



Risky business

New sources of water supply and homeowners' preferences

Which new water source would you choose?

We asked 981 homeowners in Melbourne and Sydney this very question: when an increase in water supply becomes necessary, where should this additional supply come from?

As we are also interested in homeowners' preferences for water quality, we framed the question as a discrete choice experiment (DCE). Figure 1 shows one of the 10 choices we asked participants to make, where the allowed use and cost for each of the six sources varied in each choice set.

	Desalination	Recycled	New Dam	Groundwater	Stormwater	Pipeline
Allowed Use						
Price/Kl	\$2.80	\$1.60	\$2.20	\$2.80	\$3.20	\$1.60

Figure 1: Example of a question given to participants

The responses and what they tell us

Figure 2 shows that new dam was the overall favourite new water source. Controlling for source and price, we found that participants were indifferent between “outdoor use only water” and “potable water”, but did not like “limited indoor use water”.

Figure 3 shows what type of person (columns) likes what type of source (rows), assuming potable water at \$2.40/Kl from each source for comparison.

For example, younger, more educated and higher income individuals were more likely to choose the more environmentally friendly sources of stormwater and recycled water. These findings can help indicate how a particular new source of water may be received in areas with certain demographics.

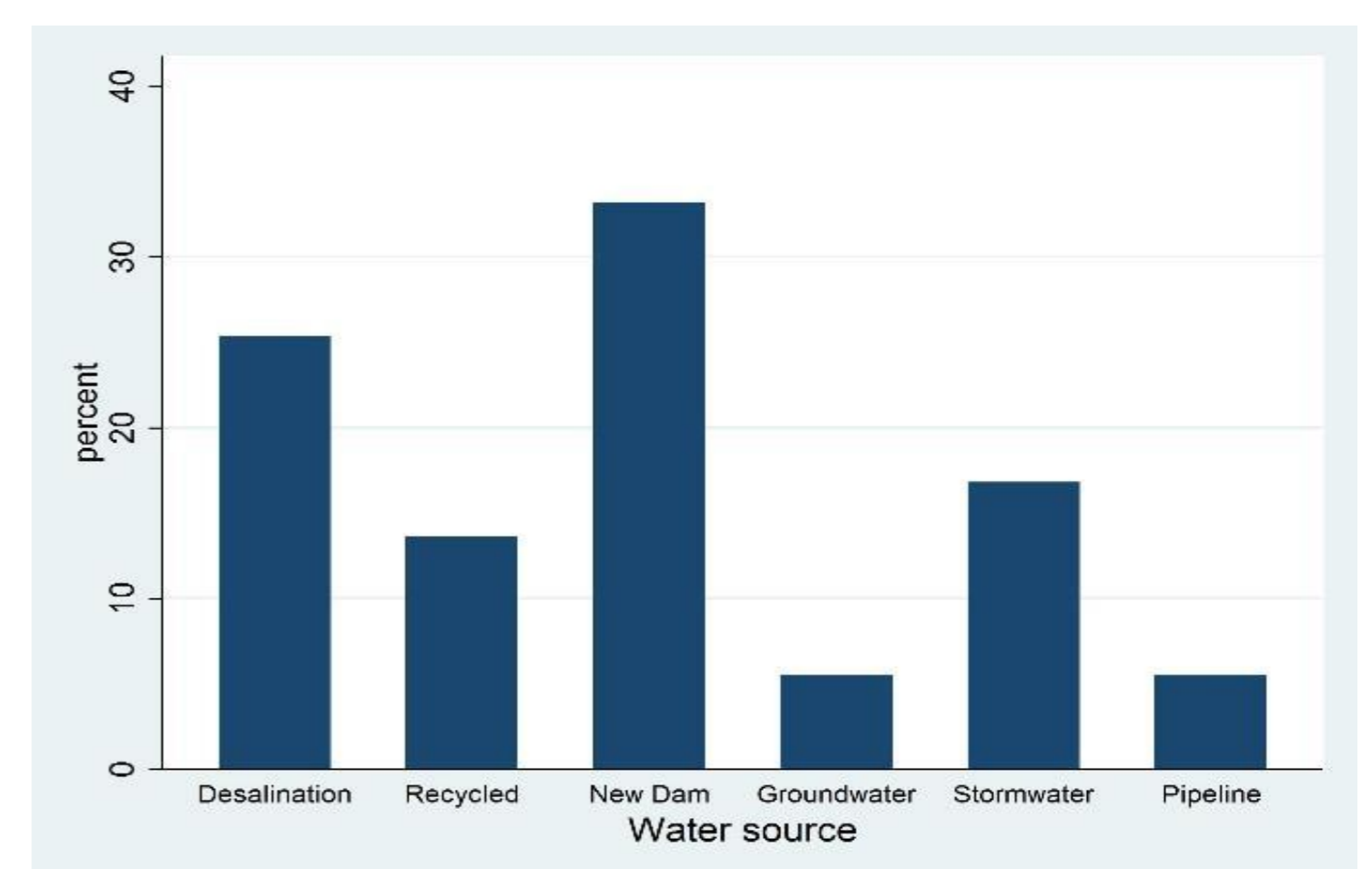


Figure 2: Overall choices

Risk aversion and supply security

A novel addition to our study is that we separately measured how people respond to risk – or their “risk aversion” – on a scale of 0 to 9. On this scale, 0 represents a person who is extremely risk loving, whereas 9 is extremely risk averse. In our sample the majority of people were risk averse. Figure 3 shows that more risk averse people were more likely to choose sources that provide more water security (desalinated and recycled) and less likely to choose a new dam, which is more rainfall dependent.

This study complements extensive prior research by others on the perceptions of health risks, for example from treated wastewater. Our results show that supply security is also an important concern that should be addressed when communicating with the public about new water supply projects.

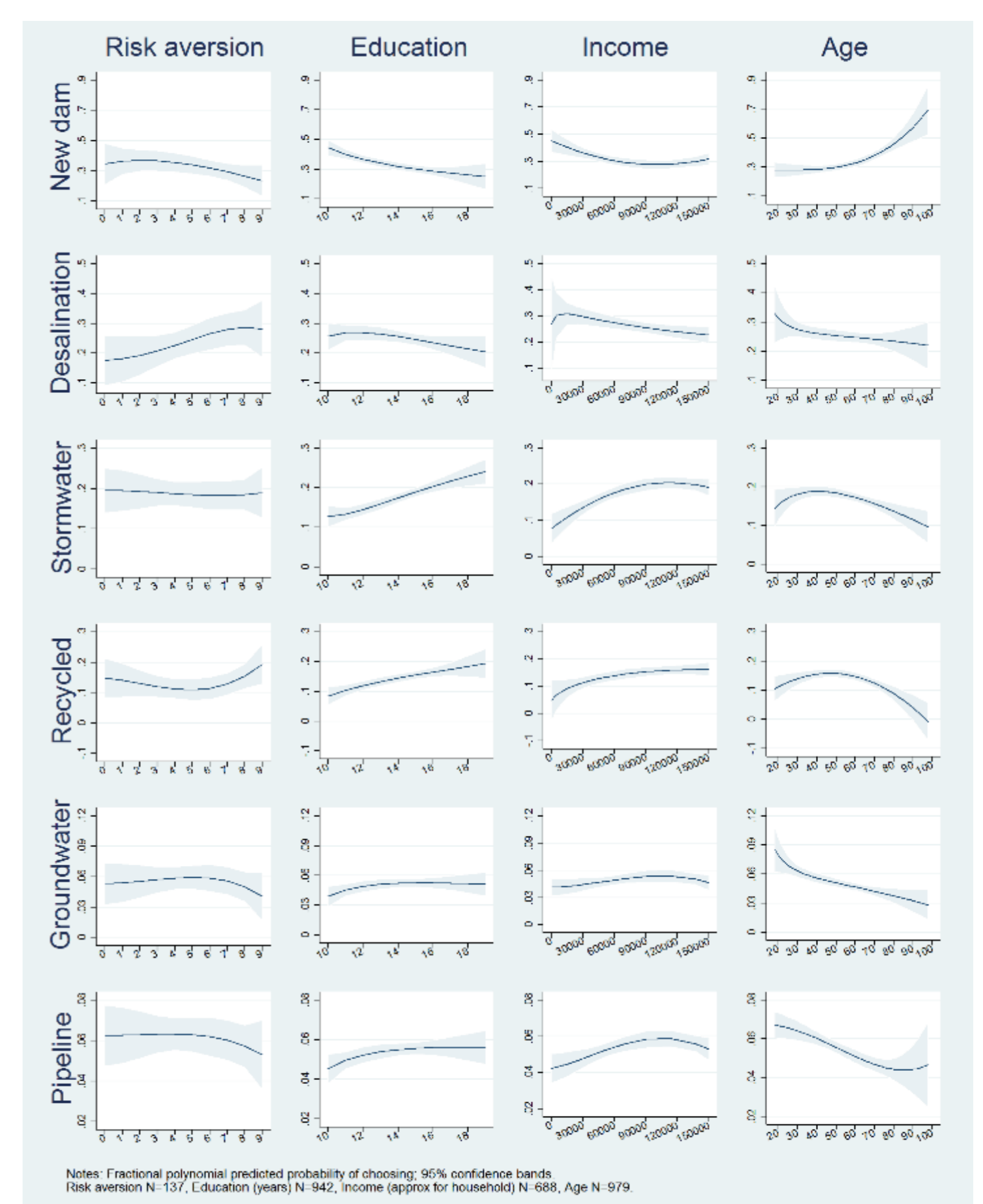


Figure 3: Predicted probability of choosing each source by risk aversion and demographics