EVALUATING THE PERFORMANCE OF ALTERNATIVE MUNICIPAL WATER TARIFF DESIGNS: QUANTIFYING THE TRADEOFFS BETWEEN COST RECOVERY, EQUITY, AND ECONOMIC EFFICIENCY

It is widely recognized that the design of municipal water tariffs requires balancing multiple objectives such as financial self-sufficiency for the service provider, affordability for poor households, and economic efficiency for society. However, the actual tradeoffs between these competing objectives are rarely quantified, and as a result policy makers do not have a clear picture of the choices they face. In this paper we develop a modeling framework for analysing how alternative municipal water tariff designs affect the objectives of cost recovery, equity, and economic efficiency. We then apply this model to a hypothetical community in which a municipal water utility provides piped water and wastewater services to 5000 households with costs of services, income, and water use that are similar to many cities in industrialized countries. We analyse twenty-four different tariff variations and show how changes in the correlation between household income and water use, the extent of cost recovery, and households' response to average or marginal prices affect the tariffs' performance in terms of the three objectives. Some of our results are new and surprising. For example, we find that increasing block tariffs (IBTs) perform worse in terms of targeting subsidies to low-income households when the utility receives more financial subsidies from government. We also show that when cost recovery is low, the distribution of subsidies under IBTs is even worse if the correlation between water use and household income is high.

ABOUT THE SPEAKER

Prof Dale Whittington
Professor, University of North Carolina at Chapel Hill; Visiting Professor, Lee Kuan Yew School of Public Policy

Dale Whittington is a Professor in the Departments of Environmental Science & Engineering and City & Regional Planning at the University of North Carolina at Chapel Hill (USA), and a Visiting Professor at the Lee Kuan Yew School of Public Policy at the National University of Singapore. He is the author of over 100 publications, including (with Prof. Duncan MacRae) a graduate textbook on public policy analysis, Expert Advice for Policy Choice (Georgetown University Press, 1997). He serves as a resource person and research advisor for two international environmental economics networks: Economy and Environment Program for Southeast Asia (EEPSEA); and Latin American and Caribbean Environmental Economics Program (LACEEP). He is also Chair of the Board of the Environment for Development research network (EfD) based in the Department of Economics at the University of Gothenburg, Sweden.

Prof Whittington is a member of the Technical Committee of the Global Water Partnership (GWP), and has served as a consultant to the World Bank, Asian Development Bank, United States Agency for International Development, OECD, Hopi Tribe, and numerous other organizations. In 2011-2012 he was a Distinguished Visiting Professor in the Department of Economics at the University of Gothenburg. With Dr. Duncan Thomas (Manchester Business School), in the spring of 2014, Prof Whittington designed and launched the University of Manchester's largest Massive Open Online Course (MOOC), "Water Supply and Sanitation Policy in Developing Countries.” Over 17,000 students participated from 184 countries.

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Monday, 3 August 2015 12:15pm-1:30pm
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Light lunch will be served for those who register by 30 July.

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