NSW TREASURY COMMENTS ON STAFF DISCUSSION PAPER CGC 2014-01-S, SIMPLIFYING THE INTERSTATE WAGES REGRESSION MODEL, 2015 REVIEW

MAY 2014

Summary

NSW Treasury has no objections to the CGC staff proposals to simplify the regression model used to measure the relative differences in wage levels between States.

However, as New South Wales noted in its second submission to the 2015 Review, using an econometric model limits the transparency and understanding of the CGC's methods for non-specialists.

The proposed simplifications seem to be in that vein. Though on the face of it justifiable, it is difficult to get an intuitive feel of what the simplifications are doing and why they are having the effect they have.

This is an area where the proposed consultancy on the CGC's econometric methods could add some value – explaining in layman's terms what the interstate wages regression model and modifications to it are doing.

Proposed adjustments

CGC staff propose three adjustments to the model:

- use the dummy variable method, rather than the effects coding method, to estimate the variation in interstate wages. Though both approaches produce the same outcome, the dummy variable approach is preferred because it simplifies the regression model and makes easier the interpretation of the results
- remove the female interaction variables – used for every variable in the model to test whether the variable affects wages more for males or females – from the model. CGC staff has found the female interaction variables increase the explanatory power of the model by only a small amount but add complexity and potentially decrease the precision of the model
- remove from the model two variables that measure the impact of working less than 15 hours and more than 60 hours. CGC staff has found that neither of these hours worked variables add any explanatory power additional to the information included in another hours worked variable – the log of an employee's continuous number of hours worked per week.

NSW Treasury view

NSW Treasury considers that if the methods/variables add complexity to the model with little material impact on the results, the simpler options should be preferred.

However, though the variables are thought to add little, Table 1 suggests that removing the female interaction variables affect some State's GST payments by noticeable, even if 'immaterial' at the proposed $30 per capita materiality threshold, amounts, while removing the hours variables has little additional impact.

It is not intuitively clear why removing the female interaction variables should have the level of of effect indicated in Table 1, or whether, had the order of removal been reversed, removing the hours worked variables would have had a larger impact and removing the female interaction variables a lesser effect.

If the CGC uses a consultant to assess the CGC's econometric methods in this and other assessments, one useful task the consultant might perform is to provide layman's terms explanations of what the models are doing, how the models are doing it and how apparently minor adjustments to the models can have the effects they do. This could go some way towards enhancing the transparency and understanding of the CGC's methods for non-econometricians.