

Dynamic management of water transfer between two interconnected river basins

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This paper analyzes the dynamic interaction between two regions with interconnected river basins. Precipitation is higher in one river- basin while water productivity is higher in the other. Water transfer increases productivity in the recipient basin, but may cause environmental damage in the donor basin. The recipient faces a trade-off; between paying the price of the water transfer, or investing in alternative water supplies to achieve a higher usable water capacity. We analyze the design of this transfer using a dynamic modeling approach, and compare solutions with different information structure with the cooperative solution. Finally we numerically compare our results to the Tagus-Segura water transfer described in Ballesterro (2004).

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