

Debt and Debt Capacity

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Independent Pricing and Regulatory Authority (IPART, 2020, p. 8) Guidelines call for Councils to consider 'alternatives to the rate rise'. One prominent alternative is the use of debt.

This report investigates whether debt is an appropriate alternative to a special rate variation (SRV) for Cootamundra-Gundagai Regional Council (CGRC). I first commence with a consideration of the nature of debt. Following this I provide some details on the current debt burden borne by Cootamundra-Gundagai Regional Council and also present some comparative data for prominent debt metrics. Thereafter, I present sophisticated econometric modelling of the levels of debt that could comfortably be serviced by CGRC. I conclude with my professional opinion regarding the suitability of debt as an alternative to the SRV for CGRC.

1. The Nature of Debt

There is quite a lot of misinformation – certainly in the grey literature – regarding the nature of debt. Debt is most definitely *not* a source of revenue. Instead, debt is merely a way to bring forward future revenues at a cost (the cost being interest and loan establishment fees; see Drew, 2020a). Moreover, there are two important distinctions that need to be made regarding the purpose of debt which reflect the different kinds of spending that occur in local government. The first kind of spending is operational in nature – and this spending relates to items that will be fully consumed within a twelve month financial year. Examples of operational expenditure include staff wages, payment of contracts, and materials used to maintain equipment and infrastructure. The second kind of expenditure is capital expenditure and salient examples include things such as buildings, roads and machinery. Capital expenditure relates to long-life durable goods which are expected to be consumed over periods longer than twelve months.

These distinctions between different kinds of spending are important because they essentially set the parameters for incurring prudent and moral debt. Debt taken out for operating purposes is neither prudent nor moral because what it essentially facilitates is the complete consumption of goods and services by a *current* generation of residents that *future* generations of taxpayers are forced to pay for. Debt of this kind allows for local governments to live beyond their means and effectively sets up the conditions for a future financial sustainability crisis (Drew, 2020b; Levine et al., 2013). Moreover, whenever a local government runs up successive years of operating deficits, either explicit or implicit debt is the outcome (Drew, 2020b).

Debt for capital expenses *may* be both prudent and morally licit. This is because the future generation of taxpayers that are effectively forced to bear the cost of the good, also stand to gain some benefit from the consumption of the said durable good. However, this potentiality for prudence and morality has been grossly misapprehended in both the grey and scholarly literatures wherein some writers have tried to naively suggest that capital expenditure *ought* to be financed through debt in order to ensure intergenerational equity. Such arguments ignore at least five very important points: (i) the fact that most of us received capital goods

unencumbered from previous generations¹ (Drew, 2020b), (ii) the reality that appropriate debt products do not exist for the correct apportioning of intergenerational benefit in Australia (Bruekner, 1997), (iii) the significant uncertainty surrounding the prediction of asset useful life necessary to apportion generational burden for long life assets² (Drew, 2020a), (iv) the fact that debt comes at a cost, and (v) the fact that capital reserves are quite fungible³ (Oates, 2011).

Drew (2020b) argues that for debt to be used in a morally defensible manner it needs to meet the following conditions:

- a) The debt must be accrued in order to fund a durable asset that is likely to be used *and* valued by future generations.
- b) Repayments on the debt must commence immediately and be large enough to at least match the current consumption levels on the asset.
- c) Repayments must come from quarantined trade-offs: either increased revenue or reduced expenditures.

The biggest risk of debt is what economists refer to as moral hazard (Drew, 2020a). Because the future generation of taxpayers that will actually pay the debt off generally don't have a voice, there is a significant risk that they won't be treated fairly in the transaction. This might happen when debt is taken out for an inappropriate purpose, or a disproportionate burden is assigned to future taxpayers.

As I have detailed elsewhere, the fundamental problem facing Cootamundra-Gundagai is a structural budget imbalance arising from the shock of the 2016 forced amalgamation and four year rate path freeze. As demonstrated in robust and sophisticated econometric evidence by McQuestin, Miyazaki, and Drew (2021), soon to be published at the A-ranked *Public Administration Quarterly*, the treatment effect of the 2016 amalgamations was an average 11.2% p.a. increase to unit operating costs (which included a 15.2% increase to staff expenses), *ceteris paribus*. Notably,

¹ Thus, to create the condition for intergenerational equity now we must, somewhat hypocritically, visit intergenerational inequity on previous ratepayers.

² It is incredibly difficult to accurately predict the life of long-lived assets such as buildings and roads. Failure to do so accurately means that the burden can't be equally apportioned. Moreover, the absence of an active municipal bond market means that appropriate debt instruments don't exist anyhow.

³ What this means is that local governments might draw down on a capital reserve for operating purposes and then take out a loan for the capital need. This would create the appearance that the loan was for a capital purpose, but in reality the loan is really funding operational expenses.

the aforementioned analysis shows that the increases to unit costs were larger for rural Councils. Moreover, the associations were demonstrated at the highest level of statistical significance. The outcomes arising from incurring significant additional unit costs, whilst simultaneously being prevented, by legislation, from raising taxation proportionately, are detailed in Table 1 below:

Table 1. Cootamundra-Gundagai Operating Results (\$'000)

Financial Year	2016/17	2017/18	2018/19	2019/20
Revenue	48,635	31,777	42,835	41,196
Expenses	43,578	38,856	38,488	39,783
Operating Result Including Capital Grants	5,057	-7,079	4,347	1,413
Operating Result Excluding Capital Grants	-4,882	-9,376	-2,910	-6,248

Readers of this report should remain cognisant that amalgamated Councils such as CGRC have been in receipt of extraordinarily high levels of capital grants since the fiscally damaging amalgamation. Hence the most reasonable figure to focus on is the operating result excluding capital grants which has been recorded at very large deficits since the 2016 forced amalgamation. Successive deficits have been addressed, to date, by running down unrestricted cash (combined value at amalgamation \$4.723 million, now just \$1.252 million (as at June 30, 2020) and also making use of amalgamation grant monies (total \$6,914,282). However, with unrestricted cash at perilously low levels it is now imperative that the budget imbalance is corrected.

As I have already noted, debt is merely a way to bring forward future revenues, at a cost. Thus, borrowing to correct a structural budget imbalance makes no sense. If we borrow from future revenues in order to address current revenue shortfalls, we merely defer a crisis for a future year. Therefore debt is not a reasonable answer to the particular situation faced by CGRC. Moreover, as I will show in the following sections it is pretty clear that CGRC has already exceeded its comfortable debt capacity.

2. Current Debt Load at Cootamundra-Gundagai Regional Council

No local government should be encouraged to take on debt without first conducting a robust analysis of debt capacity. Those who doubt this prudent assertion would do well to review the disastrous outcomes that befell the community of Central Darling Shire (see, Drew and Campbell, 2016). Unfortunately, there are a lot of so-called experts recklessly running about encouraging local governments to take on imprudent debt.

Debt levels are already rather high at CGRC, and I reiterate my earlier advice that the Council has exceeded its comfortable debt capacity. This is yet another reason for why a SRV is absolutely essential. In Table 2, I detail the current debt load borne by CGRC as advised by Council:

Table 2. Current Debt Load.

Purpose	Fund (General, Water, Sewer, etc)	Outstanding Balance	Expected Payout Year
Plant	General	\$444,311	2029/30
Water	Water	\$3,823,103	2029/30
Sewer	Sewer	\$4,000,000	2029/30
Main Street (Gundagai)	General	\$1,500,339	2024/25
Swimming Pool (Cootamundra)	General	\$441,171	2022/23
TOTAL		\$10,208,924	

In addition to this existing stock of debt, CGRC (2020, p. 8) plans to borrow a further \$1 million to 'provide for co-contributions required by budgeted capital grants'⁴.

In other reports I have provided comparative charts of commonly employed debt metrics. Most of these metrics are deficient because they do not adequately address

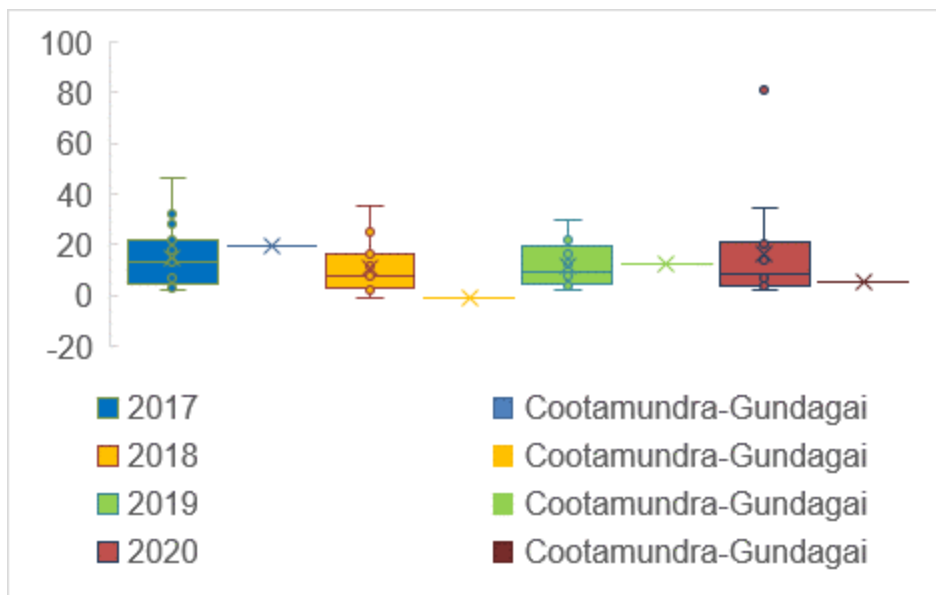
⁴ One might be inclined not to take out this loan given that Council is already likely to be over its comfortable borrowing capacity. However, by doing so CGRC can obtain additional capital grants for transport infrastructure that will go some way towards helping to alleviate the pressure on unrestricted reserves in the medium to long term. It is thus, on balance, a reasonable thing to do notwithstanding the risks.

the really important question of repayment capacity. Ultimately loans are repaid from the incomes accruing to persons and entities residing in the local government area, as well as external sources of revenue (see Part 3 of this report or Ramsay et al., 1988; Hildreth and Miller, 2002). Nevertheless I have reproduced copies of these charts below which I will discuss henceforth.

Figure 1 presents the Debt Service ratio which is mandated for reporting in Note 26(a) of the audited financial statements. Comparisons are made to a cohort of predominately OLG11 local governments as outlined in my financial sustainability report. This metric is rather deficient because it only looks at the number of times that *past* operating revenue (EBITDA) cover the sum of principal repayments and borrowing costs. Moreover, the ratio tends to give a distorted impression of debt capacity for at least two reasons. First, it implicitly assumes that the revenue, which forms part of EBITDA, is set at an appropriate level (a bold assumption given the demonstration of wide disparities in revenue effort as a result of the almost five decade long rate capping regime; Drew and Dollery, 2015). Second, it is negatively correlated⁵ with additional repayments made on debt – and this association is both counter-intuitive and can prove counter-productive. CGRC has below-typical capacity according to this rather deficient metric, although I am disinclined to take much heed of the result.

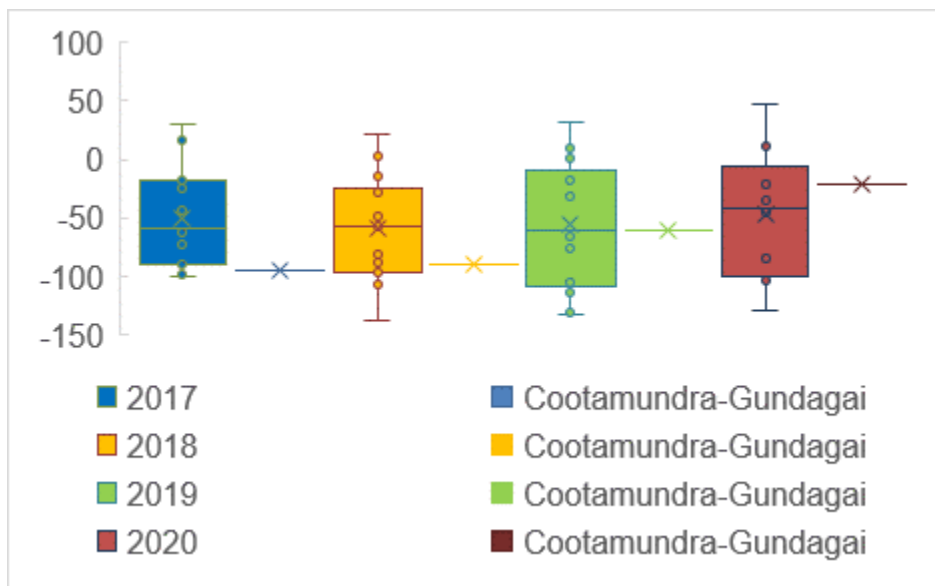
⁵ That is, when repayments go up the debt service ratio goes down. However, if the repayments are the result of a Council sensibly electing to reduce the principal (and hence interest costs) aggressively, in response to an unexpected windfall, then the ratio response is very misleading.

Figure 1. Debt Service Ratio



In Figure 2, I reproduce the Nett Financial Liabilities metric used in most other local government jurisdictions in the country. It is slightly better because it employs more data (defined as nett financial liabilities divided by total operating income) – specifically financial asset data. However, it still does not begin to incorporate the key variables required to accurately assess repayment capacity. To do so properly one would need to either create an index or conduct multiple regression analysis given the relatively large numbers of variables involved. In the next section of this report I conduct the more sophisticated and accurate of the aforementioned potential approaches. By the logic of the Nett Financial Liabilities metric Cootamundra-Gundagai also has below typical performance (for this metric a higher result is actually less desirable). Moreover, it might be noted that CGRC is deteriorating in performance on this ratio at a rather alarming rate.

Figure 2. Nett Financial Liabilities



3. Debt capacity

A competent measure of debt capacity needs to compare current debt levels to the capacity of a local government to repay the said debt (Levine et al., 2013). The operating result does not adequately reflect capacity to pay, because a local government can always increase fees and charges, or rates (as per this CGRC special rate variation).

Ultimately all fees, charges and rates are paid from the flows of income accruing to the residents and businesses in a local government area (Ladd and Yinger, 1989) in addition to outside intergovernmental grant income (Ramsay et al., 1988). Thus, to evaluate comfortable debt levels one needs to compare extant debt levels to the various income flows that a local government can tap into.

This approach is broadly comparable to what happens when one applies for a home loan (the author of this report was once a bank executive). The first question a bank asks is 'how many earners are party to the loan'? The second question asked relates to the income of each wage earner.

Multiple regression analysis examines the mean response in a dependent variable (in this case total borrowings) with respect to various independent variables that are postulated to be associated with the former. The econometric analysis that follows can be specified as:

$$\mathbf{B} = \alpha + \beta_1\mathbf{A} + \beta_2\mathbf{X} + \mu.$$

In this specification **B** (the dependent variable) is the natural log of the total borrowings for each council in each year, **A** is a vector of the respective number of assessments in each of the rate categories (that is, the number of borrowers), and **X** is a vector of controls for income characteristics of the population. Mu (μ) is an independent identically distributed random error term. Notably natural log transformations were executed where required to correct for skewed distributions as detailed in Table 3. All standard econometric tests were conducted and the residuals were confirmed to be near-normal in distribution (an important assumption for valid statistical reasoning). The regression includes all rural councils in the state that had borrowings for the years 2018 to 2020, inclusive.

The data in Table 3 has been extracted from various sources. Borrowing data was obtained directly from the audited financial statements for the respective years. Number of assessment data is a lagged variable obtained from the Office of Local Government *Time Series Data*. Grant data was obtained directly from the respective NSW Local Government Grant Commission reports. The remaining data was sourced from the ABS (2020) *Data by Region* reports. Lagging certain data is a common practice in scholarly work to ensure consistency with theoretical expectations and also to deal with data availability problems. All reasonable precautions were taken to ensure that lagged data did not have a material effect on results and sensitivity analysis has been done to assure so.

Table 3. Definitions and Means of Variables, 2018-2020

Variable	Definition	Mean
Borrowings		
Borrowings (ln)	Total borrowings, logged.	7.846
Assessments		
Residential (ln)	Number of residential assessments, logged.	7.901
Farm	Number of farm assessments, divided by 100.	11.230
Business (ln)	Number of business assessments, logged.	5.786
Mine	Number of mine assessments, divided by 100.	0.020
Income Controls		
Mean employee income	Mean employee income (lagged), divided by 1,000.	46.981
Mean unincorporated business income	Mean unincorporated business income (lagged), divided by 1,000.	25.155
Total Grant (ln)	Total financial assistance grants, logged.	4746.78
Aged (ln)	Proportion of people on an Aged pension, logged.	2.579
DSP (ln)	Proportion of people on a Disability Support pension, logged.	1.475
Newstart	Proportion of people on a Newstart allowance.	3.918
Carer (ln)	Proportion of people on a Carers' pension, logged.	0.370
Single (ln)	Proportion of people on a Single Parent pension, logged.	0.417
Youth (ln)	Proportion of people on the Youth Allowance, logged.	-0.317

Dummy variable	A control for the three respective years analysed.
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In Table 4 I present the results of the multiple regression analysis. The coefficients suggest that for a given size of local government (proxied by the number of residential assessments) increases to number of farm, business and mine assessments respectively are reflected in reduced total borrowings. These results are consistent with a contention that more developed and complex local economies tend to be associated with lower levels of borrowing, *ceteris paribus*, probably because of a higher capacity to repay or less reliance on debt to fund work. A finding of this kind is not altogether different from an observation that high income households tend to have lower fiscal stress, all other things being equal. The positive coefficient for financial assistance grants is also consistent with scholarly expectations (see, for example, Dollery, Crase and Johnson, 2006 for a discussion of some of the consequences of an intergovernmental grant system). Moreover, the coefficient of determination is relatively high for a panel regression and suggests good explanatory power. Several specifications were tested to ensure the model was robust.

Table 4. Multiple Regression Results, All Rural Councils, 2018-2020 inclusive.

	Pooled
Number of residential assessments	2.1402**
(ln)	(0.4020)
Number of farm assessments	-0.0411+
	(0.0187)
Number of business assessments (ln)	-1.0342*
	(0.4061)
Number of mine assessments	-3.9478+
	(2.184)
Total Grants	0.8038
	(0.3362)
Income Variables	Yes
Welfare Receipts	Yes**
2019	-0.0354
2020	-0.1130
n	163 ⁶
Coefficient of Determination	0.4756

Standard errors in parentheses.

+ p<0.10, * p<0.05, ** p<0.01

The main reason for conducting the multiple regression analysis is to employ the coefficients thus derived for the purpose of estimating comfortable debt levels. To do so one essentially has the statistical software predict the mean level of total borrowings expected for the specific values of the variables under specification (I used the standard economic software STATA to do so). The methodology implicitly assumes that the mean level of borrowings extant for the large cohort of rural councils in NSW over the three years under analysis, is representative of what decision-makers believe can be comfortably serviced. The model predicts that a level of \$7.827 million would be comfortable for the 2019-20 financial year. This figure does not compare favourably to the current debt load of \$10.208 million.

⁶ The odd number arises because not all local governments have debt. Moreover, some Councils have been granted an extension for preparing the 2019/20 financial year statements.

Conclusion

Debt is not a sensible option for CGRC as it tries to correct the budget imbalance arising from the 2016 forced amalgamation and the associated rate path freeze. Indeed, bringing forward future revenues, at a cost, will simply exacerbate the structural imbalance. Moreover, sophisticated and robust evidence suggests that CGRC has likely exceeded its comfortable borrowing capacity in any case. This last finding is yet another reason attesting to both the urgency and required scale of the proposed special rate variation.

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