Modeling the Economics of the South African Water Sector for Policy Analysis: Progress Report

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Why water?

- South Africa has a relatively fast growing economy
- Water enters the economy as both factor of production and consummer good
- As such water scarcity may hamper future economic growth
- However some sectors are more vulnerable to water scarcity than others
- And not all sectors use water efficiently

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Possible water management policy scenarios

- Water transfers from one usage to another
- Tariffs structured to discourage inefficient use of water
- Increase water supply
- Transform the structure of the economy in favour of less water intensive activities

Policy tools should be developed based on detailed sectoral economic information

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SAFRIM

- SAFRIM is a South African INFORUM type model
- This presentation outlines the progress made to date on building SAFRIM
- It also shows how results from SAFRIM would be used to develop water management tools

1. Litterature review

- G manual
- Craft of Economic Modelling
- Divers publications by INFORUM partners (JIDEA, LIFT,MUDAN, MIDE,TINY,...)

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2. Collaboration with INFORUM partners

- The core of SAFRIM was built by Clopper during his visit to South Africa
- We spent some valuable weeks with the U.S. team at INFORUM (Maryland) to help SAFRIM grow
- Yinchu Wang was hunted down to give his input using a chat-room on the internet

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1. Data

- time series of input-output tables for 46 sectors (1970-2005)
- time series of investments per investing sector (1970-2005)
- time series data of macrovariables (1970-2005)
- Household budget surveys (2000, 2005)

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2. Structure

- SAFRIM has the traditional 3 blocks: Production, Price and Accountant
- At the moment only private consumption and capital formation are endogenized
- Private consumption is estimated in a disaggregation by 21 categories;
- And then passed through a consumption bridge matrix
- Capital formation is estimated for each of the 46 investing sector at first;
- And passed through a through a capital matrix to get investment per 'product'

The output of interest at this stage is production per sector

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Behavioral Equations

- Implement PADS using HH Budget surveys
- Endogenize more variables (employment, imports, ...)

Integration of the Water sector

- Construct the feedback from the Water satellite model
- Construct a user-friendly environment for the client

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