for conservation arise. Uncertainty in combination with preferences and irreversibility gave rise to new concepts about why more weight should be attributed to conservation. In addition, there is uncertainty regarding the existence and positioning of thresholds, where small changes in resource use have considerable effects on the provision of biodiversity benefits. Again, the uncertainty related to this issue is an argument for increasing conservation activities. Thus, there are plenty of reasons to stop biodiversity loss. In order to increase funding for conservation, an intensified demand for a market-based mechanism has arisen. The discussion of the strengths and weaknesses of a group of selected instruments has led to various interesting insights. Biodiversity offsets, a concept that is especially popular in the United States, try to directly combine the divergent objectives of economic development and biodiversity conservation. Thereby, land-use changes have to be compensated for to preclude a net loss in biodiversity. Understandably, at least to some degree, some people remain suspicious, stating that biodiversity offsets create a license to trash. On the other hand, fishery quotas proved to be a viable solution for the sustainability of fisheries. The results of this approach, in which a cap is set on the total allowable catch, have led to the recovery of many fish stocks. The problem with this approach, however, is its limited applicability to other resources. Payments for ecosystem services are one possibility for coping with this challenge. The idea behind payments for ecosystem services is to turn beneficiaries into buyers. The range of participants is wide, given that there are lots of services that can potentially be bought and sold in a market place. Despite minor social conflicts that arose in developing areas, the experiences with payments for ecosystem services have been positive. This cannot be said when payments are made for a very specific service only, that of bioprospecting.

Given the current weak regulatory framework, bioprospecting agreements have a dubious reputation and concluding such contracts seems to be a balancing act. Despite the innovativeness in terms of generating funds for conservation, the role of the government or related institutions is still substantial in all of these mechanisms, and sometimes even act as buyers of conservation services. Therefore, instruments that attract private capital have to be developed in the future. Two ideas arise in this context. On the one hand, is the biodiversity derivative in which a transfer of risk is rewarded with financial compensation. However, the structure of such a product requires some further specifications before it can become a marketable instrument. On the other hand, the creation of a biodiversity bond seems promising. Given its more simple structure, it could attract private and institutional (i.e., from pension funds) capital.