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APPROACH TO DISAGGREGATION

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INTRODUCTION

- 1 In 2005, the Commission put in place three elements of its approach to the 2010 Review of the relativities used in distributing the combined pool of GST revenue and health care grants to the States and Territories¹. It established how it will approach the task of achieving equalisation with simpler and more reliable methods. It:
 - revised and strengthened its assessment guidelines;
 - decided to adopt a clean slate, top down approach in which revenue or expense items will be disaggregated, and new assessment methods developed, only where doing so will significantly improve the horizontal fiscal equalisation (HFE) outcome; and
 - established a programme for reviewing the reliability of data used in the assessments and a protocol for improving the quality of data provided by the States.
- 2 Over the next 12 months, the Commission aims to have in place the initial category structure for its 2010 Review assessments. That initial structure is likely to be modified as work progresses.
- 3 As this paper illustrates, the Commission's approach to deciding the category structure will require considerable analytical effort. Settling that structure will require decisions on how much disaggregation is warranted by conceptual argument and data availability and quality. It will also require consideration of how potential revenue bases and disabilities might be measured. It will not be a mechanical exercise based on the size of individual State revenues and expenses. Deciding the structure in this way will mean that many conceptual and data issues usually addressed later in a review cycle will have been examined.
- 4 The Commission's agreed work plan for 2006 envisages work being pursued concurrently on:
 - the broad architecture of HFE covering how the principle should be defined, interpreted and implemented in the 2010 Review. A separate issues paper on this topic has been issued by the Commission; and
 - how State activities should be disaggregated to facilitate the assessment of State fiscal capacities.
- 5 This paper covers issues that need to be considered in the work on disaggregation. It provides some initial proposals and sets out a plan for further consultations with States, leading to a proposed assessment structure in May 2007. To allow work to commence on possible assessment structures, this paper has been drafted on the assumption that the current interpretation of equalisation will apply for the 2010 Review. The Commission, however, will ensure that any changes resulting from discussions on the equalisation principle and its interpretation will be reflected in its approach to assessment structure.

¹ Hereafter, the words State(s) include the Australian Capital Territory and the Northern Territory, unless the context indicates otherwise.

- 6 We would like to involve the States in a different way in considering the assessment structure. Instead of presenting a structure of expense and revenue categories and seeking State input on how they could be assessed, State views on how categories should be formed will be sought. These views should be based on the disaggregations required to ensure material differences between States are captured in the assessments. We would like the States to work with Commission staff in developing an appropriate assessment structure.
- 7 The Commission seeks State views on the approach to developing an assessment structure outlined in the rest of this paper, including:
- aspects of the conceptual approach to disaggregation and the processes through which that approach might be implemented;
 - how major aggregates of revenue and expenses might be disaggregated to best assess fiscal capacities; and
 - the interactive approach and timetable for developing the structure.

DISAGGREGATION IN CONTEXT

- 8 Clause 3 of the terms of reference for the 2010 Review asks the Commission to simplify its assessments by aggregating existing assessment categories, components and factors, in whole or in part, provided that to do so is consistent with the equalisation principle. Clause 4(c) requires the Commission to review the scope for the use of more general indicators of revenue capacity and expense disabilities. There are links between the use of broader assessment categories and broader indicators of revenue bases and expense disabilities.
- 9 In the 2006 Progress Report to Ministerial Council, the Commission said it believed that the use of aggregated assessment categories and broadly defined revenue bases and disabilities offered the greatest scope for achieving simplification that is consistent with equalisation.
- 10 To achieve that aim, the Commission intends to follow a top-down conceptual approach, which begins with very broad groups of expenses and revenues. It will disaggregate those groups only where:
- doing so would materially improve the equalisation outcome, implying that:
 - there is a strong conceptual case that the disabilities which affect the expenses or revenues in the disaggregated categories are materially different; and
 - the impact of those disabilities differs materially across States; and
 - the disaggregated expenses or revenues and the associated disabilities or revenue bases can be measured reliably.
- 11 Explicit in this top-down, clean-slate approach is the view that the structure of the revenue and expense categories used in the assessments should reflect the minimum disaggregation that is consistent with achieving equalisation.

- 12 We think that the top-down approach is a better way to proceed than a bottom-up approach to aggregation. While some simplification could be achieved through a bottom-up approach, it is less likely to meet the terms of reference's requirements for greater simplicity, reliability and materiality.

Category versus disability approach

- 13 The Commission could build assessment methods based on either a disability or an expense and revenue category approach. Conceptually, both approaches would produce the same assessment results.
- 14 In past reviews, the Commission generally adopted the category approach. It did so because it considered that approach was more transparent as it explicitly identified the disabilities that affect each service and each tax— that is, it recognised that it is often easier to understand the effects of disabilities when they are shown within the context of the specific services they affect. However, once assessments were done, an alternative presentation was given to show the aggregate effect of each disability across all categories.
- 15 Some States have suggested that a disability approach should be adopted for the 2010 Review. Since the choice of approach should not affect the assessment outcome, the Commission thinks that the decision should be based on ease of explanation and the availability of quality data. It considers the category approach is easier to understand and is more consistent with the basis on which revenue and expense data are available. The simplification and aggregation of assessments should make the category approach even easier to explain. Subject to consultation, the Commission has decided to adopt the category approach for the 2010 Review.
- 16 The Commission will, however, also provide an alternative presentation of the results based on disabilities at the conclusion of the review.

Constructing categories

- 17 Having decided to adopt a category approach, we must decide how to conceptualise and create the categories. In the past, expense categories were generally based on State functions as defined by the government purpose classification used in GFS. Revenues were classified on a tax type basis.
- 18 There are many alternatives to this approach.
- Expense categories could be based on:
 - services provided to people and services provided to business, possibly with the people oriented services further disaggregated according to groups of people (young people, older people) at which the services are aimed. For example, a category for services provided to younger people would include all or part of education, health, child welfare and juvenile justice services and so on; or

- the type of expenses incurred, such as labour-related services, purchases of goods and services, financial expenses and so on.
 - Revenue categories could be based on where or how the taxes are imposed. For example, they might be imposed on
 - legislated (or legal incidence) measures of the revenue bases; or
 - on factors of production, such as labour, capital, land and enterprise (or profits); or
 - on stocks of assets and the level of different activities.
- 19 While some of those approaches have conceptual appeal, data to support them are less likely to be readily available. This would be especially so for categories based on the target groups for services. In these cases, it is most likely that data would need to be collected from the States, which would raise issues of interstate comparability.
- 20 Issues surrounding the availability and reliability of data indicate that the most sensible approach is to base categories on State functions (such as education and health), and tax types. This implies that:
- expense data would continue to be primarily sourced from the ABS GFS collection because those data are comprehensive, comparable and reliable, especially at the more aggregated levels. It does, however, have the disadvantage that data for the most recent year in the assessment period are not available in time to meet the Commission’s usual reporting timetable. Those data must be estimated or obtained direct from the States;
 - revenue data could be obtained from the GFS collection or direct from the States. In the past, data have been collected from the States primarily because they could provide accurate and reliable data for the last year of an inquiry, which given the year to year volatility of revenue raising capacity led to better and more reliable equalisation results.

Scope of State activities

- 21 The question of the scope of equalisation is raised in the issues paper on the principles and interpretation of equalisation. Until those issues are resolved, work on disaggregation will proceed on the basis that the scope of equalisation will remain the same as that of the 2004 Review — that is, all activities that have a direct effect on the operating statements of the State general government sector. Any changes in scope will be reflected in the category structure where necessary.

Issues for comment

- 22 States may wish to comment on the Commission’s intentions to:
- continue to adopt a category approach to its assessments;
 - construct expense categories on a functional or purpose basis using the ABS GFS collection as the prime data source; and

- construct revenue categories on a tax type basis using data collected direct from the States.

BROADER INDICATORS

- 23 As noted earlier, there is a close link between the use of broader, less disaggregated assessment categories and the use of broader indicators of revenue bases and the quantity of services States must provide (or the size of the task they face). Narrower assessment categories favour more targeted indicators, while broader categories are more conducive to broader indicators.
- 24 Simplification and the top down approach to disaggregation of the expense assessments will require a rethink of how to best capture the main drivers of the costs of State services. The Commission proposes to develop broader indicators consistent with the broader categories that will result from a top down disaggregation. Settling the level of disaggregation will influence the decision on the breadth of the indicators of the quantity of services States must provide. There will be no universal answer on how broad an indicator could be used because the process of disaggregation will need to reflect the characteristics of different revenue and expense categories.
- 25 For example, if the disaggregation process resulted in only one schools education category, possible indicators of the quantity of services States need to provide include the population in the 4 to 18 year old age group (an indicator of the target population) or the number of enrolments (an indicator of the number of users). Target populations would be broader indicators than users and both are broader indicators than those currently used which include several adjustments for participation rates of people in the age groups where school attendance is not compulsory.
- 26 The question of whether broader indicators of revenue bases and the quantity of services to be provided should be sub-divided is analogous to whether categories need to be disaggregated. We would start at the highest level of aggregation and disaggregate into population groups only where there is a strong conceptual case that doing so would materially affect the measure of relative fiscal capacities. That is, there would need to be a strong case that:
- sub-groups within the broader indicator use the services more (or less) than average or that a service provided to members of the sub-group costs more or less than the average cost of a service; and
 - there are differences between the States in the size of the sub-groups; and
 - the differences are material; and
 - data required to sub-divide the broader indicator are available and reliable.
- 27 Similarly, disabilities that reflect differences in costs per unit of service could be measured using broader indicators or in narrow cost specific ways. For example, dispersion is currently measured using relationships that specifically link distance or remoteness and the level of

each type of cost (such as travel, communication and freight costs). But a broader indicator of population dispersion may be an adequate proxy.

HOW DISAGGREGATION MIGHT WORK IN PRACTICE

- 28 The Commission proposes to start with an initial disaggregation of revenue and expenses into a few large aggregates. The following section illustrates possible starting points so that States can see what is being proposed. For each main aggregate, the Commission would construct assessments using appropriate indicators of use and unit costs, which are most likely to be broader indicators. Those assessments would form the base to be used in judging the case for more disaggregation.
- 29 The assessments at this high level of aggregation, would enable the calculation of a set of relativities.
- 30 The Commission would then consider whether there was a sufficient conceptual case for disaggregating all, or any, of the aggregates. In doing so, it would take account of the category structure guidelines that formed part of the interim assessment guidelines, especially the materiality thresholds for category size and the effect on the GST distribution (see Attachment A). A case for disaggregation must centre on the ability to reliably measure material differences between States.
- 31 A disaggregated assessment would be made if:
- a strong conceptual case exists; and
 - it is likely that material differences could be identified; and
 - reliable data are available to undertake the disaggregation and the resulting assessments.
- 32 In addition, the difference between the aggregated and the disaggregated assessments would itself need to be material to justify accepting the more disaggregated assessment. The Commission is proposing that an aggregated category would be disaggregated only if the effect on the distribution of the GST pool resulting from the use of the disaggregated assessment instead of the aggregated assessment exceeds \$30 per capita for any one State.
- 33 If the disaggregated distribution is not materially different from the aggregated one, the presumption would be that the aggregated assessment would be used.
- 34 While the Commission will use the interim assessment guidelines in reaching its decisions, it will not do so in a mechanical fashion. For example, all categories in the final category structure will have average revenues or expenses that exceed \$50 per capita, but it does not necessarily intend to create and assess all possible categories that might pass that threshold. Under the process the Commission intends to follow, many potential categories would not be split from larger categories. Nor will it necessarily assess all the categories that currently meet the size threshold. Many of them may be adequately assessed in larger aggregates.

- 35 The process we envisage makes it likely that the Commission would generally consider the conceptual case, at least, for assessments that are one level of disaggregation below the level finally adopted. Whether it proceeds to consider the materiality and reliability of the potential disaggregation depends on the strength of the conceptual case. In practice, the level of disaggregation would be decided when at least one of the conceptual, materiality or reliability aspects of the case for further disaggregation fails.
- 36 Work on disaggregation will generally follow an iterative pattern. Initially work would proceed primarily on the basis of the strength of the conceptual case that disaggregation would improve equalisation and on the size of category threshold (the category must contain average revenues or expenses that are at least \$50 per capita). That is, there must be an expectation that the disabilities that would affect the use and cost of the disaggregated services are materially different and that the size of the disabilities differs across the States.
- 37 A category structure prepared on these initial examinations will be provided to States in May 2007. Towards the end of the Review (in 2009) when details of assessment methods have been finalised, the distribution thresholds would be applied. Final decisions on the category structure would be made at that time.

Issues for comment

- 38 States may wish to comment on:
- the general approach the Commission envisages to follow in considering the appropriate category structure; and
 - the proposed \$30 per capita threshold for determining when a disaggregated assessment is materially different from the more aggregated one.

EXPENSE ASSESSMENTS

The starting point for disaggregation

- 39 We propose to start the disaggregation of total expenses by using major aggregates derived from existing GFS sources. Those data sources are well documented, reliable (especially at high levels of aggregation) and well understood by governments.
- 40 The three major blocks of services (education, health, and law and order) are well understood groups that together account for about 55 per cent of State expenses. They would be a good starting point for disaggregation.
- 41 Using those three blocks would also leave a large 'other' or 'residual' block containing a wide mix of services, such as welfare, housing, services to industry, transport, depreciation and general public services. There is no unifying theme to this block — the services are provided to different groups of people, some are provided for businesses and some are government support services, some are labour intensive and others are capital intensive. More importantly the size of the groups to which these services are provided differs materially between States.

It is likely that some disaggregation of this block will be justified to better capture differences between States that affect their relative financial capacities.

42 The three major blocks were chosen because a strong conceptual case can be made that there are material differences between States in the quantity of services they must provide for each block. Moreover, those differences can be reliably identified and measured. More specifically:

- the groups of people for which each block of services is provided, or which use the services most intensively, are different and they represent different proportions of the total population:
 - the bulk of the education services are provided for people in the age range 3 to 18 years, others are provided for people up to about 60 years;
 - health services are provided for the whole population but they are used most intensively by the very young and the elderly. Other population characteristics such as gender, where people live, and Indigeneity also have significant implications for the use and costs of the services;
 - law and order services are provided for everyone, but use and cost are affected most by 18 to 24 year old males, Indigenous people and people living in major urban areas; and
- there are differences between the States in the relative size of each group of people that is most relevant to the use and cost of services in each block, and experience indicates that those differences are material; and
- each block of services represents an important aspect of State services and robust data are available at the two digit level of GFS classification.

43 The average per capita expense for each major block of expenses is large. For example, in 2003-04, average per capita expenses were \$1220 for education services, \$1225 for health, and \$510 for law and order services. Relatively small differences between States in the number of potential users of each block of services, therefore, can have material effects on the GST distribution.

44 The conceptual case for disaggregation may be reinforced if differences in the way the services in each block are generally provided affect the cost of those services (for example, some may be more labour intensive than others) and there are differences between the States in the factors that affect costs (for example, differences in relative wage levels). Such differences would also need to be material and capable of being measured reliably.

Education — case study

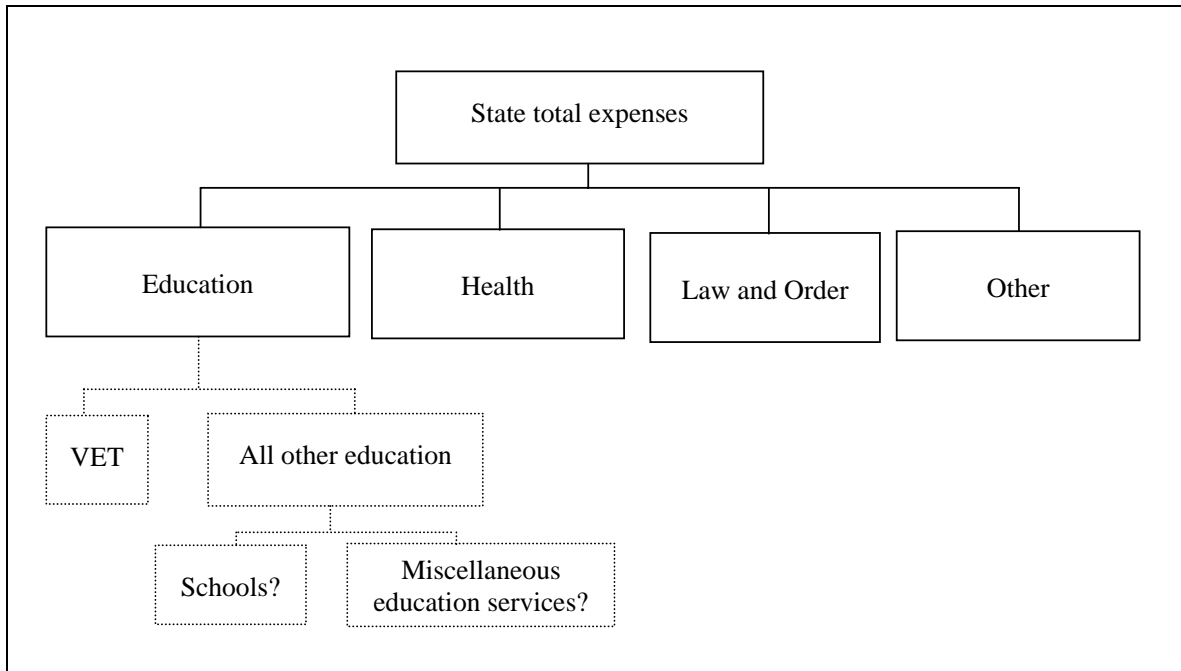
45 The following section uses the education block to illustrate how the Commission might approach the disaggregation task.

46 The steps in the process might be summarised as follows:

- devise an assessment for the total education block of services;
 - consider:
 - whether there is a conceptual case that disaggregating the block would lead to better identification and measurement of interstate differences in factors that affect the quantity of services that need to be delivered;
 - whether there are material differences between States in those factors;
 - whether those factors could be measured reliably;
 - if so, disaggregate the block and make indicative assessments;
 - compare the GST distribution arising from the disaggregated assessment with that from the aggregated assessment. If the difference exceeds \$30 per capita for any one State retain the disaggregated assessment, if not return to the aggregated one; and
 - the cycle could be repeated if there is a conceptual case for further disaggregation of one or more of the disaggregated categories.
- 47 The following illustrates that process by following through each of the steps in order.
- 48 ***Build an aggregate education assessment.*** An indicative assessment of the total block of education services might, for example, measure the quantity of service to be provided using the age groups within the population that potentially use the services, say the 3 to 60 years age group. Consistent with the assessment guidelines, it might also need to allow for:
- extra costs associated with providing services to some sub-groups of the eligible population, such as Indigenous people, if there was evidence that States on-the-whole devoted material levels of extra resources to them; and
 - factors that affect the costs of each unit of service, such as diseconomies of small scale in providing policy and administrative overheads.
- 49 ***A conceptual case for disaggregation.*** The next step would be to consider whether there is a conceptual case for disaggregating the education block. Such a case would be generally based on arguments that:
- each education service was used by different groups of users, or that one service is used more intensively than the other; and
 - there were differences across States in the size of those user groups within their populations.
- 50 For example, experience indicates that:
- across all States, the participation of people aged 3 to 18 in schools education is high, but the participation of people aged 19 to 60 in vocational education is much lower and participation in vocational education declines with age;
 - States spend different per capita amounts on vocational education and all other education services (\$213 per capita for vocational education and \$1005 per capita for all other education in 2003-04); and

- there are differences between the States in the proportion of their population in the 3 to 18 and 19 to 60 years age groups.
- 51 **Examine the effects of the disaggregation.** The above observations indicate that disaggregating the education block into vocational education and all other education services (mostly schools education but also pre-schools, universities and transport of schoolchildren) would result in categories where the average expenses exceed \$50 per capita. It is also highly likely that there would be more than a \$30 per capita difference in the distribution of GST based on the aggregated assessment and a disaggregated two category assessment which used narrower measures of the quantity of services provided in each State.
- 52 This discussion has been based on the implicit assumption that the types of disabilities which affect the costs per unit of vocational education and other education were the same. However, if they were not and if they were materially different, the case for disaggregation would be strengthened.
- 53 **Any further disaggregation?** If there were a sufficient conceptual case and the effects were material, the other education category might be disaggregated further. For example, it might be disaggregated into schools education and the remaining education services, or government and non-government education services (although the outcome of discussion on the interpretation of equalisation might influence this possibility) or into primary and secondary schools. Figure 1 provides a tree view of the illustrative disaggregations.

Figure 1 A tree view of category structure — illustrative example



- 54 It would also be possible to argue that the ‘all other education’ aggregate should not be dissected further. For example, State expenses on pre-schools and higher education in 2003-04 were \$25 per capita and \$9 per capita respectively which is well below the category size threshold. It might also be argued that school transport services represent an integral part of school services, because they provide an alternative to more dispersed schools as a way of increasing access to schooling.
- 55 The previous discussion represents only one way the education block might be disaggregated. Other possible disaggregations could be justified.
- 56 The choice between alternative disaggregations would be made on the basis of the strength of the conceptual cases and the transparency of the potential categories. In particular, the choice should aim to minimise the differences between services and the associated disabilities assessed in each category and maximise the differences between categories. Other considerations such as the materiality of the differences and the reliability of data and assessment methods would also be relevant.

Issues for discussion

- 57 The Commission would welcome preliminary views from States on:
- the logic of its proposed approach to disaggregation;
 - the proposal to commence the disaggregation of expenses with the four blocks of education, health, law and order and other services; and
 - potential disaggregations of each block, together with a rationale for those suggestions.

REVENUE ASSESSMENTS

- 58 The conceptual approach to establishing revenue categories would be a top-down one similar to that for expenses.
- 59 Total State own source revenues typically consist of the following broad groups of revenues — taxes and similar charges which are designed to raise general revenue; user charges that contribute towards the costs of associated services; returns on investments, such as contributions from government owned enterprises and interest; and other miscellaneous revenues.
- 60 In the first instance, the Commission might consider a disaggregation of total revenues into taxes and similar charges and all other revenues. In the issues paper on the architecture of equalisation, the Commission indicated that it was not inclined towards a broad or global assessment of all taxes and similar charges because the most likely broad measures of the revenue base do not adequately take account of the constraints on the revenue raising powers of States and do not allow for the extent to which the final incidence of some major State taxes lies outside the States that collect the revenue. Moreover, there are large differences between States in the size of the tax bases they can access.

- 61 The Commission therefore proposes to examine potential disaggregations of the taxes and charges group. A possible disaggregation might be into taxes based on:
- economic rent or profits (such as mining revenues and possibly gambling taxes);
 - wealth (such as land revenue);
 - income or wages (such as payroll tax and possibly gambling taxes); and
 - transactions or turnover (such as conveyances, insurance taxes and vehicle transfer duty).
- 62 Other possible bases for disaggregating taxes into broad groups could also be explored.
- 63 As with expenses, the Commission would begin its consideration of potential indicators of the revenue base for each category with broader indicators (such measures have been called sub-global indicators in previous reviews). Continuing the above illustration, it would seek measures of economic rent (possibly for the relevant sectors of the economy); wages or income; land values and the value of relevant transactions. It would need to carefully consider the implications such indicators have for the ability to reliably measure material differences between States in their revenue bases and for consistency with the equalisation principle. For example, the broader or sub-global indicators imply a wider view of what States do in terms of raising revenue than the current approach, which reflects the legal incidence of the average tax policy.
- 64 The Commission would only seek narrower measures of the revenue bases if a conceptual case is made that broader indicators do not adequately and reliably capture the main differences between States in their capacity to raise revenue or that they are inconsistent with the equalisation principle as it is to be interpreted for the 2010 Review.
- 65 If the Commission were to decide that it should seek more targeted measures, the heterogeneity of the revenue bases accessed by States, the large differences between States in the size of those bases and the availability of reliable data would need to be taken into account in deciding on those measures.
- 66 The Commission would welcome views of States on the proposed approaches to disaggregating revenue assessments and the illustrative disaggregations discussed in this paper.

CONCLUSION AND FUTURE WORK

- 67 This paper seeks State views on the approach to disaggregation that should be adopted for the 2010 Review. We also seek State views on the issues identified in this paper. Comments are sought by end of April 2006.
- 68 Commission staff have established five working groups to develop category structure proposals for:
- education;

- health;
- law and order;
- other expenses; and
- revenue.

69 The Commission intends to release discussion papers for each of these blocks in July this year. We would expect State comments by the end of the year. Where and when it is judged useful, a working party of State and Commission staff could be established to help develop the category structure proposal.

70 We would release to the States a final proposal in May 2007.

Timetable

71 We propose the following timetable. The timing of the meeting with HoTs is the subject of separate correspondence.

Table 1 Timetable for developing category structure for 2010 review

Work	When
Issues paper on disaggregation	March 2006
Comments from States on Issues Paper	End of April 2006
Discussion paper to States on what States do in education, health, law and order, other expenses, and revenue and implications for category structure	July 2006
Possible working party meetings on category structure	August – September 2006
Discussion paper to States on category structure	October 2006
Possible meeting with HoTs	Late November 2006
State comments on progress on category structure	End of 2006
Final category structure proposal to States	May 2007

CATEGORY STRUCTURE GUIDELINES

- 72 An expense or revenue item will be considered for separate category assessment if:
- the service provided or revenue source is distinct from others, for example, road expenses are different from all other types of expenses;
 - it is affected by disabilities that are markedly different from those of other categories;
 - data used to estimate the average expense or revenue are satisfactory;
 - it is expected that satisfactory assessments of disabilities can be made; and
 - the category is expected to be material which is defined as:
the average expense or revenue is greater than \$50 per capita; or
the assessment is likely to redistribute more than \$30 per capita for any State.