VOCATIONAL EDUCATION AND TRAINING

1 This working paper describes how the Commission estimates what each State would need to spend to provide the average level of vocational education and training services to its residents. The development of the assessment method is discussed in Volume 4 of the 2004 Review Working Papers.

VOCATIONAL EDUCATION AND TRAINING SERVICES

2 All States provide vocational education and training services. These services are provided to people aged 15 and over.

3 The Vocational Education and Training (VET) category covers expenses on:

- government funded vocational education programs provided by both Technical and Further Education (TAFE) and private providers, education programs for leisure-time activities; industry and commerce, and non-vocational courses offered by VET;
- migrant education programs;
- education programs not definable by level, such as adult education courses which are essentially non-vocational and associated with leisure time activities other than those offered by VET; and
- apprenticeship and training programs designed to facilitate entry into the work force of people currently not employed or in need of retraining.

4 The category excludes VET courses provided in schools and transportation services provided to VET students.

5 Australian and State governments spent $4.7 billion ($224.24 per capita) on vocational education and training in 2006-07. State Governments financed 73 per cent of this amount and the Australian Government 27 per cent. The Commission treats Australian Government funding as specific purpose funding and includes it in category expenses.

6 The Australian Government Specific Purpose Payments (SPPs) included in the category were VET Funding, Advanced English for Migrants and Indigenous Education Strategic Initiatives – Government SPPs.

WHY EXPENSES ON VOCATIONAL EDUCATION AND TRAINING SERVICES DIFFER

7 The per capita amount spent by each State government on VET services varies considerably. The Commission seeks to understand why these figures vary. If the sole source of variation is different government policies, then the differences do not impact on State GST shares. If the variation is due to circumstances beyond a States' control, then the differences will be reflected in State GST shares. Table 1 shows VET actual expenses per capita for each State and the average overall.

Table 1 Vocational Education and Training, actual expenses per capita, 2008 Update

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
	$pc	$pc	$pc	$pc	$pc	$pc	$pc	$pc	$pc
2002-03	212.47	224.24	165.34	238.92	188.32	184.46	240.36	356.58	208.37
2003-04	216.20	230.65	161.29	211.17	214.00	173.24	264.53	350.86	209.63
2004-05	224.43	256.58	144.57	189.30	201.85	156.91	275.25	381.45	212.41
2005-06	212.11	260.94	169.56	212.61	223.20	197.95	280.50	363.49	219.02
2006-07	216.16	281.67	178.66	191.18	211.39	200.64	273.66	370.36	224.24

Source: Derived from Government Finance Statistics (GFS) data collated by the ABS using CGC coding rules (and adjustments).

Box 1: The Commission's concept of average

The Australian average expense per capita is not a simple average of the experience of the eight States. It is calculated as the total expenses incurred by all States divided by total State population. This is a population weighted average. Population weighting gives equal weight to each Australian's experience. Since more Australians experience the New South Wales level of service, it carries more weight in the calculation of the average. 33 per cent of Australians reside in New South Wales and 1 per cent reside in the Northern Territory. Population weighting gives the experience of New South Wales ($216.16 per capita in 2006-07) 33 times the weight of the experience of the Northern Territory ($370.36 per capita). This approach means the average expense per capita is generally much closer to the New South Wales expense per capita than the Northern Territory expense per capita.

The concept of using this average also applies to the assessment of factors. If the Commission were trying to estimate the cost of providing services to Indigenous people living in remote areas, it would give most weight to the Northern Territory's experience (38 per cent of remote Indigenous people live in the Territory) and least to Tasmania (less than 0.2 per cent), Victoria (less than 0.1 per cent) and the ACT (0 per cent).

8 Differences in State expenses per capita are likely to reflect differences in:

- the cost of resources provided to each student;
- the number of resources provided to each student; and
- the number of VET students in State populations.

9 Table 2 shows a measure of the cost of resources (expenses per annual contact hours), a measure of the use of services provided (annual contact hours per student) and the number of VET students per capita. It shows, for example, that Victoria provides VET services at

less than the average cost per capita, despite providing more than average number of contact hours per student.

10 However, the numbers of and annual contact hours provided are influenced by State policies. So, it would be inappropriate for the Commission to accept either as the measure of what States would need to spend to provide the average level of service.

Table 2 Possible drivers of state expense per capita, 2006-07

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
(a) General indicators									
Expenses ($m)	1 455.8	968.2	716.9	445.7	329.8	106.2	92.4	81.8	4 196.7
Annual contact hours (m)	105.81	77.92	46.10	30.31	18.61	6.45	5.54	3.63	294.38
Students ('000)	445.4	287.5	202.3	101.2	90.8	29.5	20.6	20.5	1 197.7
Population (m)	6.856	5.168	4.136	2.082	1.577	0.492	0.337	0.213	20.859
(b) Ratios									
Expenses per capita ($)	212.34	187.37	173.35	214.07	209.16	215.92	274.33	384.30	201.20
Expenses per annual contact hour ($)	3 268	3 368	3 544	4 405	3 634	3 605	4 487	3 986	3 504
Annual hours per student	238	271	228	300	205	219	269	177	246
Students per '000 capita	65	56	49	49	58	60	61	96	57
(c) Comparison of State ratio to average ratio									
Expenses per capita (%)	5.5	-6.9	-13.8	6.4	4.0	7.3	36.3	91.0	0.0
Expenses per annual contact hour (%)	-6.7	-3.9	1.1	25.7	3.7	2.9	28.0	13.8	0.0
Annual contact hours per students (%)	-3.4	10.3	-7.3	21.9	-16.6	-10.9	9.5	-28.0	0.0
Students per '000 capita (%)	13.2	-3.1	-14.8	-15.4	0.3	4.3	6.5	67.9	0.0

Source: Productivity Commission, Report on Government Services 2008, Part B Early Childhood, Education and Training, Chapter 5A Vocational Education and Training, Tables 5A.1 and 5A.4

11 Table 3 provides information on some of the characteristics of each State's government VET sector. Table 4 shows States' shares of VET providers, enrolments and characteristics of the student population.

Table 3 Vocational Education and Training, general indicators, 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Government funded and/or delivered VET								
TAFE and other gov't providers locations	1283	175	389	122	255	18	7	252
Community education and other registered provider locations	1 884	1 474	2 577	1 388	483	231	128	309
Students								
All students ('000)	445.4	287.5	202.3	101.2	90.8	29.5	20.6	20.5
Students aged 15-64 ('000)	425.6	274.3	197.2	99.0	84.2	28.6	20.4	19.9
Indigenous ('000)	18.3	3.6	11.5	7.1	4.3	1.1	0.3	10.0
Non-English speaking background ('000)	79.5	42.6	10.3	9.6	10.7	1.0	1.6	6.7
Number of students by region[(a)] ('000)								
Major cities	254.0	177.9	91.3	61.0	58.3	na	15.3	na
Inner regional	101.8	77.5	39.0	15.5	15.1	14.9	2.6	na
Outer regional	69.0	21.5	50.1	10.6	10.5	12.7	na	7.6
Remote and very remote	8.7	3.0	15.3	12.2	5.4	1.3	na	11.8
Interstate	6.9	5.8	2.2	0.4	0.8	0.2	2.0	0.8
Unknown, unallocated or overseas	4.9	1.8	4.3	1.6	0.7	0.3	0.7	0.2

(a) Geographic location is based on the students' home postcode using the Accessibility and Remoteness Index for Australia (ARIA) classifications currently used by the ABS.

Source: Productivity Commission, Report on Government Services 2008, Part B Early Childhood, Education and Training, Chapter 5A Vocational Education and Training, Tables 5A.3, 5A.4, 5A.9, 5A.11, 5A.13, 5A.14

na – not applicable

Table 4 Vocational Education and Training, shares of indicators, 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
	%	%	%	%	%	%	%	%
TAFE and other government providers								
TAFE and other gov't providers	51.3	7.0	15.6	4.9	10.2	0.7	0.3	10.1
Community education and other registered providers	22.2	17.4	30.4	16.4	5.7	2.7	1.5	3.6
Students								
All students	37.2	24.0	16.9	8.4	7.6	2.5	1.7	1.7
Students aged 15-64	37.0	23.9	17.2	8.6	7.3	2.5	1.8	1.7
Indigenous	32.6	6.4	20.5	12.7	7.7	1.9	0.5	17.8
Non-English speaking background	49.1	26.3	6.4	5.9	6.6	0.6	1.0	4.1
Number of students by region								
Major cities	38.6	27.0	13.9	9.3	8.9	na	2.3	na
Inner regional	38.2	29.1	14.7	5.8	5.7	5.6	1.0	na
Outer regional	37.9	11.8	27.5	5.8	5.7	7.0	na	4.2
Remote and very remote	15.1	5.2	26.5	21.0	9.3	2.3	na	20.5
Interstate	36.3	30.5	11.3	2.0	4.3	0.8	10.4	4.4
Unknown, unallocated or overseas	33.8	12.6	29.8	10.9	4.6	2.0	4.8	1.4

12 State's expenses per capita are affected by:

- efficiency of service delivery;
- the number annual contact hours; and
- the number of students in special needs groups.

13 Annual contact hours are used in place of enrolment because of the prevalence of part-time study in VET. Approximately 89 per cent[1] of students studied on a part-time basis (less than 540 hours per year)[2].

14 The Commission seeks measures of need that are not influenced by State policies.

Efficiency of service delivery

15 A State may provide VET services more or less efficiently than the average for all States. This is another policy decision that affects the cost of providing vocational education and training services.

1 National Centre for Vocational Education Research (NCVER), *Australian Vocational Education and Training Statistics*, Pocket Guide 2006, page 4. www.ncver.edu.au

2 National Centre for Vocational Education Research (NCVER), *Australian Vocational Education and Training Statistics*, Students and Courses Summary 2006, page 15. www.ncver.edu.au

Number of annual contact hours

16 There were 1.2 million students in VET institutions in 2006. They accessed 294.4 million annual contact hours. The proportion of people aged 15 to 19 varies between that States. It is an example of circumstances that affect the use of VET services and which are beyond the control of an individual State government.

17 Table 5 shows the number of VET students and the annual contact hours used. Due to the large percentage of students which study on a part-time basis the Commission uses annual contact hours rather than actual student numbers.

Table 5 Vocational Education and Training, annual contact hours per student, 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Annual contact hours (m)	105.81	77.922	46.1	30.314	18.613	6.449	5.539	3.631	294.38
Students ('000)	445.4	287.5	202.3	101.2	90.8	29.5	20.6	20.5	1 197.7
Hours per student	237.6	271.1	227.9	299.6	205.1	219.0	269.1	177.0	245.8

Source: Productivity Commission, Report on Government Services 2008, Part B Early Childhood, Education and Training, Chapter 5A Vocational Education and Training, Table 5A.4.

Number of students in special needs groups

18 Certain groups of students in school education have special needs. It costs more to provide services to these students. In its report, the Productivity Commission identified the following special needs groups:

- Indigenous students;
- students from language backgrounds other than English (LBOTE); and
- geographically remote students,

19 The proportion of students in each special needs group is another example of circumstances that affect the cost of providing VET services and which are beyond the control of an individual State government.

ASSESSING STATES' COSTS OF PROVIDING VOCATIONAL EDUCATION AND TRAINING SERVICES

The equalisation task

20 The Commission aims to identify why it costs some States more to provide VET services and then using this information to estimate what it would cost each State to provide VET services using the average policy and practice of all States. This estimate is called a State's *assessed expense*.

21 The process the Commission follows is twofold. First, it starts with the average expense that captures the average policies, efficiency and circumstances of all States. Second, it

attempts to quantify how a State varies from the average in some underlying characteristic (for example, the proportion of a State's population that comprise the target population for VET services) and what effect such a variation could have on its total expenses. Bringing them together shows how much a State could be expected to vary from the average, solely because of its innate characteristics. The resultant estimate is its assessed expense. This section discusses how the Commission identifies these characteristics; the following sections discuss how it measures them.

22 The Commission identifies the major influences that cause States to have different expenses per capita and estimates their financial impact on either:

- assessed service use; or
- assessed unit costs.

Assessed service use

23 For VET services, the influences which affect assessed service use are:

- the proportion of people aged 15 to 59 (the VET target population);
- the proportion of students in special needs groups. For example, Indigenous students, students with low English fluency and students who live in remote areas generally cost more per student than the general student population;
- the number of students who are residents of New South Wales but receiving VET services in the ACT.

Assessed unit costs

24 For VET services, the influences which affect assessed unit costs are:

- the small size of some VET institutions. Small towns have small VET institutions which incur diseconomies of small scale;
- the cost of geographically remote VET institutions. Institutions located in remote areas have higher costs associated with their remoteness (travel, freight, staff relocation etc);
- the cost of bringing supplies in from outside the State;
- the size of the education sector. There is a minimum cost associated with setting up a VET system; and
- the unit cost of inputs. States face differing costs in relation to the price of labour, accommodation consumables and electricity.

25 While some of these influences, such as wage levels and electricity costs, may be partially affected by government policies, the Commission attempts to take account of only that part of the influence that is beyond the control of individual State governments.

OVERVIEW OF THE METHOD FOR DETERMINING ASSESSED EXPENSES

26 The box below provides a brief step by step overview of the framework the Commission uses to determine each States' assessed expenses for government secondary education.

Box 2: Assessment framework

Step 1: Derive the average expense per capita

This is done by dividing the total expenses incurred by all States by total State population. This figure captures the average financial impact of the policies, practices and particular State circumstances that impact on the cost of delivering the service across the nation.

Step 2: Identify different types of expenses

The Commission examines the service to determine whether parts of the total expense are affected by different influences. If the differences are material, the expense is divided into component parts to ensure that the various influences are accurately matched with the expenses they affect. The different expense types identified are referred to as components. To identify components, the Commission analyses information and data on the nature of the service (that is, what States do and how they do it), States' policies concerning the service and submissions. The proportion of total expense attributable to a particular component is referred to as the component weight. The Commission uses GFS data, State public accounts, annual reports and other data to estimate these proportions.

Step 3: Identify the influences for each component

The Commission identifies the influences that affect each component and the extent to which they are beyond the control of individual State governments. To identify influences, the Commission analyses information and data on the nature of the service (that is, what States do and how they do it), States' policies concerning the service, submissions and other publications.

Step 4: Measure the size of each influence

The Commission estimates the relative financial impact of each influence on each State's cost of providing the service, but only to the extent it is beyond the control of individual State governments. The relative impact is measured by relating the State's experience to the average experience. The relative impacts are presented as factors. A factor measures the percentage increase (or decrease) that the influence has on a State's cost of providing the service. There is at least one factor assessment for each component. In most cases there is more than one.

Step 5: Derive component factors

The factors calculated for each cost component are combined together to derive a component factor. If the Commission considers that one factor compounds with another, it multiplies them. If the Commission considers that two factors are independent of one another, it adds them.

Step 6: derive category factors

The component factors are weighted to reflect the importance of the component in the category. This is done by multiplying each component factor by its component weight. The category factor is calculated by adding the weighted component factors together. The category factor represents the Commission's estimate of the combined financial impact of all the influences on a State's cost of providing the service.

Step 7: Derive assessed expense per capita

Each State's assessed expense per capita is calculated by applying its category factor to the average expense per capita. A State's assessed expense per capita is the Commission's estimate of how much it would cost the State (per capita) to provide the average level of service.

The difference between a State's assessed expense per capita and the average expense per capita is a measure of the financial impact of circumstances beyond its control. The difference between its assessed expense per capita and its actual expense per capita is a measure of the financial impact of circumstances within its control.

DERIVING COMPONENTS AND COMPONENT WEIGHTS

27 The Commission examines the service to decide whether parts of the total expense are affected by different influences. If the differences are material, the expense is divided into component parts to ensure that the various influences are accurately matched with the expenses they affect. The different expense types identified are referred to as *components*. The proportion of total expense attributable to a particular component is referred to as the *component weight*.

28 The Commission identified three components for VET and estimated the proportion of expenses that each cost component contributed to total VET education costs. The components and component weights are presented in Table 6.

Table 6 Components and component weights, 2006-07

	$m	%
Fixed costs	53.714	1.15%
Isolation	9.291	0.20%
Institutes	4 614.281	98.65%
Total	4 677.285	100.00%

29 The component weights for fixed costs and isolation were calculated directly. For 2006-07, fixed costs were estimated at $53.7 million and isolation costs at $9.3 million.[3] The corresponding component weights are calculated by dividing these amounts by total category expenses. The institutes component weight was calculated as the residual amount.

30 The Commission identifies the influences affecting each component. They are, in the Commission's assessment, the reasons why States spend more (or less) than the average expense per capita to provide the average level of service. The Commission presents these influences as factors.

Box 3: Commission factors

A factor is the Commission's estimate of the relative financial impact a particular influence has on a State's cost of providing a service. Factors are only calculated for the part of the influence that is beyond the control of individual State governments.

A factor value of 1 means the Commission considers the State could provide the average level of service by spending the average expense per capita. A factor value of more than 1 means the Commission considers the State will have to spend more than the average expense per capita to provide the average level of service. A factor value of less than 1 means the Commission considers the State can provide the average level of service by spending less than the average expense per capita.

31 Table 7 lists each component and associated factors for VET services. An explanation of the reasoning behind each factor assessment in the VET category and the method of assessment is presented below.

[3] The Administrative Scale and Isolation sections of Volume 4 of these working papers describe how the Commission determines the size of the administrative scale and isolation costs.

DERIVING THE FIXED COST COMPONENT FACTOR

32 The Commission considers the amount of fixed costs required to be spent by each State is influenced by administrative scale and differences in the price of labour, accommodation and electricity.

Administrative scale factor

33 The administrative scale factor is assessed to recognise the unavoidable cost each State incurs to provide central administrative services to plan regulate and subsidise services, regardless of the size of the population.

Table 7 Components and factors, 2008 Update

Component	Component weight	Factors	Influence measured by factor
Fixed costs	1.15%	Administrative scale	Recognises the unavoidable costs each State incurred to provide the policy and administrative infrastructure necessary to provide the minimum unavoidable service, regardless of the size of the task.
		Fixed costs input costs	Recognises the differences between States in the prices of head office labour, accommodation, and electricity used in providing services.
Institutes	98.65%	Socio-demographic composition	Recognises the differences between States in the proportion of their population using VET services. Cost weights are applied to recognise the higher costs of providing services to students with particular characteristics (for example, Indigeneity, low socio-economic status, low English fluency, living in geographically remote locations).
		Service delivery scale	Recognises that additional costs are incurred by schools in small urban centres and in the provision of distance education services.
		Cross-border	Recognises the additional costs incurred by the ACT in providing services to students who are New South Wales residents.
		Dispersion	Recognises the differences in per capita costs of service provision associated with the spread of population.
		Input costs	Assessed by the general method with a weighting of 70% for wages, 2% for accommodation and 0.05% for electricity.
Isolation	0.20%	Isolation	Recognises the additional costs incurred by the States, attributable to the distance of the State from other State capitals and sources of supply.

34 The disabilities for administrative scale factors are assessed by a common method. The method is discussed in Volume 2 of the 2004 Review working papers under the section for common factors.

35 For 2006-07, the level of unavoidable fixed cost assessed for this category is $6.658 million for each State. Another $0.446 million is assessed for the Northern Territory because its high proportion of indigenous students necessitates dual planning and administrative structures. For this category, the ACT is assessed to have the same needs as the six States.

36 Table 8 shows the amount assessed for each State and the per capita equivalent. It also shows the administrative scale factor that is calculated by dividing each States' per capita amount by the average per capita amount.

Table 8 Vocational Education and Training, calculation of administrative scale factor, 2006-07

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Fixed cost amount	$m	6.658	6.658	6.658	6.658	6.658	6.658	6.658	6.658	53.267
Dual policy amount	$m	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.446	0.446
Fixed costs	$m	6.658	6.658	6.658	6.658	6.658	6.658	6.658	7.105	53.714
Population	m	6.856	5.168	4.136	2.082	1.577	0.492	0.337	0.213	20.859
Fixed costs per capita	$pc	0.97	1.29	1.61	3.20	4.22	13.54	19.78	33.39	2.58
Factor		0.37715	0.50037	0.62523	1.24190	1.64000	5.25924	7.67972	12.96474	1.00000

37 The administrative scale factor is revised annually by adjusting the unavoidable fixed cost to reflect changes in the labour price (80 per cent weight) and consumer price index (20 per cent weight).

Fixed costs input costs factor

38 The input costs factor is assessed to recognise interstate differences, beyond the control of States, in the price of labour, accommodation and electricity used in providing administrative services.

39 The disabilities for the input costs factors are assessed by a common method. The method is discussed in Volume 2 of the 2004 Review working papers under the section for common factors.

40 The input costs factor depends on the proportion of fixed costs expenses deemed to relate to labour, accommodation expenses and electricity expenses. For this component, these are 80% for labour, 2% for accommodations and 0.5% for electricity. Table 9 shows:

- the price differentials for labour (wages), accommodation and electricity assessed by the Commission. For example, the average price of labour in New South Wales are, for reasons beyond its control, 3.0 per cent higher than average;
- the proportion of fixed costs expenses which relate to labour, accommodation and electricity expenses;

- a total price differential — obtained by weighting each price differential by the proportion of the fixed costs expenses it influences; and
- the 2006-07 fixed costs input costs factor — which is one plus the total price differential.

Table 9 Derivation of fixed costs input costs factor, 2006-07

	Prop'n	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
	%	%	%	%	%	%	%	%	%
Wages	80.0	3.0	-0.5	-2.7	-1.4	-2.2	-4.1	2.5	2.5
Accommodation	2.0	5.0	-19.6	29.4	13.2	-34.2	-41.6	-1.1	-35.8
Electricity	0.5	-1.9	-1.9	-1.9	13.6	2.6	-40.3	-1.9	90.1
Balance of expenses	17.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total price	100.0	2.5	-0.8	-1.6	-0.8	-2.4	-4.3	1.9	1.8
Factor		1.02528	0.99212	0.98387	0.99199	0.97579	0.95664	1.01939	1.01769

(a) May not add due to rounding.

Box 4: Weighting factors

The Commission weights a factor when it is to be applied to all of a component expense but it only affects part of that expense.

As an example, the fixed costs input costs factor is to be applied to all of the administrative scale expenses, but it only affects labour (80 per cent), accommodation (2 per cent) and electricity (1/2 per cent) parts of these expenses. So, the Commission weights each subfactor according to the share of expenses it affects.

The formula is:

Weighted factor $= \Sigma_i \text{Weight}_i * \text{subfactor}_i + (100\% - \Sigma_i \text{Weight}_i) * \text{EPC factor}$

Where: i = the number of subfactors. For example, labour, accommodation and electricity

Weight_i = the share of expenses affected by the relevant subfactor

$(100\% - \Sigma_i \text{Weight}_i)$ = the share of expenses not affected by any of the subfactors.

For the fixed costs input costs factor, the formula is:

Weighted factor = 80% * labour subfactor+ 2% * accommodation subfactor
+ 0.5% * electricity subfactor + 17.5% * EPC factor

Weighting factors according to the proportion of expenses they affect is important. Weighting factors allows the Commission to combine them. After weighting, a percentage increase in one factor has the same impact on expenses as the same percentage increase in any other factor.

41 The input cost factor is revised annually to allow for changes in the prices of labour, accommodation and electricity.

Fixed costs component factor

42 The fixed costs component factor is calculated using the formula:

Fixed costs component factor = [administrative scale * fixed costs input costs]

43 The Commission combines these factors multiplicatively because it recognises that States will vary around their administrative scale assessment due to differences in the price of inputs. For example, Table 9 shows price differences added 2.5 per cent to New South Wales costs, so it would cost New South Wales 2.5 per cent more than its administrative scale assessment ($6.658 million) to finance the minimum structures required to provide State services.

44 Table 10 shows the derivation of the component factor. It is the same as a component factor obtained by multiplying the administrative scale and fixed costs input costs factor.

45 The component factor is calculated by:

- estimating the impact of differences in the unit cost of inputs between States on the fixed costs assessed in Table 8;
- adding this impact to States' fixed costs;
- dividing each State's total fixed costs by its population; and
- calculating the component factor by dividing each States' per capita figure by the average per capita figure.

Table 10 Vocational Education and Training, calculation of fixed costs component factor, 2006-07

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
A. Fixed costs amount										
Amount	$m	6.658	6.658	6.658	6.658	6.658	6.658	6.658	7.105	53.714
B. Differences in price of inputs										
Difference	%	2.5	-0.8	-1.6	-0.8	-2.4	-4.3	1.9	1.8	0.0
C. Impact of price differences (A*B)										
Amount	$m	0.168	-0.052	-0.107	-0.053	-0.161	-0.289	0.129	0.126	-0.240
D. Total fixed costs (A+C)										
Amount	$m	6.827	6.606	6.551	6.605	6.497	6.370	6.788	7.230	53.474
Populations	m	6.856	5.168	4.136	2.082	1.577	0.492	0.337	0.213	20.859
E. Total fixed costs per capita										
Expenses per capita	$pc	0.99576	1.27837	1.58405	3.17240	4.12092	12.95590	20.15958	33.97608	2.56360
F. Factor										
Factor		0.38842	0.49866	0.61790	1.23748	1.60748	5.05379	7.86378	13.25328	1.00000

Note: The component factor shown here is the component factor after it has been scaled to ensure total assessed expenses equals average expenses (see Box 8). The component factor shown in Table 27 is the component factor prior to scaling.

DERIVING THE INSTITUTES COMPONENT FACTOR

46 The Commission considers each States' level of VET costs to be influenced by the number of people attending its VET institutions and differences in:

- the costs of providing services to particular groups of students;
- the price of labour, accommodation and electricity;
- the costs associated with the geographical dispersion of a State's population;
- the costs of providing small VET institutions in sparsely populated areas; and
- the cost to the ACT of providing services to students who are New South Wales residents.

Socio-demographic composition factor

47 A socio-demographic composition (SDC) factor is assessed to take account of State differences in:

- the use of services. The use of services is measured by adjusting annual contact hours to remove the influence of State policies; and
- the unit cost of providing services to students in special needs groups. The special needs groups are Indigenous students, Indigenous students living in remote areas, students from a low socio-economic background and students with low English fluency.

Box 5: Socio-demographic composition

Step 1: Remove the influence of State policies on the use of services

State policies on the number, location and resourcing of VET institutions affect the number of annual contact hours provided to residents. The Commission removes the impact of these policies by assessing use weights for selected population groups.

The Commission determined assessed use by:

- calculating average use for each student group. It recognises 288 different groups;
- applying the average use to the number of people in each population in the State; and
- aggregating over all groups..

Step 2: Adjust assessed use for changes in employment and unemployment

States' levels of employment and unemployment change over time. To reflect the increase in employment levels, the Commission increased the population classified as employed and decreased the population classified as unemployed. The Commission did not change the population classified as not in the labour force.

Step 3: Allow for the additional costs of providing services to particular student groups

It costs more to provide VET services to some students. The Commission takes into account the additional costs of providing schooling to Indigenous students, students from low socio-economic backgrounds, students living in geographically remote areas, students with low fluency in English, students who are humanitarian refugees and the costs of vandalism in very large urban areas..

Use of services

48 Commission measured use by annual contact hours for students aged 15 to 59.[4]

49 Annual contact hour (ACH) data were obtained from the National Centre for Vocational Education Research (NCVER). The data were obtained through a special data collection and the data will not be updated until the next review.

50 The Commission accepted that the higher participation rates of certain population groups were beyond the control of States. It used the NCVER data to confirm that some population groups had higher participation rates than the average. After consultation with the States, the Commission decided the population characteristics which affected participation rates and which were beyond the control of States were:

- labour force status;
- age;
- location;
- Indigeneity; and
- low English fluency.

51 The Commission disaggregated the annual contact hours data according to these characteristics. The data were disaggregated into 288 population groups.[5]

52 The number of annual contact hours in each State is influenced by State policies, including:

- the location of VET institutions, which affects students access to VET services;
- the courses offered at VET institutions, particularly those designed to retain or update labour force skills; and
- the equity groups targeted by States.

53 It is, therefore, inappropriate for the Commission to accept States' actual annual contact hours as a measure of the number of services they need to provide. The Commission removes the effect of State policy differences by giving each State the capacity to provide the average level of services. The Commission defines the average level of service as the average number of annual contact hours per capita for the selected population groups. Average annual contact hours per capita are calculated using data supplied by NCVER. They are also referred to as use weights.

54 Use weights were calculated up to 2003-04 using 2001 ACH data and 2001 Census data and for subsequent years using 2006 ACH data and 2006 Census . Table 11 shows the calculation of use weights for the first 20 groups using 2006 data.

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4 As people aged over 60 have a very low use of VET services, the Commission restricted its analysis to those aged 15 to 59.

5 The number of groups is dependent on the characteristics of interest to the Commission. In this assessment there were 288 groups: 3 labour force status; 4 age; 2 socio-demographic composition; 2 English proficiency; and 6 location.

55 The average use of services in 2006 was 23.00 hours per capita. Figures in excess of this imply the relevant population group uses VET services more intensively than the population as a whole. This is the case for each of the population groups shown in Table 11. Figures less than this imply the relevant group uses VET services less intensively than the population as a whole.

56 For each student group, the assessed use is obtained by applying the use weight to the number of people in each State in that population group.

Table 11 Calculation of average annual contact hours per capita

Student characteristic	Annual contact hours (2006)	Population (2006 Census)	Average annual contact hours per capita
People who are employed, aged 15-19, speak English at home, are Indigenous and live in:			
Mega Metropolitan and Highly accessible areas of the State [(a)]	786 759	5 995	131.23
Accessible areas of the State	396 477	3 659	108.37
Moderately accessible areas of the State	439 705	3 255	135.07
Remote areas of the State	135 695	685	198.00
Very remote areas of the State	199 129	1 528	130.29
People who are employed, aged 15-19, speak English at home, are non-Indigenous and live in:			
Mega Metropolitan and Highly accessible areas of the State [(a)]	39 188 085	369 013	106.20
Accessible areas of the State	12 273 841	126 925	96.70
Moderately accessible areas of the State	7 034 740	69 408	101.35
Remote areas of the State	958 325	6 708	142.87
Very remote areas of the State	456 057	3 963	115.07
People who are employed, aged 15-19, do not speak English at home, are Indigenous and live in:			
Mega Metropolitan and Highly accessible areas of the State [(a)]	21 964	211	104.34
Accessible areas of the State	3 216	90	35.74
Moderately accessible areas of the State	13 198	116	113.78
Remote areas of the State	13 680	161	85.01
Very remote areas of the State	62 638	1 332	47.02
People who are employed, aged 15-19, do not speak English at home, are non-Indigenous and live in:			
Mega Metropolitan and Highly accessible areas of the State [(a)]	5 622 906	52 528	107.04
Accessible areas of the State	123 656	2 220	55.70
Moderately accessible areas of the State	81 891	1 610	50.87
Remote areas of the State	15 009	119	126.06
Very remote areas of the State	13 743	152	90.39

(a) Mega Metro and Highly Accessible regions have been collapsed in the calculation of use rates due to changes in ABS urban centre/locality boundaries between the 2001 Census and the 2006 Census. The distinction is made between Mega Metro and other Highly Accessible for cost weighting.

57 **Adjustment for changes in employment and unemployment.** The use weight calculations for 2002-03 and 2003-04 were based on the 2001 Census employment and

unemployment figures. However, since the 2001 Census, employment has generally increased and unemployment decreased. Prior to applying the use weights, the Commission adjusts State's populations to take account of changes in employment and unemployment. Similarly, an adjustment was made to 2006 Census populations for 2004-05, 2005-06 and 2006-07, using the latest ABS unemployment data.

58 Table 12 shows:

- State's 2006 Census population aged 15 to 59 by labour force status;
- State's 2006 Census population aged 15 to 19 by labour force status, adjusted for their lower unemployment rates as at August 2007 (for 2006-07 financial year);
- the difference between the two; and the percentage change.

59 Table 12 shows that the number employed in New South Wales has risen 0.7 per cent and the number unemployed has fallen 11.0 per cent. The Commission used each State's percentage changes to increase the population classified as employed in the Census and to decrease the population classified as unemployed. The population classified as not in the labour force was not changed. This adjustment gave the employed a slightly greater weight (and the unemployed a slightly lower weight) than that implied by their 2006 Census populations.

Table 12 Unadjusted and adjusted population aged 15 to 59 by labour force status, 2006 Census

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
A. Census population								
Employed	2 998 038	2 322 800	1 898 465	987 257	695 099	207 479	180 226	100 075
Unemployed	194 163	137 233	96 818	39 550	39 590	14 740	6 321	4 901
Not in Labour force	997 700	734 762	542 650	274 193	220 212	73 532	36 955	34 536
Total	4 189 902	3 194 795	2 537 933	1 301 000	954 901	295 750	223 502	139 511
B. Census population adjusted for declining unemployment rates, 2006-07								
Employed	3 019 467	2 334 330	1 913 384	987 406	693 589	208 831	181 300	99 450
Unemployed	172 735	125 703	81 899	39 400	41 100	13 387	5 247	5 525
Not in Labour force	997 700	734 762	542 650	274 193	220 212	73 532	36 955	34 536
Total	4 189 902	3 194 795	2 537 933	1 301 000	954 901	295 750	223 502	139 511
C. Difference (B - A)								
Employed	21 429	11 529	14 919	150	- 1 510	1 353	1 074	- 625
Unemployed	- 21 429	- 11 529	- 14 919	- 150	1 510	- 1 353	- 1 074	625
Not in Labour force	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
D. Percentage change (C / A)								
Employed	0.7	0.5	0.8	0.0	-0.2	0.7	0.6	-0.6
Unemployed	-11.0	-8.4	-15.4	-0.4	3.8	-9.2	-17.0	12.7
Not in Labour force	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(a) The unemployment rates implied by Census data were higher for all States except South Australia and the Northern Territory.

60 Table 13 shows that adjusted population for each State for the first 24 population groups. Applying the adjustment for changes in employment and unemployment means the Australian population figures in this table (which relate to employed people) will be bigger than the population figures in Table 11.

Table 13 Numbers of persons by characteristic, 2006 Census (adjusted)

Student Characteristic	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
People who are employed, aged 15-19, speak English at home, are Indigenous and live in:									
Mega metropolitan	1 056	421	1 375	833	355	0	0	0	4 041
Highly accessible	812	60	279	109	7	195	160	360	1 982
Accessible	1 295	339	1 167	246	170	439	0	24	3 681
Moderately accessible	1 103	113	1 421	350	126	80	0	81	3 275
Remote	186	0	236	70	13	0	0	182	687
Very remote	90	0	458	706	53	6	0	219	1 531
People who are employed, aged 15-19, speak English at home, are non-Indigenous and live in:									
Mega metropolitan	71 643	76 636	60 735	47 252	29 216	0	0	0	285 482
Highly accessible	31 595	9 761	16 604	5 858	1 899	5 067	11 581	2 952	85 316
Accessible	30 615	34 255	37 347	10 219	6 617	8 288	20	281	127 642
Moderately accessible	26 106	7 206	24 260	6 256	5 048	650	0	285	69 811
Remote	1 530	101	2 476	982	791	3	0	848	6 732
Very remote	352	0	1 068	1 901	179	44	0	429	3 972
People who are employed, aged 15-19, do not speak English at home, are Indigenous and live in:									
Mega metropolitan	41	27	53	27	15	0	0	0	164
Highly accessible	15	3	6	4	0	3	3	13	48
Accessible	18	5	20	5	31	3	0	8	90
Moderately accessible	16	0	78	0	11	0	0	10	117
Remote	0	0	14	4	0	0	0	142	160
Very remote	0	0	349	414	74	0	0	494	1 332
People who are employed, aged 15-19, do not speak English at home, are non-Indigenous and live in:									
Mega metropolitan	21 169	15 420	4 507	4 592	2 785	0	0	0	48 472
Highly accessible	1 290	411	897	173	47	148	1 007	363	4 335
Accessible	542	644	623	192	131	86	0	14	2 232
Moderately accessible	488	158	696	159	94	9	0	16	1 619
Remote	18	0	41	18	11	0	0	31	119
Very remote	9	0	17	87	10	0	0	30	152
Total all population groups									
Total	4 189 902	3 194 795	2 537 933	1 301 000	954 901	295 750	223 502	139 511	12 837 295

61 Assessed use was calculated by:

- apportioning the adjusted Census populations from into 288 groups (Table 13);
- combining the use weight (Table 11) and the adjusted populations for each population group (Table 13); and aggregating over all 288 population groups (Table 14).

Table 14 Assessed use (contact hours), 2006-07

Student Characteristic	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
	`000	`000	`000	`000	`000	`000	`000	`000	`000
People who are employed, aged 15-19, speak English at home, are Indigenous and live in:									
Mega metropolitan	139	55	180	109	47	0	0	0	530
Highly accessible	107	8	37	14	1	26	21	47	260
Accessible	140	37	126	27	18	48	0	3	399
Moderately accessible	149	15	192	47	17	11	0	11	442
Remote	37	0	47	14	3	0	0	36	136
Very remote	12	0	60	92	7	1	0	28	200
People who are employed, aged 15-19, speak English at home, are non-Indigenous and live in:									
Mega metropolitan	7 608	8 139	6 450	5 018	3 103	0	0	0	30 317
Highly accessible	3 355	1 037	1 763	622	202	538	1 230	314	9 060
Accessible	2 961	3 313	3 612	988	640	801	2	27	12 343
Moderately accessible	2 646	730	2 459	634	512	66	0	29	7 076
Remote	219	14	354	140	113	0	0	121	962
Very remote	40	0	123	219	21	5	0	49	457
People who are employed, aged 15-19, do not speak English at home, are Indigenous and live in:									
Mega metropolitan	4	3	5	3	2	0	0	0	17
Highly accessible	2	0	1	0	0	0	0	1	5
Accessible	1	0	1	0	1	0	0	0	3
Moderately accessible	2	0	9	0	1	0	0	1	13
Remote	0	0	1	0	0	0	0	12	14
Very remote	0	0	16	19	4	0	0	23	63
People who are employed, aged 15-19, do not speak English at home, are non-Indigenous and live in:									
Mega metropolitan	2 266	1 651	482	492	298	0	0	0	5 189
Highly accessible	138	44	96	19	5	16	108	39	464
Accessible	30	36	35	11	7	5	0	1	124
Moderately accessible	25	8	35	8	5	0	0	1	82
Remote	2	0	5	2	1	0	0	4	15
Very remote	1	0	2	8	1	0	0	3	14
Total all population groups									
Total	94 162	70 205	59 371	29 776	21 663	6 844	4 873	3 523	290 418

62 The weighted population figures shown in Table 14 are State populations adjusted to remove the effects of differences in:

- the rate of change of employment and unemployment; and
- State policies.

Unit cost of supplying services

63 Certain groups of students in VET institutions have special needs. It costs more to provide services to these students. The Commission takes into account the additional costs of providing services to:

- Indigenous students;
- Indigenous students living in geographically remote areas;
- Indigenous students with low English fluency; and
- Non-Indigenous students with low fluency in English.

64 The Commission also takes into account the additional costs arising from urban influences due to vandalism of VET institutions in very large urban centres.

65 The Commission developed cost weights to recognise the additional average cost of providing services to students in these equity groups. The costs weights were derived from State information on the extra resources devoted to particular groups of students. States provided this information in response to the Commission's special data collections, in submissions and through workplace discussions. Table 15 shows the cost weights assessed by the Commission for the first 24 groups.

66 The cost weights imply, for example, that an Indigenous student who lives in a remote area and has low fluency in English costs 1.7 times the cost of a non-Indigenous student who lives in a non-remote area and is fluent in English.

Table 15 Socio-demographic composition cost weights for Vocational Education and Training, 2008 Update

	Low English Fluency	Fluent in English
Indigenous persons		
Remote	1.700	1.500
Non-remote	1.350	1.250
Non-indigenous persons		
Remote	1.015	1.000
Non-remote	1.015	1.000

Source: 2004 Review working papers, Volume 4, p179.

67 The urban influences cost weights are 1 per cent for Sydney and Melbourne, ½ per cent for Brisbane, Perth and Adelaide and 0 per cent for all other areas. Table 16 shows the cost weights for the first 24 population groups.

Table 16 Cost weights by characteristic

Student Characteristic	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
People who are employed, aged 15-19, speak English at home, are Indigenous and live in:								
Mega metropolitan area of the State	1.263	1.263	1.256	1.256	1.256	1.250	1.250	1.250
Highly accessible areas of the State	1.250	1.250	1.250	1.250	1.250	1.250	1.250	1.250
Accessible areas of the State	1.250	1.250	1.250	1.250	1.250	1.250	1.250	1.250
Moderately accessible areas of the State	1.250	1.250	1.250	1.250	1.250	1.250	1.250	1.250
Remote areas of the State	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500
Very remote areas of the State	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500
People who are employed, aged 15-19, speak English at home, are non-Indigenous and live in:								
Mega metropolitan area of the State	1.010	1.010	1.005	1.005	1.005	1.000	1.000	1.000
Highly accessible areas of the State	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Accessible areas of the State	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Moderately accessible areas of the State	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Remote areas of the State	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Very remote areas of the State	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
People who are employed, aged 15-19, do not speak English at home, are Indigenous and live in:								
Mega metropolitan area of the State	1.364	1.364	1.357	1.357	1.357	1.350	1.350	1.350
Highly accessible areas of the State	1.350	1.350	1.350	1.350	1.350	1.350	1.350	1.350
Accessible areas of the State	1.350	1.350	1.350	1.350	1.350	1.350	1.350	1.350
Moderately accessible areas of the State	1.350	1.350	1.350	1.350	1.350	1.350	1.350	1.350
Remote areas of the State	1.700	1.700	1.700	1.700	1.700	1.700	1.700	1.700
Very remote areas of the State	1.700	1.700	1.700	1.700	1.700	1.700	1.700	1.700
People who are employed, aged 15-19, do not speak English at home, are non-Indigenous and live in:								
Mega metropolitan area of the State	1.025	1.025	1.020	1.020	1.020	1.015	1.015	1.015
Highly accessible areas of the State	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015
Accessible areas of the State	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015
Moderately accessible areas of the State	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015
Remote areas of the State	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015
Very remote areas of the State	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015

68 The Commission calculates the effect of the additional cost of supplying services to particular student groups by:

- combining the assessed use (Table 14) and cost weights (Table 16) for each group;
- totalling the weighted populations by aggregating across groups (Table 17).

69 Table 17 shows the calculation for the first 24 population groups.

Table 17 Weighted population, 2006 Census (adjusted)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
	`000	`000	`000	`000	`000	`000	`000	`000	`000
People who are employed, aged 15-19, speak English at home, are Indigenous and live in:									
Mega metropolitan	175	70	227	137	58	0	0	0	667
Highly accessible	133	10	46	18	1	32	26	59	325
Accessible	175	46	158	33	23	59	0	3	499
Moderately accessible	186	19	240	59	21	13	0	14	553
Remote	55	0	70	21	4	0	0	54	204
Very remote	18	0	89	138	10	1	0	43	299
People who are employed, aged 15-19, speak English at home, are non-Indigenous and live in:									
Mega metropolitan	7 684	8 220	6 482	5 043	3 118	0	0	0	30 548
Highly accessible	3 355	1 037	1 763	622	202	538	1 230	314	9 060
Accessible	2 961	3 313	3 612	988	640	801	2	27	12 343
Moderately accessible	2 646	730	2 459	634	512	66	0	29	7 076
Remote	219	14	354	140	113	0	0	121	962
Very remote	40	0	123	219	21	5	0	49	457
People who are employed, aged 15-19, do not speak English at home, are Indigenous and live in:									
Mega metropolitan	5	3	4	3	1	0	0	0	17
Highly accessible	4	0	2	0	0	0	0	5	10
Accessible	1	1	2	1	1	1	0	1	6
Moderately accessible	3	0	8	2	4	0	0	4	21
Remote	0	0	7	0	0	0	0	3	10
Very remote	0	0	22	29	8	0	0	43	102
People who are employed, aged 15-19, do not speak English at home, are non-Indigenous and live in:									
Mega metropolitan	2 323	1 692	492	501	304	0	0	0	5 313
Highly accessible	140	45	97	19	5	16	109	39	471
Accessible	31	36	35	11	7	5	0	1	126
Moderately accessible	25	8	36	8	5	0	0	1	84
Remote	2	0	5	2	1	0	0	4	15
Very remote	1	0	2	8	1	0	0	3	14
Total all populaion groups									
Total	96 207	71 164	60 878	30 713	21 995	6 970	4 911	4 230	297 068

70 The weighted population figures at the bottom of this table are State populations adjusted to remove the effects of differences in:

- the rate of change of employment and unemployment;
- State policies; and
- the cost of providing services to particular student groups.

Table 18 Derivation of socio-demographic composition factor, 2006-07

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
A. Weighted Population									
Number ('000)	96 207	71 164	60 878	30 713	21 995	6 970	4 911	4 230	297 068
B. Total State population (2006 Census)									
Number ('000)	6 817	5 128	4 092	2 059	1 568	490	334	211	20 699
C. Ratio (A / B)									
Ratio	14.11	13.88	14.88	14.92	14.03	14.23	14.69	20.08	14.35
D. Factor (C / C_{Aust})									
Unscaled factor	0.98332	0.96690	1.03674	1.03934	0.97726	0.99124	1.02392	1.39899	1.00000
Scaled factor	0.98326	0.96684	1.03668	1.03928	0.97720	0.99118	1.02386	1.39890	1.00000

(a) Factors are scaled so that the sum of assessed expenses equals average expenses.

71 The weighted population figures are a measure of the differences in the assessed use (including the unit cost of supplying services to students with particular characteristics) of VET services. The following sections focus on differences in the price of providing these services.

72 The socio-demographic composition factors are revised annually to allow for changes in unemployment rates and State populations. Table 19 shows the assessed factors for the 2008 Update.

Table 19 Vocational Education and Training, socio-demographic composition factor, 2008 Update

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
2001-02	0.96502	0.95841	1.08750	1.04301	0.96742	1.03526	1.00221	1.27833	1.00000
2002-03	0.96653	0.97520	1.06214	1.02690	0.98180	1.03108	1.00457	1.32582	1.00000
2003-04	0.97066	0.97353	1.05521	1.04861	0.95308	1.00383	1.02137	1.38410	1.00000
2004-05	0.98531	0.96762	1.04909	1.02013	0.95823	1.01683	1.01689	1.36459	1.00000
2005-06	0.98326	0.96684	1.03668	1.03928	0.97720	0.99118	1.02386	1.39890	1.00000

Service delivery scale factor

73 The service delivery scale factor recognises the diseconomies associated with the cost of providing small VET institutes in sparsely populated areas.

74 There were little reliable national VET data on which to base a service delivery scale factor. The Commission decided the Government Secondary Schools service delivery scale factor would be used as the proxy for the VET factor.

75 Details of the calculation for the service delivery scale for Government Secondary School Education can be found in Volume 4 of the 2004 Review working papers.

76 Table 20 shows the calculation of the service delivery scale factor for VET for 2006-07. It is only revised in a review.

Table 20 Service delivery scale factor, 2006-07

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
A. Number of staff when an allowance is made for economies of small scale									
Number	29 872	21 699	15 344	8 383	6 296	2 822	1 616	964	86 995
B. Number of staff when no allowance is made for economies of small scale									
Number	29 468	21 392	15 017	8 153	6 072	2 650	1 616	894	85 263
C. Ratio (A / B)									
Ratio	1.01369	1.01434	1.02174	1.02816	1.03687	1.06507	1.00000	1.07756	1.02031
D. Factor (C / CAust)									
Unscaled factor	0.99351	0.99415	1.00140	1.00769	1.01623	1.04387	0.98009	1.05611	1.00000
Scaled factor	0.99354	0.99417	1.00143	1.00772	1.01625	1.04390	0.98012	1.05614	1.00000

(a) Factors are scaled so that the sum of assessed expenses equals average expenses.

Box 7: Scaling factors

Some factor assessments cause total assessed expenses to move away from average expenses. To prevent gaps opening up in the assessments, the Commission scales these factors to ensure total assessed expenses equals average expenses. It also scales component factors.

The scaling procedure is to:

(i) apply the factor to mean resident population;

(ii) calculate the total weighted population by aggregating across States;

(iii) divide total mean resident population by the total weighted population; and

(iv) scale each State's factor using this ratio.

Cross border

77 Cross border factors were assessed for New South Wales and the ACT to recognise the costs imposed on the ACT of providing places in its VET institutions for students who were residents of New South Wales. These factors were not assessed for the other States because their net flow of cross border services was a small proportion of their total service provision.

Box 8: Cross border

Step 1: Calculate the number of annual contact hours provided to residents of other States

The number of annual contact hours provided to residents from other States is available from the NCVER. For States other than the ACT, these numbers were a small proportion of their total annual contact hours.

Step 2: Calculate the net annual contact hours provided by the ACT to residents of New South Wales

The net annual contact hours provided to residents of New South Wales was calculated as the difference between:

(i) the annual contact hours provided by the ACT to residents of NSW; and

(ii) the annual contact hours provided by NSW to residents of the ACT.

Step 3: Calculate the cross border factor

The cross border factor is estimated by calculating the net annual contact hours as a proportion of both State's total annual contact hours.

78 NCVER data were available on the number of annual contact hours each State provided to residents of other States. Other than for the ACT, the numbers were a small proportion of each State's total annual contact hours.

79 The cross border factor is based on the excess of the number of annual contact hours it provided to students who were residents of New South Wales over the number New South Wales provided to students who were residents of the ACT. The factor was assessed by calculating this excess as a proportion of each State's total annual contact hours. Table 21 shows the calculation of the factor.

Table 21 Calculation of cross border factor, 2006-07

	NSW	ACT
A.Total annual student hours		
Number	111 212 915	5 672 495
B. Annual contact hours provided to students from the other State		
Number	158 045	960 835
C. Net annual contact hours provided to students from the other State		
Number	- 802 790	802 790
D. Total adjusted hours		
Number	110 410 125	6 475 285
Cross border factor (D / A)		
Factor	0.99278	1.14152

Institutes input costs factor

80 The input costs factor is assessed to recognise interstate differences, beyond the control of States, in the price of labour, accommodation and electricity used in providing services for central and regional administrative services. The disabilities for the input costs factor are

assessed by a common method. The method is discussed in Volume 2 of the 2004 Review working papers under the section for common factors.

81 The input costs factor depends on the proportion of VET expenses deemed to relate to labour, accommodation expenses and electricity expenses. For this component, these are 70% for labour, 2% for accommodation and 0.5% for electricity. Table 22 shows:

- the price differentials for labour (wages), accommodation and electricity assessed by the Commission;
- the proportion of VET expenses which relate to labour, accommodation and electricity expenses;
- a total price differential — obtained by weighting each price differential by the proportion of VET expenses it influences; and
- the 2005-06 institutes input costs factor — which is one plus the total price differential.

Table 22 Derivation of institutes input costs factor, 2006-07

	Prop'n	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
	%	%	%	%	%	%	%	%	%
Wages	70	3.0	-0.5	-2.7	-1.4	-2.2	-4.1	2.5	2.5
Accommodation	2	5.0	-19.6	29.4	13.2	-34.2	-41.6	-1.1	-35.8
Electricity	0.5	-1.9	-1.9	-1.9	13.6	2.6	-40.3	-1.9	90.1
Balance of expenses	27.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total price	100	2.2	-0.7	-1.3	-0.7	-2.2	-3.9	1.7	1.5
Factor		1.02223	0.99260	0.98661	0.99340	0.97798	0.96077	1.01693	1.01515

(a) May not add due to rounding.

82 The input costs factor is revised annually to allow for changes in the prices of labour, accommodation and electricity.

Dispersion factor

83 The dispersion factor is assessed to recognise differences in the per capita costs of service provision associated with the geographic dispersion of population. The dispersion factor reflects the combined differences in State expenses associated with telecommunications, freight, travel and other costs associated with providing services to dispersed localities. The disabilities for the dispersion factors are assessed by a common method. The method is discussed in Volume 2 of the 2004 Review working papers under the section for common factors.

84 Table 23 shows:

- the price differentials for each of the 11 types of expenses covered by the dispersion factor;
- the proportion of VET expenses which relate to each type of expense;

- a total price differential — obtained by weighting each price differential by the proportion of VET expenses it influences; and
- the 2006-07 institutes dispersion factor — which is one plus the total price differential.

Table 23 Derivation of dispersion factor, 2006-07

	Prop'n	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
	%	%	%	%	%	%	%	%	%
Voice technology	0.6	-1.3	-13.8	16.6	12.2	-8.9	-4.5	-61.3	138.7
Non-voice technology	0.1	-0.2	0.0	0.0	0.3	0.0	-0.1	0.5	0.7
General freight	0.2	3.8	-7.8	25.8	-0.9	-46.1	-5.1	-92.1	115.9
Air travel	0.2	10.0	-85.3	135.9	-9.8	-51.1	-99.6	-100.0	138.5
Inter-regional travel	0.7	8.1	-11.8	-10.3	-8.7	16.0	100.2	-85.6	68.6
Local travel	0.0	-3.0	-5.2	-3.0	22.0	-12.8	-32.7	-46.0	331.8
Remote removals	0.1	-56.4	-96.9	89.9	220.4	-20.7	-65.2	-100.0	964.6
Locality allowances	0.5	-58.5	-97.6	92.0	207.7	-41.9	-89.2	-100.0	1360.7
Repairs and maintenance	0.0	-69.7	-95.5	28.6	184.7	47.0	-38.1	-100.0	2281.6
Technology related repairs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Technology related support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Balance	97.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total price	100.0	-0.2	-0.9	0.9	1.1	-0.4	0.0	-2.0	8.8
Factor		0.99755	0.99073	1.00869	1.01081	0.99632	0.99988	0.98029	1.08807

(a) May not add due to rounding.

85 The dispersion factor is revised only in a review.

Institutes component factor

86 The institutes component factor represents the combined impact of assessed service use and assessed unit costs on VET expenses. The socio-demographic composition factor captures the assessed service use and differences in the unit cost of providing services to students with particular characteristics. The Commission recognises that the costs of providing VET services will vary between States because:

- the unit costs of providing small institutes in small urban centres varies between States;
- the unit costs of inputs varies between States;
- the unit costs of service provision associated with the geographic dispersion of population varies between States; and
- the number of New South Wales residents attending the Canberra Institute of Technology varies.

87 Table 24 shows the derivation of a combined input costs and dispersion factor. It shows that the two factors influence different types of expenses and so do not interact. Consequently, these factors can be combined by addition.

Table 24 Derivation of combined input costs and dispersion factor, 2006-07

Expense type	Prop'n	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
	%	%	%	%	%	%	%	%	%
Input costs sub-total	72.5	2.2	-0.7	-1.3	-0.7	-2.2	-3.9	1.7	1.5
Dispersion sub-total	2.4	-0.2	-0.9	0.9	1.1	-0.4	0.0	-2.0	8.8
Balance	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total price (a)	100.0	2.0	-1.7	-0.5	0.4	-2.6	-3.9	-0.3	10.3
Factor		1.01978	0.98334	0.99530	1.00421	0.97429	0.96065	0.99722	1.10321

(a) May not add due to rounding.

88 The Commission combines these influences by:

- adjusting State populations for differences in assessed service use (the socio-demographic composition factors from Table 18);
- adjusting the assessed service use for differences in the costs of providing small institutes in small urban centres vary between States;
- adjusting notional enrolments for the combined effect of differentials in the price of labour, accommodation and electricity and the costs of service provision associated with the geographic dispersion of population;
- dividing the adjusted notional enrolments by each State's population; and
- calculating the component factor by dividing each States' per capita figure by the average per capita figure.

89 Table 25 shows the derivation of the institutes component factor for 2006-07. It also compares the schools component factor with one calculated using the formula:

Institutes component factor = [socio-demographic composition * service delivery scale * cross border * (dispersion + input costs-1)]

90 The calculation shows that the dispersion and input costs factors should be added and then combined with the socio-demographic composition and service delivery scale factors by multiplication.

Table 25 Calculation of institutes component factor, 2006-07

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Assessed use									
A. Weighted population 15 to 59 (m)	96.207	71.164	60.878	30.713	21.995	6.970	4.911	4.230	297.068
B. Cross border adjustment	0.99278	1.00000	1.00000	1.00000	1.00000	1.00000	1.14152	1.00000	1.00000
C. Adjusted weighted population (A * B)	95.512	71.164	60.878	30.713	21.995	6.970	5.607	4.230	297.068
Percentage difference in prices and unit costs									
D. Small schools	-0.6	-0.6	0.1	0.8	1.6	4.4	-2.0	5.6	0.0
E. Input costs and dispersion	2.0	-1.7	-0.5	0.4	-2.6	-3.9	-0.3	10.3	0.0
F. Prices of services (D * E)[(a)]									
Price difference	1.3	-2.2	-0.3	1.2	-1.0	0.3	-2.3	16.5	0.0
G. Impact of differences in prices (C * F)									
Population (m)	1.260	-1.594	-0.200	0.368	-0.217	0.020	-0.127	0.699	0.208
H. Weighted population (C + G)									
Number (m)	96.772	69.570	60.678	31.081	21.778	6.989	5.480	4.928	297.277
I. Census Population[(b)]									
Number (m)	6.817	5.128	4.092	2.059	1.568	0.490	0.334	0.211	20.699
J. Ratio (I / H)									
Ratio	14.20	13.57	14.83	15.09	13.89	14.27	16.40	23.39	14.36
Factor (J / J_{Aust})									
Scaled Factor[(c)]	0.98834	0.94452	1.03255	1.05097	0.96687	0.99327	1.14153	1.62876	1.00000

(a) Care is required when combining price impacts. Table 20 shows the small institutes price impact for New South Wales is 0.99351 (that is its unit costs are 0.6% below average) and Table 24 shows its combined input costs and dispersion price impact is 1.01978 (that is, its unit costs are 2.0% above average). So, its total price impact is 1.3% = ((0.99351 * 1.01978)-1)*100.

(b) The VET assessment uses the 2001 Census population in the calculation of the SDC factors for the 2002-03 and 2003-04 assessment years and the 2006 Census population for 2004-5, 2005-06 and 2006-07.

(c) This is the component factor after it has been scaled to ensure total assessed expenses equals average expenses (see Box 7). The component factor shown in Table 27 is the component factor prior to scaling.

DERIVING THE ISOLATION COMPONENT FACTOR

91 One factor is assessed for the isolation component.

Isolation factor

92 The isolation factor recognises the additional costs incurred by some States due to their distance from other State capitals and sources of supply. It is calculated by a general method. The method is discussed in Volume 2 of the 2004 Review working papers under the section for common factors.

93 For 2006-07, the Commission assessed total isolation expenses of $9.3 million in this category. Table 26 shows the amount assessed for each State and the per capita equivalent. It also shows the isolation factor that is calculated by dividing each States' per capita amount by the average per capita amount.

Table 26 Calculation of isolation factor, 2006-07

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Isolation amount	0.125	0.159	0.208	1.676	0.768	0.602	0.184	5.568	9.291
Population	6.856	5.168	4.136	2.082	1.577	0.492	0.337	0.213	20.859
Fixed costs per capita	0.02	0.03	0.05	0.81	0.49	1.23	0.55	26.16	0.45
Factor	0.04081	0.06917	0.11309	1.80761	1.09363	2.75060	1.22840	58.74083	1.00000

94 ***Isolation component factor.*** As only one factor is assessed for this component, the isolation component factor is assessed using the formula:

Isolation component factor = [isolation]

95 The isolation factor is revised annually to reflect changes in isolation expenses.

CALCULATING CATEGORY FACTORS

96 Category factors measure the combined impact on a State of those circumstances that are beyond its control and that impact on its cost of providing VET services. Category factors are calculated by:

- weighting the component factors to reflect the importance of the component in the category. This is done by multiplying each component factor by its component weight; and
- adding the weighted component factors together.

97 Table 27 summarises the components, component weights and factors assessed for this category for the last year of the 2008 Update. It shows the calculation of the category factor for 2006-07.

Table 27 Vocational Education and Training, derivation of category factor, 2008 Update, 2006-07

Factors	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Fixed costs (component weight = 1.15 %)								
Administrative scale	0.37715	0.50037	0.62523	1.24190	1.64000	5.25924	7.67972	12.96474
Input costs	1.02528	0.99212	0.98387	0.99199	0.97579	0.95664	1.01939	1.01769
Component factor	0.38669	0.49643	0.61514	1.23195	1.60029	5.03121	7.82864	13.19405
A Wgtd comp factor	0.00446	0.00573	0.00710	0.01421	0.01846	0.05804	0.09031	0.15220
Institutes (component weight = 98.65 %)								
Socio-demographic composition	0.98326	0.96684	1.03668	1.03928	0.97720	0.99118	1.02386	1.39890
Service delivery scale	0.99354	0.99417	1.00143	1.00772	1.01625	1.04390	0.98012	1.05614
Cross border	0.99278	1.00000	1.00000	1.00000	1.00000	1.00000	1.14152	1.00000
Dispersion	0.99755	0.99073	1.00869	1.01081	0.99632	0.99988	0.98029	1.08807
Input costs	1.02223	0.99260	0.98661	0.99340	0.97798	0.96077	1.01693	1.01515
Component factor	0.98904	0.94519	1.03328	1.05171	0.96755	0.99398	1.14234	1.62992
B Wgtd comp factor	0.97503	0.93180	1.01864	1.03681	0.95385	0.97989	1.12615	1.60682
Isolation (component weight = 0.2 %)								
Isolation	0.04081	0.06917	0.11309	1.80761	1.09363	2.75060	1.22840	58.74083
Component factor	0.04081	0.06917	0.11309	1.80761	1.09363	2.75060	1.22840	58.74083
C Wgtd comp factor	0.00008	0.00014	0.00022	0.00359	0.00217	0.00546	0.00244	0.11668
Category factor	0.97957	0.93766	1.02596	1.05461	0.97448	1.04339	1.21890	1.87570

(a) For each component, the component factor is calculated using the formula in the following paragraph. The weighted component factor is the component factor multiplied by the component weight. This is then population weighted to ensure that the sum of the assessed expenses equals average expenses.

(b) Category factors the sum of the weighted components. It equals A + B + C.

98 The category factor was calculated as follows:

Category factor	=	fixed costs + institutes + isolation
Fixed costs	=	0.0115 [administrative scale * fixed costs input costs]
Institutes	=	0.9865 [socio-demographic composition * service delivery scale * cross-border * (dispersion + input costs –1)]
Isolation	=	0.0020 [isolation]

99 In each case, the contribution to the category factor was calculated as the component weight (the percentages in the table) multiplied by the component factor (the bracketed terms in the formulas). Each component's contribution to the category factor was scaled to ensure the sum of assessed expenses equalled average expenses.

RESULTS FOR 2006-07

100 Assessed expenses per capita are calculated by multiplying each States' category factor by the average expense per capita. Table 28 shows, for 2006-07, the actual, average and assessed expenses per capita and the assessed cost of providing services ratios. The assessed cost of providing services ratios are equivalent to the category factors shown in Table 27.

Table 28 Vocational Education and Training, assessment results, 2006-07

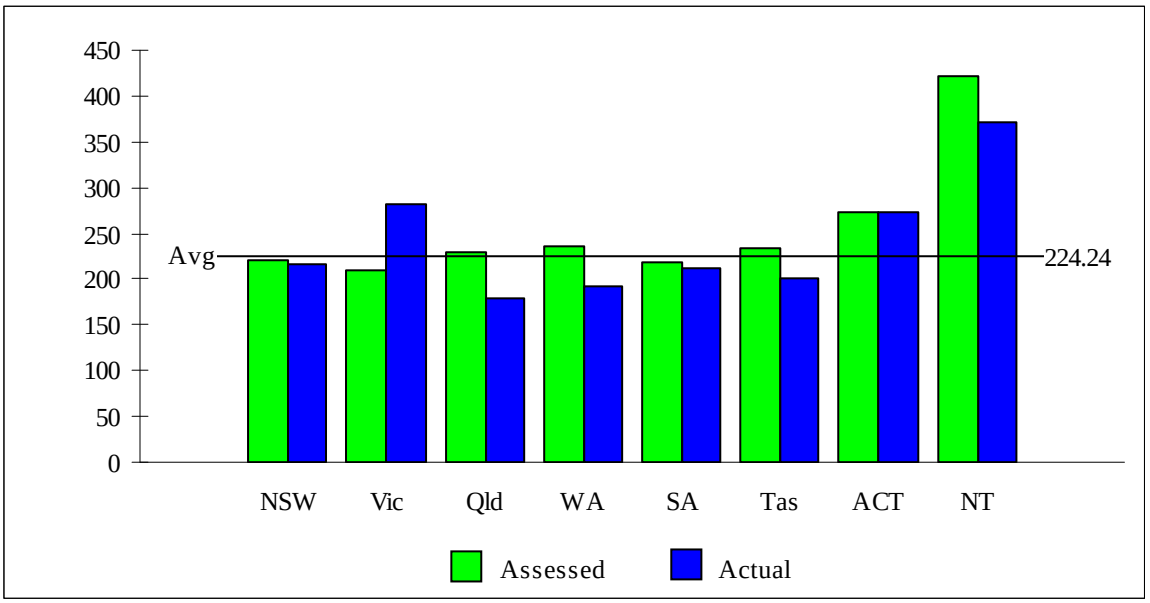
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Avg
	$pc	$pc	$pc	$pc	$pc	$pc	$pc	$pc	$pc
Actual expenses	216.16	281.67	178.66	191.18	211.39	200.64	273.66	370.36	224.24
Assessed expenses	219.65	210.26	230.06	236.48	218.51	233.97	273.32	420.60	224.24
	%	%	%	%	%	%	%	%	%
Assessed cost of providing services ratio (a)	97.96	93.77	102.60	105.46	97.45	104.34	121.89	187.57	100.00

(a) The cost of service provision ratio is the ratio of assessed expenses per capita to average expenses per capita.

101 Table 37 at the end of this section shows the actual, average and assessed expenses for each State for all years of the 2008 Update.

102 Figure 2 illustrates the actual, average and assessed expenses for Vocational Education and Training for 2006-07.

Figure 2 **Vocational Education and Training, expenses per capita – assessed, actual and average, 2006-07**



CONTRIBUTION TO GST REVENUE DISTRIBUTION

103 The assessed difference from average in millions of dollars provides an indication of the impact of this assessment on GST shares. This can be calculated by:

- subtracting the average expense per capita from each State's assessed expenses per capita; and
- multiplying by each State's population.

104 Table 29 shows this calculation for 2006-07.

Table 29 **Assessed difference from average, 2006-07**

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Assessed expenses per capita	$pc	219.65	210.26	230.06	236.48	218.51	233.97	273.32	420.6	224.24
Assessed diference from average per capita	$pc	-4.58	-13.98	5.82	12.25	-5.72	9.73	49.08	196.36	0.00
Population	m	6.856	5.168	4.136	2.082	1.577	0.492	0.337	0.213	20.859
Assessed difference from average	$m	-31.4	-72.2	24.1	25.5	-9.0	4.8	16.5	41.8	0.0

105 Table 30 shows the assessed difference from average in millions of dollars. The average over these amounts over the five year assessment period provides an indication of impact of the assessment on GST shares. The actual impact depends on the growth in the size of the pool between the assessment years and the application year.

Table 30 Assessed difference from average, 2008 Update

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust(a)
	$m	$m	$m	$m	$m	$m	$m	$m	$m
2002-03	-36.6	-66.2	46.6	20.0	-12.6	8.7	9.0	31.0	115.4
2003-04	-40.5	-50.2	29.9	13.9	-7.2	8.6	11.6	33.9	97.9
2004-05	-39.3	-54.2	28.5	23.2	-15.9	6.0	13.7	38.1	109.4
2005-06	-20.6	-65.4	26.2	13.0	-14.2	7.7	14.7	38.7	100.3
2006-07	-31.4	-72.2	24.1	25.5	-9.0	4.8	16.5	41.8	112.7
Average	-33.7	-61.7	31.0	19.1	-11.8	7.2	13.1	36.7	107.1

(a) Total redistribution. It is the sum of the positive (or the negative) items in the row.

106 The impact of Vocational Education and Training on the distribution of GST and Health Care Grants (hereafter GST revenue) is equal to the average from the table above scaled by the growth in the pool. This impact can be sub-divided to show the effect of each factor.

107 Table 31 shows the category's contribution to the distribution of GST revenue. It also shows the contribution of each factor and component.

Table 31 Vocational Education and Training, contribution to GST revenue distribution, 2008 Update

Factor	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total redist'd
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Fixed costs									
Administrative scale	-12.1	-7.3	-4.3	1.5	2.8	5.8	6.3	7.3	23.7
Input costs	0.6	-0.1	-0.3	-0.1	-0.1	-0.1	0.0	0.0	0.6
Component factor	-11.9	-7.3	-4.4	1.4	2.6	5.5	6.5	7.5	23.6
Institutes									
Socio-demographic composition	-44.8	-41.1	59.4	18.0	-12.7	1.9	1.1	18.2	98.6
Service delivery scale	-10.8	-7.4	1.5	4.0	6.3	5.3	-1.6	2.9	19.9
Cross-border	-10.0	0.2	0.2	0.1	0.1	0.0	9.4	0.0	10.0
Dispersion	-4.1	-11.8	8.8	5.5	-1.4	0.0	-1.6	4.6	19.0
Input costs	45.9	-4.6	-23.9	-7.0	-8.7	-4.4	1.6	1.1	48.6
Component factor	-25.6	-64.2	44.7	20.5	-16.7	2.5	8.7	30.2	106.6
Isolation									
Isolation	-3.3	-2.4	-1.8	0.9	0.1	0.4	0.0	6.1	7.6
Component factor	-3.3	-2.4	-1.8	0.9	0.1	0.4	0.0	6.1	7.6
Redistribution from EPC resulting from the 2007 Update assessment	-40.8	-74.0	38.4	22.8	-14.0	8.5	15.2	43.9	128.8

DIFFERENCES FROM AN EQUAL PER CAPITA ASSESSMENT

108 The table indicates that the disabilities which had the biggest impact on the assessment were:

- socio-demographic composition factor — which recognised the effects of differences in the characteristics (these include, age, employment status, Indigeneity, English fluency and location) of State populations on the assessed cost of providing services and the use of services; and
- input costs factor — which recognised the interstate differences in the costs of inputs used to provide services (labour, office accommodation and electricity).

109 The category factor reflected the following on a State by State basis.

- ***New South Wales*** — New South Wales had a negative GST revenue redistribution. This was due to its below average proportion of Indigenous people aged 15 to 59 and people who live in remote areas — groups who use VET services intensively. Other negative influences were its lower per capita costs because of economies of scale and

a lower proportion of small VET institutions in rural areas. These negative effects were partially offset by disabilities stemming from its higher labour costs.

- ***Victoria*** — Victoria had the largest negative GST revenue redistribution. This was due to its below average proportion of Indigenous people aged 15 to 59 and people who live in remote areas — groups who have above average VET use rates. Its lower dispersion costs were another negative influence.
- ***Queensland*** — Queensland had a positive GST revenue redistribution. This was due to its high proportion of Indigenous people, people who live in remote areas, people in the 15-24 age group and its dispersed population. This impact was partially offset by its lower labour costs.
- ***Western Australia*** — The State had a positive GST revenue redistribution. This was due to its high proportion of Indigenous people, people who live in remote areas and people in the 15-24 age group, all who have above average VET use rates. These positive influences on GST revenue distribution however were partially offset by the State's lower labour costs.
- ***South Australia*** — The State's lower labour costs and its below average proportion of Indigenous people aged 15 to 59 and population in the 15-24 age group had a negative influences on its GST revenue redistribution. Its higher per capita costs associated with diseconomies of small scale in head office, service delivery scale and above average levels of unemployment were not sufficient to fully offset its negative influences.
- ***Tasmania*** — The positive GST revenue redistribution to this State was due to its higher per capita costs associated with diseconomies of small scale in head office, service delivery scale and its above average proportions of people aged 15 to 59 who are Indigenous and people who are unemployed. These influences were partially offset by Tasmania's lower labour costs and a low proportion of people in the 15 to 24 age group, a group which has above average VET use rates.
- ***ACT*** — Its positive GST revenue redistribution was a result of its provision of services to students from neighbouring New South Wales, diseconomies of small scale in head office and higher labour costs. Influences which tended to reduce its redistribution were its lower service delivery scale costs and its below average proportion of people who were Indigenous, lived in remote areas or were unemployed.
- ***Northern Territory*** — The Northern Territory's had the largest positive GST revenue redistribution due to its high proportions of Indigenous people and people in remote areas. Its higher diseconomies of small scale in head office and service delivery scale and its higher labour and electricity costs also have rise to a positive redistribution.

CHANGES IN THE GST REVENUE DISTRIBUTION: 2008 UPDATE COMPARED TO 2007 UPDATE

Effect of assessment on distribution of the GST revenue

110 Table 32 shows the redistribution of GST revenue resulting from the assessments in the 2007 Update and the 2008 Update. It also shows the sources of change.

111 Changes in the distribution of GST revenue between the 2007 Update and the 2008 Update were brought about because the Commission:

- used revised average expenses data and other revised data in updating factor calculations for the years 2001-02 to 2005-06; and
- replaced 2001-02 average expenses and factors with those of 2006-07 to move forward the five year period on which GST revenue distribution was based. Moving the five year period forward in this way ensures the assessments reflect recent trends in State priorities on the services provided and recent trends in State demographic and economic circumstances which affect the relative costs of the services.
- replaced 2001 Census population data with 2006 Census data from 2004-05.

Table 32 Vocational Education and Training, effect of the assessment on GST revenue distribution, 2007 Update to 2008 Update

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total redist'd
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Redistribution from EPC resulting from the 2007 Update assessment (a)	-45.2	-75.7	53.1	17.1	-15.1	11.7	13.5	40.7	136.1
Effect of revising category averages and factors for 2001-02 to 2005-06									
Category average	-0.5	-1.1	0.7	0.2	-0.2	0.2	0.2	0.6	1.8
Category factors	-1.5	-1.6	-3.6	4.6	0.2	-1.2	0.9	2.2	7.8
Interactions	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.1	0.2
Total	-2.0	-2.7	-3.0	4.9	0.0	-1.1	1.1	2.8	8.8
Effect of replacing 2001-02 category averages and factors with those for 2006-07									
Category average	2.2	3.3	-2.8	-0.8	0.5	-0.5	-0.5	-1.4	6.1
Category factors	5.1	1.4	-10.7	1.9	0.7	-2.0	1.3	2.2	12.7
Interactions	-0.9	-0.2	1.8	-0.3	-0.1	0.3	-0.2	-0.4	2.1
Total	6.5	4.5	-11.7	0.8	1.1	-2.2	0.6	0.4	13.9
Redistribution from EPC resulting from the 2008 Update assessment (a)	-40.8	-74.0	38.4	22.8	-14.0	8.5	15.2	43.9	128.8
Total effect of revisions and updating (b)	4.4	1.8	-14.7	5.7	1.1	-3.3	1.7	3.2	18.0

(a) Using the same pool and populations that were used to calculate the 2007 Update redistribution.
(b) This figure shows the change in the amount redistributed among the States between the 2007 Update and the 2008 Update. It does not necessarily equal the difference in the total redistribution from EPC between the two inquiries.

112 Compared with an equal per capita (EPC) assessment, the 2008 Update redistributed $128.8 million away from New South Wales, Victoria and South Australia to the other States. New South Wales, Victoria, Queensland and the Northern Territory experienced the biggest redistributions.

113 Table 33 shows the changes in GST revenue attributable to changes in each factor arising from both revising data for 2001-02 to 2005-06 and replacing 2001-02 data with 2006-07 data.

Table 33 Vocational Education and Training, effect of the assessment on GST revenue distribution by factor, 2007 Update to 2008 Update

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total redist'd
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Fixed costs									
Administrative scale	0.8	0.2	0.0	-0.1	-0.1	-0.3	-0.2	-0.3	1.0
Input costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Institutes									
Socio-demographic composition	9.1	1.6	-18.6	4.7	0.2	-3.0	1.4	4.6	21.7
Service delivery scale	0.3	0.1	-0.1	0.0	-0.1	-0.3	0.0	0.2	0.6
Cross-border	-0.6	-0.1	-0.1	0.0	0.0	0.0	0.8	0.0	0.8
Dispersion	0.0	0.1	-0.4	-0.1	0.0	0.0	0.0	0.3	0.5
Input costs	-5.5	-1.4	4.8	1.1	0.9	0.2	-0.1	-0.1	7.0
Isolation									
Isolation	0.2	0.1	0.1	-0.1	0.0	-0.1	0.0	-0.2	0.4

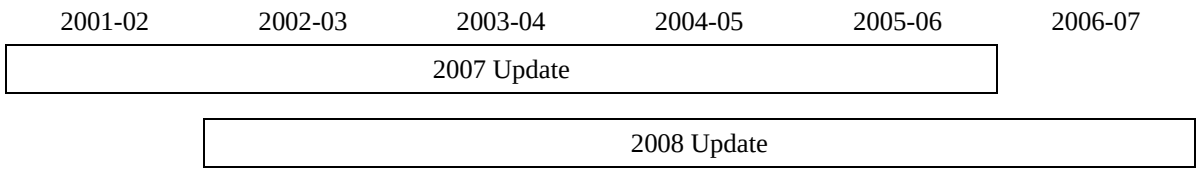
WHAT HAS CHANGED?

114 The main changes the Commission examines are:

- revisions to the financial and assessment data that were used in the 2007 Update; and
- advancing the assessment period one year — a new year comes into the assessment period and the oldest year drops out.

115 Figure 3 shows the assessment periods for the two inquiries.

Figure 3 Advancing the assessment period, 2008 Update



116 The effect of revisions is estimated by replacing 2007 Update data with 2008 Update data for the years 2001-02 to 2005-06. The effect of advancing the assessment period one year is estimated by comparing the data of the new year entering the assessment period (2006-07) with the financial and assessment data of the year dropping out (2001-02). In both cases, the Commission considers the impact of replacing financial data (average expenses) separately from the effect of replacing assessment data (category factors).

Changes due to revising average expenses and factors for years 2001-02 to 2006-07

117 ***Revising average expenses.*** Upward revisions were made to average expenses for 2001-02 to 2005-06, producing a small increase in the redistribution of GST revenue between the

States ($1.8 million). This change increased the GST revenue shares of the States assessed to have above average costs of providing services ratios (Queensland, Western Australia, Tasmania, ACT and the Northern Territory). The revisions were the result of State UPF data understating State spending on this service in 2005-06 and reclassifications by States of spending in earlier years.

118 Table 34 shows the average expenses for the six financial years of this update and those of the previous update.

Table 34 Vocational Education and Training, Average expenses used in the 2007 and 2008 Updates

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	Average for common years
	$pc	$pc	$pc	$pc	$pc	$pc	$pc	$pc
2008 Update		200.15	208.37	209.63	212.41	219.02	224.24	209.91
2007 Update	193.69	201.03	204.63	207.27	211.53	211.08		207.11
Difference ($)		-0.9	3.7	2.4	0.9	7.9		2.8

119 ***Revising category factors.*** Revisions were made to States' cost of providing services ratio for the years 2001-02 to 2005-06, resulting in a redistribution of GST revenue away from New South Wales, Victoria, Queensland and Tasmania to the other States ($7.8 million). The revisions were the result of replacing Census data and the accompanying NCVER use data, revisions to unemployment rates and revisions to mean resident population.

120 In this Update, 2001 Census data were replaced with 2006 Census data for 2004-05, 2005-06 and 2006-07. In order to calculate new use weighted populations for these assessment years, 2001 annual contact hours data were replaced with 2006 data. The changes in Census and annual contact hours data between 2001 and 2006 are discussed in the section on replacing category factors below. It should be noted, however, that these changes are classified as revision effects for 2004-05 and 2005-06 and replacement effects for 2006-07.

121 There were minor revisions to unemployment rates for the years 2001-02 to 2005-06 as published in the latest ABS unemployment data. The ABS revised the mean resident population for 2001-02 to 2005-06. Both of these changes had a small impact on the redistribution.

Changes in State circumstances – replacing 2001-02 with 2006-07 data

122 Table 35 shows the actual expenses and implied costs of service provision for 2001-02, the year that drops out of the assessment period, and 2006-07, the year that comes in, for the 2008 Update assessment.

Table 35 Vocational Education and Training, actual expenses and cost of service provision, 2001-02 and 2006-07

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Avg
	$pc	$pc	$pc	$pc	$pc	$pc	$pc	$pc	$pc
Actual expenses									
2001-02	214.82	201.23	161.92	203.78	199.60	179.86	242.89	340.84	200.15
2006-07	216.16	281.67	178.66	191.18	211.39	200.64	273.66	370.36	224.24
	%	%	%	%	%	%	%	%	%
Change between 2000-01 and 2005-06	0.62	39.98	10.34	- 6.18	5.91	11.55	12.67	8.66	12.04
	$pc	$pc	$pc	$pc	$pc	$pc	$pc	$pc	$pc
Assessed expenses									
2001-02	193.65	186.97	214.57	208.11	193.62	223.38	230.29	339.52	200.15
2006-07	219.65	210.26	230.06	236.48	218.51	233.97	273.32	420.60	224.24
	%	%	%	%	%	%	%	%	%
Change between 2000-01 and 2005-06	13.43	12.46	7.22	13.63	12.86	4.74	18.68	23.88	12.04
Assessed cost of providing services ratio									
2001-02	96.75	93.42	107.21	103.98	96.74	111.61	115.06	169.64	100.00
2006-07	97.96	93.77	102.60	105.46	97.45	104.34	121.89	187.57	100.00

Note: Changes may occur over time in how actual expenses are classified, so trends for individual States should be treated with caution.

123 ***Replacing average expenses.*** Since 2001-02, State spending on this function has increased (19.6 per cent), but it has not kept pace with the growth in the GST pool (43.9 per cent). So, replacing 2001-02 average expenses with 2006-07 average expenses reduced the amount of GST redistributed ($6.1 million). It has increased the GST revenue shares of the States assessed to have below average cost of providing services ratios (New South Wales, Victoria and South Australia) and reduced the GST distribution to the other States.

124 ***Replacing category factors.*** Between 2001-02 and 2006-07 the assessed cost of providing services ratio decreased for Queensland and Tasmania. As a result, replacing the 2001-02 factors with 2006-07 factors reduced the GST distribution to those States ($12.7 million). The GST shares of the other States increased. The observed changes resulted from the replacement of Census data, the accompanying NCVER use data and unemployment data.

125 Use weighted populations were calculated for 2006-07 using 2006 Census data and 2006 annual contact hours data. Use weighted populations for 2001-02, the year that was removed, were calculated using 2001 Census and use data. Both the composition of State populations and the use of VET services by different population groups have changed between 2001 and 2006.

126 On average, Indigenous persons used VET services more intensively in 2006 than in 2001. This has increased the grant share of States with above average proportions of Indigenous

persons in their population (Queensland, Western Australia, Tasmania, Northern Territory) and has reduced the grant shares of the other States.

127 Between 2001 and 2006 there was an increase in the average use of VET services by persons who speak a language other than English at home. This has increased the grant share of States with higher proportions of this group in their population (New South Wales, Victoria and the Northern Territory) and has reduced the grant share of the other States.

128 Persons in highly accessible and remote/very remote areas used VET services more intensively in 2006 than in 2001 relative to persons in other SARIA regions. This has reduced the grant share of States with lower than average proportions of their population in these SARIA regions (Victoria, Queensland and Tasmania).

129 The number of Indigenous persons in the Northern Territory has grown faster between 2001 and 2006 (17.1%) than the Australian average (12.8%). This represents the largest change in the Census population characteristics assessed in this category and has increased the grant share of the Northern Territory.

130 In addition to the replacement of Census and annual hours data, the latest ABS unemployment data was used in the adjustment for changes in employment and unemployment. Table 36 shows the changes to the unemployment rate between August 2002 and August 2007. Unemployment rates have declined for all States, but the decline has been slower than average in New South Wales, Victoria, South Australia and the Northern Territory. This has increased the grant share of these States.

131 New annual contact hours data showed that the net flow of VET services between New South Wales and the ACT was higher in 2006-07 than 2001-02. This increased the grant share of the ACT ($0.8m).

Table 36 Comparison of five year average of unemployment rates, 2007 Update and 2008 Update

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Unemployment rate	%	%	%	%	%	%	%	%	%
Aug-2002	5.9	5.9	7.4	6.0	6.8	8.6	4.4	4.9	6.3
Aug-2007	4.7	4.5	3.7	3.4	4.9	5.1	2.7	4.5	4.3
Difference	-1.1	-1.2	-2.9	-2.5	-1.2	-2.2	-1.6	-1.5	-1.6

132 This chapter was prepared by the Expense — Education section of the Commonwealth Grants Commission. If you have any questions about its content please contact Nick Reddan on (02) 6229 8869 or nick.reddan@cgc.gov.au.

Date: 29/02/08

Table 37 Assessment of expenses, Vocational Education and Training

	2002-03		2003-04		2004-05		2005-06		2006-07	
	Amount	Per Capita	Amount	Per Capita	Amount	Per Capita	Amount	Per Capita	Amount	Per Capita
	$m	$	$m	$	$m	$	$m	$	$m	$
Average Expenses		208.37		209.63		212.41		219.02		224.24
New South Wales										
Assessed difference	- 36.570	- 5.50	- 40.455	- 6.04	- 39.334	- 5.84	- 20.642	- 3.04	- 31.410	- 4.58
Expenses - Assessed	1 349.718	202.88	1 362.489	203.58	1 390.735	206.56	1 466.283	215.98	1 505.908	219.65
Actual	1 413.543	212.47	1 446.934	216.20	1 510.985	224.43	1 440.004	212.11	1 481.939	216.16
Victoria										
Assessed difference	- 66.234	- 13.53	- 50.246	- 10.14	- 54.250	- 10.81	- 65.411	- 12.85	- 72.232	- 13.98
Expenses - Assessed	953.827	194.84	988.690	199.49	1 011.906	201.60	1 049.618	206.17	1 086.510	210.26
Actual	1 097.735	224.24	1 143.112	230.65	1 287.903	256.58	1 328.451	260.94	1 455.548	281.67
Queensland										
Assessed difference	46.613	12.37	29.890	7.74	28.487	7.20	26.158	6.46	24.072	5.82
Expenses - Assessed	831.645	220.75	839.620	217.37	868.852	219.61	912.939	225.48	951.426	230.06
Actual	622.928	165.34	623.031	161.29	571.971	144.57	686.535	169.56	738.874	178.66
Western Australia										
Assessed difference	20.007	10.32	13.877	7.05	23.162	11.58	12.980	6.37	25.497	12.25
Expenses - Assessed	423.938	218.69	426.470	216.68	447.973	223.99	459.476	225.39	492.365	236.48
Actual	463.148	238.92	415.621	211.17	378.596	189.30	433.435	212.61	398.035	191.18
South Australia										
Assessed difference	- 12.571	- 8.24	- 7.205	- 4.69	- 15.858	- 10.25	- 14.217	- 9.11	- 9.023	- 5.72
Expenses - Assessed	305.476	200.14	314.843	204.94	312.658	202.15	327.560	209.91	344.517	218.51
Actual	287.436	188.32	328.761	214.00	312.191	201.85	348.299	223.20	333.291	211.39
Tasmania										
Assessed difference	8.730	18.38	8.622	17.94	6.042	12.46	7.729	15.82	4.784	9.73
Expenses - Assessed	107.717	226.75	109.387	227.56	109.019	224.87	114.713	234.84	115.029	233.97
Actual	87.628	184.46	83.273	173.24	76.071	156.91	96.691	197.95	98.647	200.64
Australian Capital Territory										
Assessed difference	8.985	27.72	11.627	35.64	13.692	41.67	14.655	44.11	16.526	49.08
Expenses - Assessed	76.528	236.09	80.010	245.27	83.475	254.08	87.422	263.13	92.025	273.32
Actual	77.913	240.36	86.292	264.53	90.430	275.25	93.192	280.50	92.139	273.66
Northern Territory										
Assessed difference	31.040	155.64	33.890	168.68	38.059	186.32	38.749	185.65	41.787	196.36
Expenses - Assessed	72.597	364.01	76.005	378.31	81.448	398.72	84.463	404.67	89.504	420.60
Actual	71.116	356.58	70.491	350.86	77.919	381.45	75.867	363.49	78.813	370.36

Note: Refer to Attachment A of the 2008 Update, *Relative Fiscal Capacity of States* for how these figures are compiled.