

Experimental water resource stocks for Australia (upcoming)

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Australian Bureau of Statistics (ABS)

Overview

- The ABS will release experimental estimates of water resource stocks in November 2014
- Why and how has the ABS chosen to value Australian water resource stocks?
- Issues in the compilation of these estimates



Background...

- This paper is the third in a series..
- 1. LG 17/12 Demonstrated that NPV of resource rents is unlikely to generate meaningful estimates of the value of water resources
- 2. LG 19/08 Further examined SNA and SEEA on this issue and suggested a valuation based on tradable water rights
- 3. LG 20/06 Announces experimental values based on tradable water rights

Why?

- To measure the contribution of water resources to the wealth of the nation
- To assist in explaining and predicting changes in land values and land use
- Provide a basis for developing ongoing measures of water efficiency
- Derive a real economic rate of return on water assets
- Establish a broad basis for potential financial gains from adopting water efficiency measures
- Provide a basis for the evaluation of trade-offs in allocating water between competing uses

How?

- Determine scope of water resources:
- All water resources contained in catchments with an active management plan
 - But only those water resources subject to tradable water rights
 - These water rights are a permanent right to access a share (i.e. a quota) of water from a water catchment
 - Thus, market value of the water right represents the value of the water resource

How? (*continued...*)

- Australian National Water Commission (NWC) publishes annual *National Water Report*
 - Quantity of water subject to water rights (for each water catchment)
 - Information on water trading – both quantity and price data (for individual trades)

How? (*continued...*)

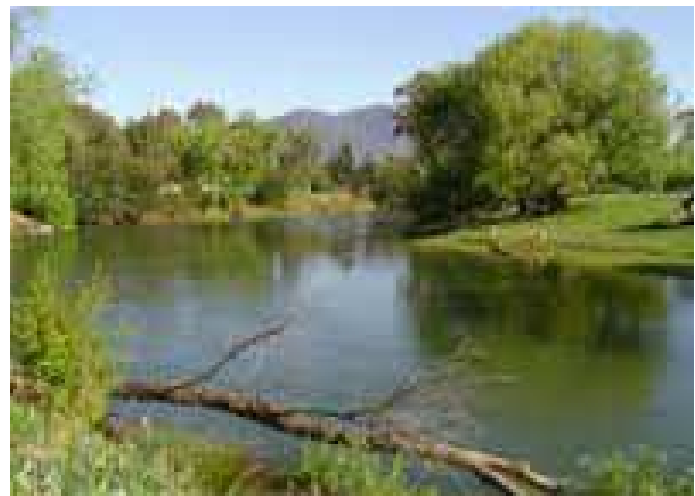
Value WAE = Price WAE * WAE on Issue

Where:

- Value WAE = total market value of traded water access entitlements in the current period
- Price WAE = Weighted Average Price per ML of water in the current period
- WAE on Issue = Water access entitlements on issue in catchments at 30 June (Megalitres)

Presentation

- Water resources are type of non-produced asset recorded on the SNA balance sheet
- They represent part of the value of land
 - Hence are reported as a subset of the item 'land' on the balance sheet
 - i.e. 'Water associated with land'



Presentation, *continued...*

- Some water resources have a value that is *not* associated with the value of land
 - SNA balance sheet item 'water resources'
- Commonwealth Environmental Water Holder (CEWH) is an Australian government body that owns and uses water resources for environmental objectives.
 - these water resources are recorded as SNA 'water resources'

Presentation, *continued...*

Experimental estimates of water resource stocks, and selected elements of Australia's capital base, current prices

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
	\$b	\$b	\$b	\$b	\$b	\$b
Produced capital	3,870	4,077	4,262	4,483	4,722	4,987
Net financial assets with rest of the world	-658	-694	-756	-773	-831	-817
Spectrum	11	11	11	11	12	16
Natural capital	3,741	3,925	4,540	4,535	4,550	4,828
Land	3,285	3,192	3,857	3,818	3,673	3,873
<i>Of which: water</i>	xx	xx	xx	xx	xx	xx
Water resources (a)	x	x	x	x	x	x
Mineral and energy assets	444	722	671	703	864	942
Timber	12	11	11	12	11	11
Net worth	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX

(a) 'Water resources' refers to those water resources unattached to land. They include holdings of the CEWH.

Issues

- Are observed prices for water rights sold representative of those water rights not sold?
 - 'thick' or 'thin' markets? Note: proportion of water sold each year is similar to % of existing dwellings sold in Australia.
 - Stable prices for water rights? Note: permanent water rights not affected by normal year-to-year variability in rainfall.

Issues, *continued...*

- Water trading: a state/territory responsibility
 - Most states allow water to be sold separately from adjoining land although Western Australia (WA) restricts this separation
 - Water Trading prices do not have to be reported in Tasmania
 - Can we nevertheless generate WA water values independent of adjoining land?
 - Yes, by using observed water prices for catchments in other mainland states
 - Value of irrigated agriculture per ML water in WA is somewhat higher than for other mainland states
 - But types of water use in WA is similar to other mainland states

Release of data

- Contained in Special Article
- In upcoming release of Water Account, Australia 2012-13 (ABS cat. no. 4610.0)
- Release date: November 2014 depending on inclusion of these estimates within the Australian system of national accounts

