COMMONWEALTH GRANTS COMMISSION (CGC)

2015 REVIEW –

A CAPITAL COST INDEX

STAFF DISCUSSION PAPER CGC 2014-02S

NSW TREASURY COMMENTS

May 2014

SUMMARY

The Staff discussion paper supports the use of a construction cost index if this can be done reliably, is policy neutral and has a materially different effect on the GST than the existing recurrent wages and regional cost index.

NSW Treasury does not support the use of a construction cost index as the overwhelming evidence does not satisfy this criteria and would not be an improvement on the current approach.

NSW Treasury has consulted several NSW agencies about the merits of a construction cost index and has been advised that it should only be used as a reference tool given that it can vary considerably from actual cost. Rawlinsons and Rider Levett Bucknall (RLB) also provide caveats in their publications suggesting that their information is an indicative guide only.

Staff have sought State views on the possible differences between the construction cost indices. The most likely reason is the differences in the composition of each index (e.g., Rawlinsons Capital City Index includes single residential dwellings but this is excluded from the Riders Digest TPI).

NSW Treasury considers that the construction cost indices do not adequately capture the key cost drivers relevant to government infrastructure. The Rawlinsons Capital City Index does not include the cost of roads, bridges, hospitals and school buildings. The Tender Price Index (TPI) includes cinemas, hotels, department stores, showrooms, supermarkets and 40 storey buildings.

Building regulation and design features stipulated by State Government authorities may contribute to interstate differences in construction costs despite the Building Code of Australia (BCA). Rawlinsons accept that design requirements could result in interstate cost differences for certain building types such as schools as noted in the Staff paper.

Capital cost index – 2015 Review

The Staff discussion paper notes that it would be appropriate to develop a capital cost index if it could be done reliably, is policy neutral and has a materially different effect on the GST than the existing recurrent wages and regional cost indexes.

NSW Treasury does not consider that a capital cost index is more reliable than the current approach for several reasons:

- **Reliability** – the indices are an indicative guide at best and can vary within and across States considerably.
- **Suitability** – the Rawlinsons Capital City Index does not measure the cost of constructing major infrastructure such as roads, bridges, tunnels, hospitals and school buildings.
- **Policy neutrality** – design and building regulation policy differences appear to impact the indices despite a national building code.

Reliability and suitability

The Staff paper suggests that Rawlinsons provide building cost indices which could be used to create a capital cost index more suited to the infrastructure assessments than the existing recurrent cost factor. However, NSW Treasury does not support the use of the Rawlinsons Capital City Index given that it is based on indicative costs and is not suitable to government infrastructure.

Rawlinsons suggest that its 'costs are no more than a rough guide to the probable cost of a building…and costs can vary considerably from the range given'.[1] Rider Levett Bucknall (RLB) which produces the Riders Digest Tender Price Index (TPI) suggests that the construction cost information contained in its construction publications are indicative and for general guidance only.

A major NSW line agency has advised that the Rawlinsons Australian Construction Handbook figures can vary from actual costs by up to 20 per cent in New South Wales. A construction cost index, if adopted by the Commission, could only be verified if specific locational spot checks are conducted to verify its accuracy. NSW Treasury considers that this would complicate the CGC process and provides further reason why a cost index should not be adopted by the Commission.

[1] *Rawlinsons Australian Construction Handbook*, Edition 32, 2014, p.36.

The indices considered in the Staff paper do not adequately capture the major cost drivers relevant to government infrastructure. For example, the Rawlinson Capital City Index does not include the costs of roads, bridges, tunnels, hospitals and school buildings. Rawlinsons has advised that its Handbook includes information on the average per square metre construction costs of hospitals and schools, however, these are not included in the Capital City Index as suggested in Figure 1 of the Staff paper.

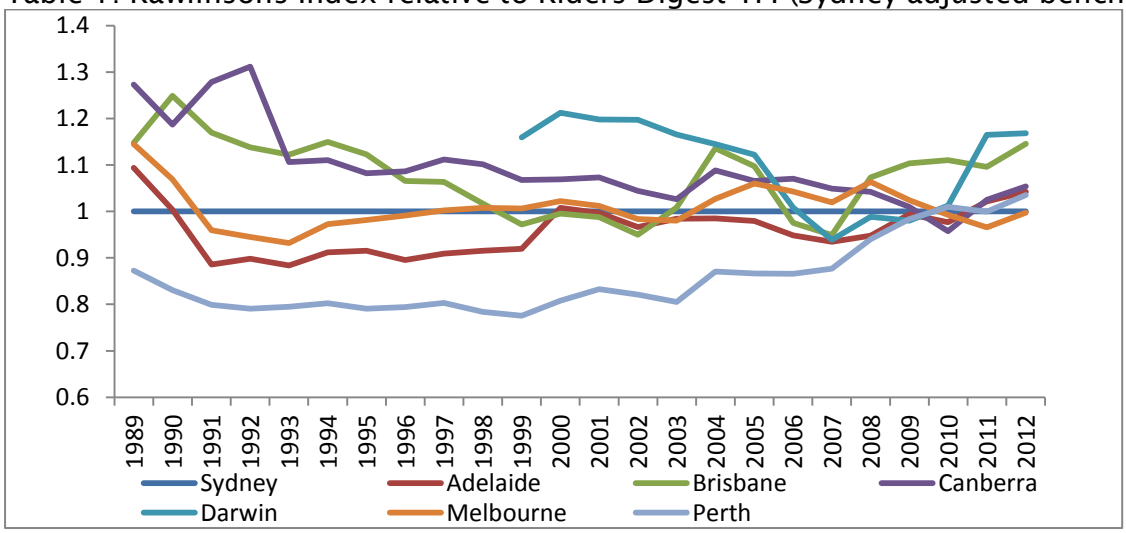
The Riders Digest TPI would not be suitable to government capital costs as it includes the construction of cinemas, hotels, department stores, small shops, supermarkets, showrooms and 40 storey buildings. NSW Treasury considers that neither index should be adopted given their lack of suitability.

Comparison of the Rawlinsons and Riders Digest TPI

NSW Treasury has obtained a historical series of the capital city indices from Rider Levett Bucknall (RLB) and Rawlinsons (see TAB A).

The following table is a ratio of the Rawlinsons Capital City Index relative to the Riders Digest TPI which has been rebased to make Sydney as the index benchmark (equal to the value of 1).

Table 1: Rawlinsons Index relative to Riders Digest TPI (Sydney adjusted benchmark)



Whilst the differences between the indices appear to be decreasing over time the Rawlinson's Capital City Index for Brisbane and Darwin is significantly higher than the Riders Digest TPI (e.g., by a factor of 1.2 in 2012) with the difference growing over the past three years.

Staff have sought views on the possible differences between the Capital City Index and the TPI. Whilst both indices cover the effects of differences in labour and material costs and market conditions, NSW Treasury considers that the differences are mainly compositional.

The Rawlinsons Capital City Index covers a wide range of construction activity such as retail, industrial, civic, hotels, offices and residential housing. The Riders Digest TPI reflects the change in tender levels for buildings other than single dwelling houses. It includes schools and hospitals. Both indices exclude roads, bridges and tunnels. The key exclusions are listed in Table 2.

Table 2: Rawlinsons Capital City Index & Riders Digest TPI exclusions

Riders Digest TPI	Rawlinsons Capital City Index
Roads, bridges, tunnels, single dwelling homes, land, holding costs, local government charges, effect of building codes, infrastructure contributions and development consultant fees.	Roads, bridges, tunnels, school buildings, hospitals, land, parking areas, demolitions, balconies, covered ways, external services outside 3.0m, external services outside 3.0 metre from the outside of the face of the building, external works other than those immediately adjacent to the building, loose or special of equipment, furniture, furnishings, legal and professional fees, local government charges, infrastructure contributions and development consultant fees.

Policy neutrality

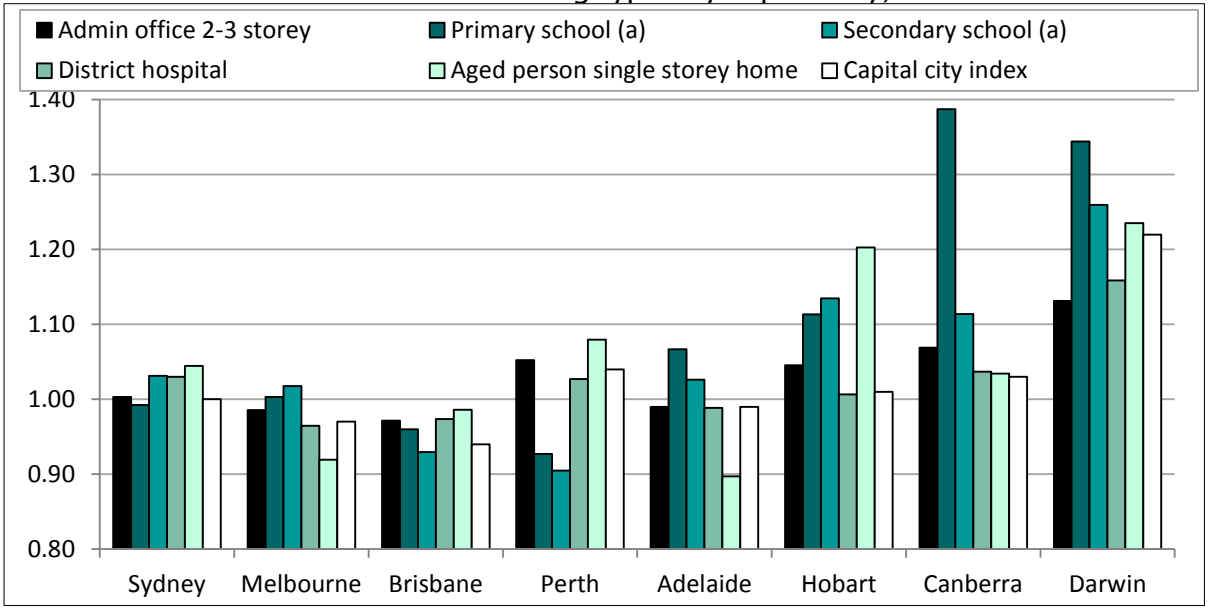
The Staff paper notes that the indices may be affected by interstate differences in taxes, charges and building codes.

NSW Treasury has sought advice from Rawlinsons and Rider Levett Bucknall (RLB) which suggest that their respective construction cost indices exclude council charges and State Government infrastructure levies.

The Capital City Index is affected by the interstate differences in building code regulation and design standards according to Rawlinsons. However, RLB indicate that the Riders Digest TPI excludes this impact and considers that it would be unusual for design features to result in material cost differences between each State.

The Staff paper notes that design standards may influence the costs of certain types of buildings such as school buildings in the Australian Capital Territory as shown in Table 3.

Table 3: Cost indices for various building types by capital city, 2012



Source: Staff Discussion Paper, Figure 1.

It is unclear why there should be such a large difference between the cost of constructing a primary school and a secondary school in Canberra, whereas the costs are generally similar in the other cities.

Rawlinsons have not been able to provide specific reasons for these variations, although they accept differences in project specific design issues may be relevant according to the Staff paper.

Rawlinsons has advised NSW Treasury that it does not produce indices for district hospitals and schools as shown in Table 3. It also indicated that hospitals and schools are excluded from the Capital City Index. The school and hospital indices appear to have been calculated by Staff based on the per square metre construction costs reported in the Australian Construction Handbook. NSW Treasury believes that a school and district hospital index must be treated with caution.

The NSW Department of Education and Communities (DEC) has indicated that school construction costs are significantly influenced by design standards which tend not to be standard across States. On this basis, NSW Treasury does not consider that the Rawlinsons Capital City Index would satisfy the Staff requirement of a policy neutral measure for the capital assessment.

Staff indicate that there is no evidence on the extent to which States vary the codes resulting in different levels of stringency across the State. The Productivity Commission report notes that

State Government variations to the Building Code of Australia (BCA) is creating significant inconsistencies in regulation across jurisdictions. [2]

A cost-benefit study by the Australian Building Codes Board (ABCB) looked specifically at local government regulations that exceeded the minimum building standards of the BCA and concluded that 'such interventions significantly impact on housing costs'.[3]

Constructing overall indices for each State

The Staff paper notes that the overall State wide indices need to be derived for each State which reflects its accessibility and remoteness circumstances relative to the national average. Staff indicate that this requires the following steps:

- the published indices for each region in each State are calculated relative to the State capital and each State capital city index is relative to Sydney. Comparable indices could be derived by multiplying each State's regional indices by its capital city index
- the adjusted indices for each region in each State need to be combined to produce a State-wide index. Since the location of infrastructure is generally related to the people served, weighting by population would be an appropriate approximation. This approach was used in constructing the Commission's regional cost index under 2010 Review methods
- the State-wide indices would be rebased to use the Australian average as the base rather than Sydney. This adjustment would be made on a population weighted basis.

NSW Treasury considers that applying a regional loading to a capital city index may not be sufficiently accurate. For example, the construction of cottage style social housing in regional areas is much cheaper compared to the more costlier forms of construction such as townhouses in densely populated parts of inner-Sydney.

The indices also do not adequately capture urban costs given that they exclude road, tunnel and bridges costs. NSW Treasury has previously argued that there are additional urban related costs related to road construction which arise due to the following:

- the limited time availability due to heavy traffic periods, resulting in low production rates
- high traffic control costs
- payment of overtime and penalty rates when work must be performed at night

[2] http://www.pc.gov.au/__data/assets/pdf_file/0013/102055/08-chapter5.pdf
[3] http://www.pc.gov.au/__data/assets/pdf_file/0005/118535/10-local-government-chapter7.pdf

- provision of lighting and safety equipment when work must be performed at night
- provision of additional equipment as a precaution against breakdowns given the limited time availability on the pavement
- modifications to procedures to minimise noise when work must be performed at night
- the need to use more costly, quick setting materials so roads can be re-opened in time for peak periods.

Road construction costs

The Staff Discussion paper (CGC 2017-07-S Proposed Assessments) notes that 'while the Rawlinsons indices may provide a suitable basis for measuring interstate differences in building construction costs, they may not apply to all investment.' (p.196).

NSW Treasury agrees with Staff that a capital cost index may not be an appropriate measure of interstate differences in road construction costs, which were about 30 per cent of investment from 2009-10 to 2011-12.

NSW Treasury considers that the indices are too broadly based for the purpose of measuring the costs of roads, bridges and transport infrastructure. These assets are specific in composition and subject to different cost drivers.

TAB A

Rawlinsons Index (December)

	Sydney	Adelaide	Brisbane	Canberra	Darwin	Hobart	Melbourne	Perth	Qld Islands
1989	1.00	0.95	0.80	1.04	1.00	1.04	1.08	0.90	1.15
1990	1.00	0.95	0.82	1.04	1.01	1.03	1.05	0.91	1.07
1991	1.00	0.94	0.83	1.12	1.11	1.09	0.98	0.97	1.08
1992	1.00	0.99	0.88	1.15	1.20	1.10	0.99	1.01	1.14
1993	1.00	0.99	0.89	1.16	1.21	1.10	0.99	1.00	1.16
1994	1.00	1.01	0.95	1.15	1.22	1.08	1.01	0.98	1.24
1995	1.00	0.98	0.93	1.13	1.20	1.05	0.99	0.93	1.21
1996	1.00	0.92	0.87	1.09	1.19	1.04	0.97	0.90	1.14
1997	1.00	0.88	0.85	1.04	1.14	1.01	0.94	0.87	1.12
1998	1.00	0.83	0.80	0.98	1.07	0.95	0.91	0.81	1.06
1999	1.00	0.80	0.76	0.93	1.02	0.89	0.90	0.79	1.01
2000	1.00	0.89	0.78	0.99	1.09	0.90	0.96	0.83	1.01
2001	1.00	0.89	0.78	0.99	1.09	0.91	0.97	0.83	1.01
2002	1.00	0.88	0.80	0.98	1.08	0.90	0.99	0.82	1.03
2003	1.00	0.92	0.87	0.96	1.07	0.87	0.98	0.82	1.13
2004	1.00	0.94	1.03	1.02	1.10	1.00	1.00	0.92	1.38
2005	1.00	0.95	1.06	1.02	1.11	1.01	1.02	0.95	1.38
2006	1.00	0.93	0.98	1.04	1.04	0.97	0.99	0.99	1.27
2007	1.00	0.94	0.98	1.03	1.02	0.96	0.98	1.01	1.27
2008	1.00	0.97	0.98	1.01	1.13	0.97	0.99	1.08	1.27
2009	1.00	0.99	0.95	0.99	1.16	0.99	0.97	1.06	1.24
2010	1.00	0.99	0.94	0.96	1.21	1.02	0.97	1.06	1.23
2011	1.00	0.98	0.91	1.02	1.20	1.01	0.95	1.04	1.19
2012	1.00	0.99	0.94	1.03	1.22	1.01	0.97	1.04	1.22

Riders Digest Index (October)

	Sydney	Adelaide	Brisbane	Canberra	Darwin	Hobart	Melbourne	Perth	Qld Islands
1989	86.8	75.4	60.5	70.9	0	0	81.9	89.5	0
1990	84.1	79.6	55.2	73.7	0	0	82.6	92.1	0
1991	75.1	79.7	53.3	65.8	0	0	76.7	91.2	0
1992	71.4	78.7	55.2	62.6	0	0	74.8	91.2	0
1993	72.5	81.2	57.5	76	0	0	77	91.2	0
1994	75.4	83.5	62.3	78.1	0	0	78.3	92.1	0
1995	79.1	84.7	65.5	82.6	0	0	79.8	93	0
1996	83.8	86.1	68.4	84.1	0	0	82	95	0
1997	89.7	86.8	71.7	83.9	0	0	84.1	97.2	0
1998	96.1	87.1	75.6	85.5	0	0	86.8	99.3	0
1999	100	87	78.2	87.1	88	0	89.4	101.9	0
2000	99.9	88.2	78.3	92.5	89.8	0	93.8	102.6	0
2001	100.9	90.1	79.7	93.1	91.8	0	96.7	100.6	0
2002	103.9	94.6	87.5	97.5	93.7	0	104.6	103.8	0
2003	110.1	102.9	95	103	101.1	0	110.1	112.1	0
2004	117.8	112.4	106.8	110.4	113.2	0	114.7	124.5	0
2005	123.1	119.4	118.9	117.8	121.8	0	118.4	135	0
2006	128.7	126.2	129.3	125	132.7	0	122.2	147.2	0
2007	133.2	134	137.5	130.8	144.7	0	128	153.4	0
2008	139.2	142.5	127.1	134.9	159.1	0	129.6	159.9	0
2009	139.2	138.6	119.8	136.5	164.7	0	131.8	150	0
2010	140.6	142.5	119	141	168	0	137.4	147.6	0
2011	143.7	137.9	119.3	143	148	0	141.4	149.5	0
2012	145.4	138.1	119.3	142.1	151.8	0	141.4	146.1	0

Source: information supplied by Rawlinsons and Rider Levett Bucknall.