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The economic value of Southern Cross University campuses to their regional economies: a campus-based input-output analysis

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A Campus-based Input-Output Analysis

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EXECUTIVE SUMMARY

- This paper examines the economic impact of the three main regional campuses of Southern Cross University (SCU) on their immediate regions. These campuses are located at (1) Lismore, (2) Tweed Gold Coast and (3) Coffs Harbour. The immediate region has been defined as the Local Government Area of Lismore City for the Lismore campus, the Local Government Area of Tweed for the Tweed Gold Coast campus, and the Local Government Areas of Coffs Harbour, Bellingen and Nambucca for the Coffs campus. These latter three local government areas form a collective community known as the *Coffs Coast* region.
- The estimation of the economic impact of each campus on their respective region is based on the application of a regional input-output matrix which models the industry sectors of each region and the way these sectors interact to form the whole regional economy. This approach allows a logical and supportable method of determining the contribution of the operations of each campus of SCU to their region's economy.
- The specific regional input-output model applied in these contexts is embodied in the computer-based model, REMPLAN. REMPLAN has been developed by the Economic Research Unit at the Bendigo campus of La Trobe University. It is being further developed for applications within a regional context in a collaborative project involving SCU – Coffs Harbour.
- The impact of each SCU campus on the surrounding region's economy is determined by using the number of employees at each campus as an input to the model. The model is then able to estimate the impact on (1) Value of Regional Output, (2) Regional Employment, (3) Household Income and (4) Value Added, - within each region.
- The **total impact** of each Campus upon their regional economy is summarised in the Tables below. These tables show the total economic impact of each SCU campus on the surrounding region according to Value of Regional Output, Regional Employment Impact, Household Income and Value Added.

TABLE 1 - TOTAL ECONOMIC IMPACT - LISMORE CAMPUS

Measure	Value	Share of region
Region's value of annual output attributable to employment at SCU Lismore campus plus student expenditure impact	\$148.393m + \$85.173m = \$233.566	10 per cent
Region's employment attributable to SCU Lismore campus plus student expenditure impact	1,507 jobs + 599 = 2106	9 per cent
Region's annual household income attributable to SCU Lismore campus plus student expenditure impact	\$66.186m + \$23.361m = \$89.547	13 per cent
Region's value added attributable to SCU Lismore campus plus student expenditure impact	\$90.427m + \$40.617m = \$131.044	11 per cent

TABLE 2 - TOTAL ECONOMIC IMPACT - TWEED GOLD COAST CAMPUS

Measure	Value	Share of region
Region's value of annual output attributable to employment at SCU Tweed Gold Coast campus plus student expenditure impact	\$7.074m + \$6.811m = \$13.885	1 per cent
Region's employment attributable to SCU Tweed Gold Coast campus plus student expenditure impact	76 jobs + 50 = 126	1 per cent
Region's annual household income attributable to SCU Tweed Gold Coast campus plus student expenditure impact	\$3.241m + \$1.853m = \$5.094	1 per cent
Region's value added attributable to SCU Tweed Gold Coast campus plus student expenditure impact	\$4.366m + \$3.220m = \$7.586	1 per cent

TABLE 3 - TOTAL ECONOMIC IMPACT - COFFS HARBOUR CAMPUS

Measure	Value	Share of region
Region's value of annual output attributable to employment at SCU Coffs Harbour campus plus student expenditure	\$15.861m + \$13.002m = \$28.863	1 per cent
Region's employment attributable to SCU Coffs Harbour campus plus student expenditure impact	164 jobs + 90 = 254	1 per cent
Region's annual household income attributable to SCU Coffs Harbour campus plus student expenditure impact	\$7.093m + \$3.499m = \$10.592	1 per cent
Region's value added attributable to SCU Coffs Harbour campus plus student expenditure impact	\$9.642m + \$6.112m = \$15.754	1 per cent

- The substantial relative importance of the SCU campus to the Lismore regional economy is shown in Table 1. It can be seen from the table that the SCU campus is responsible for a regional value of output of \$233.566m. This is equivalent to 10 per cent of the total value of output of the Lismore region, as a whole. In addition, the SCU campus is responsible for an estimated 2106 jobs, equivalent to 9 per cent of the total number of jobs within the region.
- The relative economic impacts of the SCU campuses within the Tweed and at Coffs Harbour, while significant, are not as substantial as that for the Lismore region. This reflects both the smaller size of the SCU campuses in these regions as well as the relative size of the regional economies of the Tweed and the Coffs Coast.
- The total regional value of output impact of the Tweed Gold Coast campus on the surrounding region is estimated at \$13.885m. This constitutes around 1 per cent of the total value of annual output within the region. The Tweed campus is also estimated to be responsible for 126 jobs within the region.

- The SCU Coffs Harbour Campus is estimated to be responsible for \$28.863m value of regional output, or 1 per cent of the value of output of the region, as a whole. The total regional employment impact of the SCU Coffs Harbour campus is estimated at 254 jobs, again constituting around 1 per cent of all jobs within the region. The relative economic impact of both coastal campuses on their surrounding regions is therefore found to be similar.
- Each SCU Campus offers their region, educational and career-development opportunities. However, as a result of the economic activity which they generate, they are also a substantial *current* contributor to each region's value of output and employment across a range of industry sectors.

1. METHOD

1.1 Regional Input – Output Methodology

Input-output is a tool often used for estimating the impacts of an economic activity on a regional economy. An important attraction of the input-output modelling approach is that it is capable of providing a detailed picture of the structure of an economy at a particular point in time. This is achieved by disaggregating the productive activities in the economy into industry sectors and documenting all the transactions (purchases and sales) that occurred during the time period (usually one year) between these sectors. The input-output model may be regarded as a set of regional accounts which provides the basis for a detailed analysis of inter-sectoral relationships within a regional economy.

The classical input-output model is described by the following matrix equation:

$$\mathbf{X} = \mathbf{AX} + \mathbf{Y} \quad (1)$$

Where \mathbf{X} is the vector of sectoral gross outputs, \mathbf{A} is the matrix of regional intermediate input or regional purchase coefficients, and \mathbf{Y} is a vector of total final demands by sector. The coefficients a_{ij} of \mathbf{A} are defined as the amount purchased by sector j from sector i per unit of output of sector j . Equation (1) states that gross output of each industry equals intermediate demand sales (\mathbf{AX}) to other industries for further processing plus final demand sales (\mathbf{Y}) of end products to consumers, including households, government, and for export. By rearranging and converting to differences, this equation can be rewritten as

$$\Delta\mathbf{X} = (\mathbf{I} - \mathbf{A})^{-1} \Delta\mathbf{Y} \quad (2)$$

This allows calculation of change in industry production levels $\Delta\mathbf{X}$ in response to the change in industry final demands $\Delta\mathbf{Y}$. $\Delta\mathbf{Y}$ can incorporate any element of final demand expenditure.

Some care needs to be taken in the use of input-output approaches and it is important the underlying assumptions are kept clearly in mind. The main assumptions are (i) Fixed production coefficients, which imply constant returns to scale. That is to say, if the output of sector j doubled, it would be necessary to double all of its inputs with no evidence of scale economies (ii) It is also assumed that regional economic performance matches national average performance. (iii) Input proportions are assumed to remain the same with no change in technology. As long as the model is kept up to date this latter concern should not pose a threat to its effectiveness, except as a tool for long-term forecasting.

(iv) Fourthly, it is assumed that each industry sector produces a fixed set of products that are not produced by any other sector. While it is possible to have some overlap between sectors, e.g. liquor sold in hotels (the Retail sector) and in cafes (the Accommodation, Cafes and Restaurants sector), such an assumption should not inhibit the validity of the model to any great extent. (v) Finally, it is assumed that there are no supply constraints and that the intermediate and household sectors will be able to service any increases in final demand. This assumption can weaken the predictive capacity of the model in cases where increases in overall demand could bring about factor shortages and raise prices in the short term.

There are three main approaches to the construction of *regional* input-output models. The first approach is to survey all firms in the region to obtain details of the source of supply of all inputs as well as the destination of outputs. This is often referred to as the *bottom up* approach. While such an approach is often considered robust it is very expensive in terms of the resources and time necessary for data assembly. A less expensive and more timely approach is to adapt the data available from national tables produced by the Australian Bureau of Statistics in a manner likely to be representative of the particular region under study. This *top down* approach, as it is known, uses available regional Census data such as employment by industry group, to adjust national data to form a regional input-output table. A third approach is the *hybrid* method that commences with the top down disaggregation of the national model and is supplemented by selective surveys for key sectors within the region. This is the method followed within the REMPLAN model. Such an approach is more economical and timely than surveying all firms within a region.

Research relating to the accuracy of these three main approaches have indicated that results from the top down approach were very close to that provided by a bottom up approach. The hybrid method produced results even closer to that of the full survey approach and was seen to be superior in terms of cost and timeliness. REMPLAN provides regional input-output matrices at 3 levels of sector aggregation: 17 sectors, 35 sectors or 106 sectors. The sector aggregations are consistent with Australian Bureau of Statistics classifications. The model also tabulates employment figures (by number of employees) by industry sector. In addition to providing static data for each region, REMPLAN has the facility to model impacts on the regional economy. The user is able to enter impacts in terms of changes in direct output or direct employment for a particular sector or mix of sectors. These direct impacts then flow through the model in order to provide detailed information on the total impact, both direct and indirect, to the regional economy.

The model provides detailed information on the changes in output, employment, household income and value added which result from a change in the direct output of one or more sectors. Economic impact scenarios can be conducted for both actual, as well as hypothetical changes within the region's economy.

1.2 Simulating the Model

In order to simulate the model it was assumed that each campus would be shut down and all employment involved with each of the education campuses terminated. Employment data for each Campus was provided by the Office of the Pro-Vice Chancellor (Academic). The number of employees, when entered into REMPLAN, provides an estimate of the direct impact on output of the education sector resulting from such employees. The model then determines the total linked and induced impacts of this initial employment on the respective regional economies according to the value of regional output, regional employment, household income and value added within the region. In simulating the model it was assumed initially, that student demand currently met by the particular campus would not move to other institutions outside the region, following the closure of the facility. Such an assumption places an important limitation on the estimates provided by the model. In particular these estimates are likely to underestimate the regional impacts obtained for value of regional output, regional employment, regional household income and regional value added. This assumption was therefore relaxed and an estimate of the impact of student (both overseas and domestic) expenditure within the region was included in the analysis in **Section 3**.

Tables 4 to 15 present the economic impact analysis resulting from staff employment at the particular SCU campus on each regional economy. The tables show columns for Final Demand, the Industrial Effect after the impact, the Consumption Effect following the impact, and the total effect according to (1) Value of Regional Output (2) Regional Employment (3) Regional Household Incomes and (4) Regional Value Added. The tables also show type 1 and type 2 multipliers. These represent the multiplier which is applied to Final Demand in order to obtain the Industrial and the Consumption Effects, respectively.

The Tables have been organised according to the impacts on value of regional output, regional employment, regional household income and regional value added. Within each of these fields of impact, separate tables have been provided for each campus. As mentioned, these Tables **do not** include the impact of students having to leave the region to study elsewhere. Such economic impacts have been demonstrated in Tables 19 to 38.

2. **ESTIMATED ECONOMIC IMPACTS ACCORDING TO SCU CAMPUS EMPLOYMENT**

2.1 **ECONOMIC IMPACT OF EMPLOYMENT AT SCU ON VALUE OF REGIONAL OUTPUT - ACCORDING TO REGION**

TABLE 4

ECONOMIC IMPACT ANALYSIS – LISMORE CAMPUS				
REGIONAL OUTPUT (\$m)				
Lismore Region				
FILL IN EXPECTED ANNUAL CHANGES IN FINAL DEMAND COLUMN				
SECTOR	Final Demand \$m	Industrial Effect	Consumpn Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.168	2.675	2.843
Mining	-	0.002	0.022	0.025
Manufacturing	-	2.016	15.534	17.500
Electricity, Gas & Water	-	0.545	2.840	3.385
Construction	-	0.016	0.096	0.112
Wholesale Trade	-	0.457	4.112	4.569
Retail Trade	-	0.311	18.258	18.569
Accomm, Cafes & Restaurants	-	0.311	6.403	6.714
Transport & Storage	-	0.403	2.705	3.108
Communication Services	-	0.739	4.181	4.920
Finance & Insurance	-	0.497	6.426	6.923
Property & Business Services	-	1.221	7.764	8.985
Government Admin & Defence	-	0.255	0.549	0.803
Education	55.824	0.321	2.504	58.650
Health & Community Services	-	0.040	3.792	3.832
Cultural & Recreational Services	-	0.156	2.813	2.969
Personal & Other Services	-	0.115	4.320	4.435
TOTALS	55.824	7.574	84.994	148.393
Output Multipliers		Type 1	Type 2	
		1.136	2.658	

Table 4 shows that the impact of the Lismore campus of SCU on the total value of output of the region is estimated at \$148.393m. The major industry sectors benefiting from the SCU Lismore campus within the regional economy are Education (\$58.650m), Retail (\$18.569m), and Manufacturing (\$17.500m). Substantial value of output impacts were also experienced within the sectors, Property and Business Services and Accommodation, Finance and Insurance and Accommodation, Cafes and Restaurants. It is noteworthy that the Education sector has a larger type 2 output multiplier than most other sectors, resulting in a larger total impact on the regional economy from a given change in the sector's employment or output.

TABLE 5

ECONOMIC IMPACT ANALYSIS – TWEED GOLD COAST CAMPUS				
REGIONAL OUTPUT (\$m)				
Tweed Region				
FILL IN EXPECTED ANNUAL CHANGES IN FINAL DEMAND COLUMN				
SECTOR	Final Demand \$m	Industrial Effect	Consumpn Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.006	0.136	0.142
Mining	-	0.001	0.005	0.006
Manufacturing	-	0.090	0.590	0.680
Electricity, Gas & Water	-	0.024	0.119	0.142
Construction	-	0.001	0.009	0.010
Wholesale Trade	-	0.019	0.180	0.199
Retail Trade	-	0.013	0.951	0.964
Accomm, Cafes & Restaurants	-	0.016	0.375	0.391
Transport & Storage	-	0.017	0.139	0.156
Communication Services	-	0.018	0.107	0.125
Finance & Insurance	-	0.019	0.216	0.234
Property & Business Services	-	0.057	0.399	0.457
Government Admin & Defence	-	0.016	0.036	0.052
Education	2.762	0.016	0.130	2.907
Health & Community Services	-	0.002	0.199	0.201
Cultural & Recreational Services	-	0.007	0.198	0.205
Personal & Other Services	-	0.005	0.198	0.202
TOTALS	2.762	0.326	3.986	7.074
Output Multipliers		Type 1 1.118		Type 2 2.561

Beside Education, the main sectors receiving a stimulus to value of output are similar to that indicated for the Lismore region and include Retail, Manufacturing, Property and Business Services and Accommodation, Cafes and Restaurants.

TABLE 6

ECONOMIC IMPACT ANALYSIS – COFFS HARBOUR CAMPUS				
REGIONAL OUTPUT (\$m)				
Coffs Coast Region				
FILL IN EXPECTED ANNUAL CHANGES IN FINAL DEMAND COLUMN				
SECTOR	Final Demand \$m	Industrial Effect	Consumpn Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.011	0.263	0.274
Mining	-	0.001	0.009	0.010
Manufacturing	-	0.232	1.512	1.743
Electricity, Gas & Water	-	0.068	0.322	0.390
Construction	-	0.003	0.019	0.022
Wholesale Trade	-	0.046	0.417	0.463
Retail Trade	-	0.032	1.979	2.011
Accomm, Cafes & Restaurants	-	0.036	0.782	0.819
Transport & Storage	-	0.045	0.328	0.373
Communication Services	-	0.051	0.294	0.345
Finance & Insurance	-	0.054	0.642	0.696
Property & Business Services	-	0.131	0.871	1.002
Government Admin & Defence	-	0.035	0.075	0.110
Education	5.984	0.034	0.271	6.289
Health & Community Services	-	0.004	0.412	0.416
Cultural & Recreational Services	-	0.021	0.459	0.480
Personal & Other Services	-	0.010	0.408	0.418
TOTALS	5.984	0.816	9.062	15.861
Output Multipliers		Type 1		Type 2
		1.136		2.651

As with the other regions, the SCU campus has substantial flow on impacts upon the sectors of Retail, Manufacturing, Property and Business Services, Accommodation, Cafes and Restaurants and Finance and Insurance.

2.2 ECONOMIC IMPACT OF EMPLOYMENT AT SCU ON *TOTAL EMPLOYMENT* ACCORDING TO REGION

Table 7 – 9, presents data on the impact of closing each SCU campus, on employment within the respective regional economy.

TABLE 7

ECONOMIC IMPACT ANALYSIS – LISMORE CAMPUS				
REGIONAL EMPLOYMENT (Job Numbers)				
Lismore Region				
SECTOR	Job Numbers	Industrial Effect	Consumpn Effect	Total (jobs)
Agriculture, Forest & Fishing	-	1.125	17.941	19.066
Mining	-	0.005	0.046	0.052
Manufacturing	-	5.126	39.492	44.618
Electricity, Gas & Water	-	1.097	5.712	6.809
Construction	-	0.089	0.532	0.621
Wholesale Trade	-	2.953	26.587	29.541
Retail Trade	-	3.615	212.119	215.734
Accomm, Cafes & Restaurants	-	2.716	55.923	58.639
Transport & Storage	-	1.916	12.864	14.781
Communication Services	-	2.660	15.047	17.707
Finance & Insurance	-	1.978	25.562	27.541
Property & Business Services	-	6.587	41.886	48.473
Government Admin & Defence	-	1.753	3.777	5.530
Education	849	4.889	38.080	891.969
Health & Community Services	-	0.600	56.751	57.351
Cultural & Recreational Services	-	1.141	20.607	21.748
Personal & Other Services	-	1.221	45.861	47.082
TOTALS	849	39	619	1,507
Output Multipliers		Type 1	Type 2	
		1.046	1.775	

Table 7 shows that while the direct employment of 849 staff is, in itself, a significant contributor to the regional economy, when the effect of multipliers is taken into account, the total number of regional jobs linked to the Lismore campus of SCU is estimated at 1,507. The multiplier impact on the Retail sector in terms of employment is relatively large, and due principally to the relative importance of the Retail sector within the Lismore region. The number of jobs attributable to SCU within the Accommodation/Cafes/Restaurants sector is 58 and the number within Health and Community Services is a relatively high 57. Substantial employment impacts can also be observed within Manufacturing, Personal and Other Services, Property and Business Services and Finance and Insurance, for example. Similar impacts upon other sectors within the respective regional economies can be seen in Tables 8 and 9.

TABLE 8

ECONOMIC IMPACT ANALYSIS – TWEED GOLD COAST CAMPUS				
REGIONAL EMPLOYMENT (Job Numbers)				
Tweed Region				
SECTOR	Job Numbers	Industrial Effect	Consumpn Effect	Total (jobs)
Agriculture, Forest & Fishing	-	0.042	0.960	1.001
Mining	-	0.001	0.008	0.009
Manufacturing	-	0.259	1.700	1.959
Electricity, Gas & Water	-	0.046	0.231	0.277
Construction	-	0.007	0.050	0.057
Wholesale Trade	-	0.121	1.165	1.286
Retail Trade	-	0.164	11.685	11.849
Accomm, Cafes & Restaurants	-	0.145	3.333	3.478
Transport & Storage	-	0.092	0.758	0.850
Communication Services	-	0.064	0.386	0.450
Finance & Insurance	-	0.075	0.866	0.941
Property & Business Services	-	0.256	1.783	2.039
Government Admin & Defence	-	0.114	0.252	0.366
Education	42	0.239	1.978	44.217
Health & Community Services	-	0.029	3.053	3.082
Cultural & Recreational Services	-	0.056	1.545	1.601
Personal & Other Services	-	0.054	2.254	2.308
TOTALS	42	2	32	76
Output Multipliers		Type 1	Type 2	
		1.042	1.804	

TABLE 9

ECONOMIC IMPACT ANALYSIS – COFFS HARBOUR CAMPUS				
REGIONAL EMPLOYMENT (Job Numbers)				
Coffs Coast Region				
SECTOR	Job Numbers	Industrial Effect	Consumpn Effect	Total (jobs)
Agriculture, Forest & Fishing	-	0.085	1.961	2.046
Mining	-	0.002	0.017	0.019
Manufacturing	-	0.681	4.442	5.123
Electricity, Gas & Water	-	0.126	0.595	0.722
Construction	-	0.017	0.110	0.127
Wholesale Trade	-	0.295	2.698	2.994
Retail Trade	-	0.377	23.490	23.867
Accomm, Cafes & Restaurants	-	0.324	6.952	7.276
Transport & Storage	-	0.204	1.486	1.689
Communication Services	-	0.184	1.058	1.242
Finance & Insurance	-	0.214	2.554	2.764
Property & Business Services	-	0.592	3.925	4.517
Government Admin & Defence	-	0.251	0.531	0.781
Education	91	0.523	4.122	95.645
Health & Community Services	-	0.066	6.428	6.495
Cultural & Recreational Services	-	0.159	3.498	3.656
Personal & Other Services	-	0.166	4.557	4.673
TOTALS	91	4	68	164
Output Multipliers		Type 1	Type 2	
		1.046	1.798	

2.3 ECONOMIC IMPACT OF SCU EMPLOYMENT UPON *HOUSEHOLD INCOME* ACCORDING TO REGION

Households are a key sector of the economy. This sector comprises the regional population, which consume the output of the production and services organised by the trading enterprises sector.

TABLE 10

ECONOMIC IMPACT ANALYSIS – LISMORE CAMPUS				
REGIONAL HOUSEHOLD INCOME (\$m)				
Lismore Region				
SECTOR	Final Demand \$m	Industrial Effect	Consumpn Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.022	0.344	0.365
Mining	-	0.000	0.003	0.003
Manufacturing	-	0.253	1.946	2.199
Electricity, Gas & Water	-	0.064	0.332	0.396
Construction	-	0.003	0.018	0.021
Wholesale Trade	-	0.130	1.169	1.299
Retail Trade	-	0.103	6.046	6.149
Accomm, Cafes & Restaurants	-	0.068	1.392	1.459
Transport & Storage	-	0.087	0.586	0.673
Communication Services	-	0.170	0.963	1.133
Finance & Insurance	-	0.136	1.754	1.890
Property & Business Services	-	0.351	2.233	2.584
Government Admin & Defence	-	0.116	0.250	0.366
Education	40.694	0.234	1.825	42.754
Health & Community Services	-	0.025	2.403	2.428
Cultural & Recreational Services	-	0.037	0.674	0.712
Personal & Other Services	-	0.046	1.709	1.755
TOTALS	40.694	1.845	23.647	66.186
Output Multipliers		Type 1		Type 2
		1.045		1.626

Production results in incomes being paid in the form of wages and profits to the owners of the factors of production. In the case of labour, the productive factors are owned directly by persons. Other factors may be legally owned by private enterprises, but, as these are legal entities, all income flowing from privately owned trading enterprises can be regarded as accruing to individuals and households. The Education sector is relatively labour intensive compared with some other industry sectors. As such, the sector makes a strong contribution to household income and consumption activity in the region. Accordingly, the SCU Lismore campus accounts for \$66.186m of the effect upon household income. Major sectoral impacts occurred in Education (\$42.754m), Retail (\$6.149m), Property and Business Services (\$2.584m) and Health and Community Services (\$2.428m).

TABLE 11

ECONOMIC IMPACT ANALYSIS – TWEED GOLD COAST CAMPUS				
REGIONAL HOUSEHOLD INCOME (\$m)				
Tweed Region				
SECTOR	Final Demand \$m	Industrial Effect	Consumpn Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.001	0.020	0.021
Mining	-	0.000	0.001	0.001
Manufacturing	-	0.012	0.077	0.089
Electricity, Gas & Water	-	0.003	0.014	0.017
Construction	-	0.000	0.002	0.002
Wholesale Trade	-	0.005	0.051	0.057
Retail Trade	-	0.005	0.322	0.326
Accomm, Cafes & Restaurants	-	0.004	0.083	0.087
Transport & Storage	-	0.004	0.032	0.036
Communication Services	-	0.004	0.025	0.029
Finance & Insurance	-	0.005	0.061	0.067
Property & Business Services	-	0.015	0.102	0.117
Government Admin & Defence	-	0.008	0.017	0.024
Education	2.013	0.011	0.095	2.119
Health & Community Services	-	0.001	0.126	0.127
Cultural & Recreational Services	-	0.002	0.045	0.047
Personal & Other Services	-	0.002	0.074	0.076
TOTALS	2.013	0.081	1.147	3.241
Output Multipliers		Type 1		Type 2
		1.040		1.610

TABLE 12

ECONOMIC IMPACT ANALYSIS – COFFS HARBOUR CAMPUS				
REGIONAL HOUSEHOLD INCOME (\$m)				
Coffs Coast Region				
SECTOR	Final Demand \$m	Industrial Effect	Consumpn Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.002	0.039	0.041
Mining	-	0.000	0.001	0.001
Manufacturing	-	0.030	0.197	0.228
Electricity, Gas & Water	-	0.008	0.036	0.044
Construction	-	0.001	0.004	0.004
Wholesale Trade	-	0.013	0.119	0.132
Retail Trade	-	0.011	0.661	0.672
Accomm, Cafes & Restaurants	-	0.008	0.173	0.181
Transport & Storage	-	0.010	0.074	0.085
Communication Services	-	0.012	0.068	0.079
Finance & Insurance	-	0.015	0.178	0.193
Property & Business Services	-	0.034	0.224	0.258
Government Admin & Defence	-	0.017	0.035	0.052
Education	4.362	0.025	0.198	4.584
Health & Community Services	-	0.003	0.260	0.263
Cultural & Recreational Services	-	0.005	0.111	0.116
Personal & Other Services	-	0.004	0.155	0.159
TOTALS	4.362	0.196	2.535	7.093
Output Multipliers		Type 1		Type 2
		1.045		1.626

2.4 ECONOMIC IMPACT OF SCU EMPLOYMENT UPON REGIONAL VALUE ADDED ACCORDING TO REGION

The value of the annual output of an enterprise is the sum of its annual sales to other enterprises together with the change over the year in the value of its stocks of finished or semi-finished goods.

TABLE 13

ECONOMIC IMPACT ANALYSIS – LISMORE CAMPUS				
REGIONAL VALUE ADDED (\$m)				
Lismore Region				
SECTOR	Final Demand \$m	Industrial Effect	Consumpn Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.081	1.295	1.376
Mining	-	0.001	0.011	0.012
Manufacturing	-	0.497	3.826	4.323
Electricity, Gas & Water	-	0.288	1.502	1.791
Construction	-	0.007	0.042	0.049
Wholesale Trade	-	0.174	1.571	1.745
Retail Trade	-	0.165	9.709	9.874
Accomm, Cafes & Restaurants	-	0.119	2.451	2.570
Transport & Storage	-	0.178	1.193	1.370
Communication Services	-	0.411	2.326	2.738
Finance & Insurance	-	0.288	3.718	4.006
Property & Business Services	-	0.565	3.594	4.160
Government Admin & Defence	-	0.131	0.282	0.414
Education	46.627	0.269	2.091	48.987
Health & Community Services	-	0.031	2.965	2.997
Cultural & Recreational Services	-	0.078	1.408	1.486
Personal & Other Services	-	0.066	2.465	2.530
TOTALS	46.627	3.350	40.450	90.427
Output Multipliers		Type 1 1.072		Type 2 1.939

This change represents the enterprise's investment expenditure upon stocks which may be positive or negative. The value of the annual inputs used up in the production of the annual output is the sum of annual purchases from other enterprises and the change over the year in the value of the stock of inputs. Annual value added of enterprises within the region is therefore equal to sales of output during the year plus net additions to stocks less the purchase of intermediate goods during the year. By analogy with the value added of a trading enterprise, the value added of the government sector is defined as the value of collective goods and services provided less the value of goods purchased from trading enterprises. These are regarded as intermediate goods from the viewpoint of the government. For financial enterprises, the output may be defined in terms of the value of the services they provide. All production within a regional economy occurs in these three sectors.

It is valued at market prices, directly in the case of trading enterprises, and indirectly in the case of the other two sectors. The sum of the value added of these three sectors within the region is equivalent to Gross Regional Product.

The component of value added within the Lismore region attributable to the Lismore campus of SCU is estimated at \$90.427m. The main value added impacts were experienced in the Education sector (\$48.987m), Retail (\$9.874m), Property and Business Services (\$4.160m) and Finance and Insurance (\$4.006m). The distribution of value added within the other regions is indicated in Tables 14 and 15.

TABLE 14

ECONOMIC IMPACT ANALYSIS – TWEED GOLD COAST CAMPUS				
REGIONAL VALUE ADDED (\$m)				
Tweed Region				
SECTOR	Final Demand \$m	Industrial Effect	Consumption Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.003	0.074	0.077
Mining	-	0.000	0.002	0.003
Manufacturing	-	0.022	0.145	0.167
Electricity, Gas & Water	-	0.012	0.062	0.074
Construction	-	0.001	0.004	0.005
Wholesale Trade	-	0.007	0.069	0.076
Retail Trade	-	0.007	0.497	0.504
Accomm, Cafes & Restaurants	-	0.006	0.146	0.152
Transport & Storage	-	0.008	0.065	0.073
Communication Services	-	0.010	0.060	0.070
Finance & Insurance	-	0.011	0.129	0.140
Property & Business Services	-	0.026	0.182	0.208
Government Admin & Defence	-	0.008	0.018	0.026
Education	2.307	0.013	0.109	2.428
Health & Community Services	-	0.001	0.155	0.157
Cultural & Recreational Services	-	0.003	0.090	0.093
Personal & Other Services	-	0.003	0.109	0.112
TOTALS	2.307	0.143	1.916	4.366
Output Multipliers		Type 1 1.062		Type 2 1.893

TABLE 15

ECONOMIC IMPACT ANALYSIS – COFFS HARBOUR CAMPUS				
REGIONAL VALUE ADDED (\$m)				
Coffs Coast Region				
SECTOR	Final Demand \$m	Industrial Effect	Consumpn Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.006	0.136	0.142
Mining	-	0.000	0.004	0.004
Manufacturing	-	0.055	0.359	0.414
Electricity, Gas & Water	-	0.035	0.163	0.198
Construction	-	0.001	0.009	0.010
Wholesale Trade	-	0.017	0.159	0.177
Retail Trade	-	0.017	1.045	1.062
Accomm, Cafes & Restaurants	-	0.014	0.305	0.319
Transport & Storage	-	0.020	0.145	0.165
Communication Services	-	0.028	0.164	0.192
Finance & Insurance	-	0.032	0.377	0.408
Property & Business Services	-	0.060	0.396	0.456
Government Admin & Defence	-	0.018	0.038	0.056
Education	4.998	0.029	0.226	5.253
Health & Community Services	-	0.003	0.321	0.324
Cultural & Recreational Services	-	0.010	0.218	0.228
Personal & Other Services	-	0.006	0.227	0.233
TOTALS	4.998	0.351	4.293	9.642
Output Multipliers		Type 1 1.070		Type 2 1.929

2.5 SUMMARY

- The economic impact of each Campus upon their regional economy without including the expenditure impact of students studying at each Campus is summarised in Tables 16, 17 and 18 below.

TABLE 16 - LISMORE CAMPUS

Measure	Value
Region's value of annual output attributable to employment at SCU Lismore campus	\$148.393m
Region's employment attributable to SCU Lismore campus	1,507 jobs
Region's annual household income attributable to SCU Lismore campus	\$66.186m
Region's value added attributable to SCU Lismore campus	\$90.427m

TABLE 17 – TWEED GOLD COAST CAMPUS

Measure	Value
Region's annual output attributable to employment at SCU Tweed Gold Coast Campus	\$7.074m
Region's employment attributable to SCU Tweed Gold Coast Campus	76 jobs
Region's annual household income attributable to SCU Tweed Gold Coast Campus	\$3.241m
Region's value added attributable to SCU Tweed Gold Coast Campus	\$4.366m

TABLE 18 – COFFS HARBOUR CAMPUS

Measure	Value
Region's annual output attributable to employment at SCU Coffs Harbour Campus	\$15.861m
Region's employment attributable to SCU Coffs Harbour Campus	164 jobs
Region's annual household income attributable to SCU Coffs Harbour Campus	\$7.093m
Region's value added attributable to SCU Coffs Harbour Campus	\$9.642m

The following Section estimates the economic impact on regional value of output, employment, household income and regional value added, assuming that following the closure of each of the regional campuses, students are required to relocate to another region to undertake tertiary studies.

3. ECONOMIC IMPACT ATTRIBUTABLE TO STUDENT EXPENDITURE PATTERNS ACCORDING TO CAMPUS

The consumption of services other than education by students has been determined as follows.

1. Determine the number of students. This was based on information from the SCU publication *Quality and Academic, Student Profile Report, 2002-2004*.
2. Determine a student's typical consumption pattern for services and products other than in the Education sector. This was based on The SCU publication, *2006 Study Options, Southern Cross University*, p. 11.
3. Multiply the above two figures to obtain total non-Education consumption by students
4. Input the total consumption figures to the model as a direct expenditure/output impact in the appropriate sectors.

For the purposes of this exercise, both local and out of region students have been included in the calculations.

3.1 VALUE OF REGIONAL OUTPUT ATTRIBUTABLE TO STUDENTS FOR EACH CAMPUS

Table 19 shows that expenditure impacts by students at the Lismore campus of SCU equate to \$85.173m in terms of value of regional output.

TABLE 19

ECONOMIC IMPACT ANALYSIS – LISMORE CAMPUS STUDENT EXPENDITURE REGIONAL OUTPUT (\$m) Lismore Region				
FILL IN EXPECTED ANNUAL CHANGES IN FINAL DEMAND COLUMN				
SECTOR	Final Demand \$m	Industrial Effect	Consump Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.457	0.944	1.401
Mining	-	0.013	0.008	0.021
Manufacturing	-	2.435	5.483	7.917
Electricity, Gas & Water	-	0.499	1.002	1.502
Construction	-	0.060	0.034	0.094
Wholesale Trade	-	0.938	1.452	2.390
Retail Trade	10.018	1.614	6.444	18.077
Accomm, Cafes & Restaurants	-	0.810	2.260	3.070
Transport & Storage	4.214	0.812	0.955	5.981
Communication Services	-	1.386	1.476	2.862
Finance & Insurance	-	1.109	2.268	3.377
Property & Business Services	13.872	6.619	2.740	23.232
Government Admin & Defence	-	0.365	0.194	0.559
Education	-	0.180	0.884	1.063
Health & Community Services	-	0.041	1.338	1.379
Cultural & Recreational Services	8.604	0.963	0.993	10.560
Personal & Other Services	-	0.164	1.525	1.688
TOTALS	36.708	18.466	29.999	85.173
Output Multipliers		Type 1	Type 2	
		1.503	2.320	

Major value of output impacts are experienced by the sectors of Property and Business Services (\$23.232m), Retail Trade (\$18.077m) and Cultural and Recreation Services (\$10.560m).

Similar relative impact with regard to the Value of Regional Output can be seen from the impact analysis for the Tweed Gold Coast and Coffs Harbour campuses of SCU in Tables 20-21.

TABLE 20

ECONOMIC IMPACT ANALYSIS – TWEED GOLD COAST CAMPUS STUDENT EXPENDITURE				
REGIONAL OUTPUT (\$m)				
Tweed Region				
FILL IN EXPECTED ANNUAL CHANGES IN FINAL DEMAND COLUMN				
SECTOR	Final Demand \$m	Industrial Effect	Consumpn Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.042	0.078	0.120
Mining	-	0.003	0.003	0.006
Manufacturing	-	0.162	0.337	0.500
Electricity, Gas & Water	-	0.035	0.068	0.103
Construction	-	0.009	0.005	0.014
Wholesale Trade	-	0.068	0.103	0.171
Retail Trade	0.840	0.139	0.544	1.523
Accomm, Cafes & Restaurants	-	0.066	0.214	0.280
Transport & Storage	0.347	0.069	0.079	0.496
Communication Services	-	0.060	0.061	0.122
Finance & Insurance	-	0.069	0.123	0.192
Property & Business Services	1.144	0.655	0.228	2.027
Government Admin & Defence	-	0.037	0.020	0.057
Education	-	0.013	0.074	0.088
Health & Community Services	-	0.004	0.114	0.118
Cultural & Recreational Services	0.709	0.048	0.113	0.871
Personal & Other Services	-	0.011	0.113	0.124
TOTALS	3.040	1.492	2.278	6.811
Output Multipliers		Type 1 1.491		Type 2 2.240

TABLE 21

ECONOMIC IMPACT ANALYSIS – COFFS HARBOUR CAMPUS STUDENT EXPENDITURE REGIONAL OUTPUT (\$m) Coffs Coast Region				
FILL IN EXPECTED ANNUAL CHANGES IN FINAL DEMAND COLUMN				
SECTOR	Final Demand \$m	Industrial Effect	Consumpn Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.065	0.130	0.195
Mining	-	0.006	0.004	0.010
Manufacturing	-	0.380	0.746	1.126
Electricity, Gas & Water	-	0.082	0.159	0.240
Construction	-	0.018	0.009	0.027
Wholesale Trade	-	0.133	0.206	0.339
Retail Trade	1.537	0.245	0.976	2.759
Accomm, Cafes & Restaurants	-	0.121	0.386	0.507
Transport & Storage	0.636	0.163	0.162	0.960
Communication Services	-	0.138	0.145	0.283
Finance & Insurance	-	0.169	0.317	0.486
Property & Business Services	2.094	1.175	0.430	3.699
Government Admin & Defence	-	0.067	0.037	0.103
Education	-	0.026	0.134	0.159
Health & Community Services	-	0.007	0.203	0.210
Cultural & Recreational Services	1.299	0.150	0.226	1.676
Personal & Other Services	-	0.020	0.201	0.221
TOTALS	5.565	2.966	4.470	13.002
Output Multipliers		Type 1 1.533		Type 2 2.336

3.2 TOTAL AND SECTORAL *EMPLOYMENT* ATTRIBUTABLE TO STUDENTS FOR EACH CAMPUS

Tables 22, 23 and 24 present estimates of impact on total and sectoral employment within each region as a result of student expenditure.

TABLE 22

ECONOMIC IMPACT ANALYSIS – LISMORE CAMPUS STUDENT EXPENDITURE REGIONAL EMPLOYMENT (Job Numbers) Lismore Region				
SECTOR	Job Numbers	Industrial Effect	Consumpn Effect	Total (jobs)
Agriculture, Forest & Fishing	-	3.063	6.332	9.395
Mining	-	0.028	0.016	0.044
Manufacturing	-	6.189	13.939	20.128
Electricity, Gas & Water	-	1.004	2.016	3.020
Construction	-	0.330	0.188	0.518
Wholesale Trade	-	6.065	9.384	15.450
Retail Trade	116	18.752	74.869	210.007
Accomm, Cafes & Restaurants	-	7.075	19.738	26.814
Transport & Storage	20	3.863	4.541	28.445
Communication Services	-	4.989	5.311	10.300
Finance & Insurance	-	4.413	9.022	13.436
Property & Business Services	75	35.711	14.784	125.336
Government Admin & Defence	-	2.515	1.333	3.848
Education	-	2.731	13.441	16.171
Health & Community Services	-	0.613	20.031	20.644
Cultural & Recreational Services	63	7.054	7.274	77.356
Personal & Other Services	-	1.737	16.187	17.924
TOTALS	274	106	218	599
Output Multipliers		Type 1 1.387		Type 2 2.183

Table 22 shows that the total employment within the Lismore region due to student expenditure patterns is estimated at 599.

Relatively large employment impacts according to industry sector within the Lismore region can be seen in Retail Trade (210 jobs), Property and Business Services (125 jobs) Cultural and Recreational Services (77 jobs) and Accommodation, Cafes and Restaurants (27 jobs). Tables 23 and 24 indicate similar relative impacts upon employment flowing from SCU campuses within respective regions.

TABLE 23

ECONOMIC IMPACT ANALYSIS – TWEED GOLD COAST CAMPUS STUDENT EXPENDITURE				
REGIONAL EMPLOYMENT (Job Numbers)				
Tweed Region				
SECTOR	Job Numbers	Industrial Effect	Consumpn Effect	Total (jobs)
Agriculture, Forest & Fishing	-	0.300	0.549	0.848
Mining	-	0.006	0.005	0.01
Manufacturing	-	0.467	0.972	1.439
Electricity, Gas & Water	-	0.068	0.132	0.2
Construction	-	0.054	0.029	0.083
Wholesale Trade	-	0.441	0.666	1.107
Retail Trade	10	1.714	6.680	18.716
Accomm, Cafes & Restaurants	-	0.584	1.905	2.489
Transport & Storage	2	0.379	0.433	2.707
Communication Services	-	0.217	0.221	0.437
Finance & Insurance	-	0.276	0.495	0.771
Property & Business Services	5	2.923	1.019	9.049
Government Admin & Defence	-	0.261	0.144	0.405
Education	-	0.202	1.131	1.333
Health & Community Services	-	0.059	1.745	1.804
Cultural & Recreational Services	6	0.379	0.883	6.799
Personal & Other Services	-	0.124	1.288	1.413
TOTALS	23	8	18	50
Output Multipliers		Type 1 1.370		Type 2 2.170

TABLE 24

ECONOMIC IMPACT ANALYSIS – COFFS HARBOUR CAMPUS STUDENT EXPENDITURE				
REGIONAL EMPLOYMENT (Job Numbers)				
Coffs Coast Region				
SECTOR	Job Numbers	Industrial Effect	Consumpn Effect	Total (jobs)
Agriculture, Forest & Fishing	-	0.485	0.968	1.453
Mining	-	0.012	0.008	0.020
Manufacturing	-	1.118	2.192	3.309
Electricity, Gas & Water	-	0.151	0.294	0.445
Construction	-	0.105	0.054	0.159
Wholesale Trade	-	0.862	1.331	2.194
Retail Trade	18	2.911	11.588	32.742
Accomm, Cafes & Restaurants	-	1.074	3.430	4.503
Transport & Storage	3	0.736	0.733	4.350
Communication Services	-	0.498	0.522	1.020
Finance & Insurance	-	0.674	1.260	1.934
Property & Business Services	9	5.296	1.936	16.670
Government Admin & Defence	-	0.473	0.262	0.735
Education	-	0.391	2.034	2.425
Health & Community Services	-	0.102	3.171	3.273
Cultural & Recreational Services	10	1.147	1.725	12.775
Personal & Other Services	-	0.225	2.248	2.473
TOTALS	40	16	34	90
Output Multipliers		Type 1 1.402		Type 2 2.236

3.3 TOTAL AND SECTORAL REGIONAL HOUSEHOLD INCOME ATTRIBUTABLE TO STUDENTS FOR EACH CAMPUS

Tables 25, 26 and 27 show the total regional household income according to industry sector within each region resulting from student expenditure on goods and services within each region. The total estimated impact on household income within the Lismore region is \$23.361m.

TABLE 25

ECONOMIC IMPACT ANALYSIS – LISMORE CAMPUS STUDENT EXPENDITURE REGIONAL HOUSEHOLD INCOME (\$m) Lismore Region				
SECTOR	Final Demand \$m	Industrial Effect	Consumption Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.059	0.121	0.180
Mining	-	0.002	0.001	0.002
Manufacturing	-	0.305	0.687	0.992
Electricity, Gas & Water	-	0.058	0.117	0.176
Construction	-	0.011	0.006	0.017
Wholesale Trade	-	0.267	0.413	0.679
Retail Trade	3.317	0.534	2.134	5.986
Accomm, Cafes & Restaurants	-	0.176	0.491	0.667
Transport & Storage	0.912	0.176	0.207	1.295
Communication Services	-	0.319	0.340	0.659
Finance & Insurance	-	0.303	0.619	0.922
Property & Business Services	3.990	1.904	0.788	6.682
Government Admin & Defence	-	0.167	0.088	0.255
Education	-	0.131	0.644	0.775
Health & Community Services	-	0.026	0.848	0.874
Cultural & Recreational Services	2.062	0.231	0.238	2.531
Personal & Other Services	-	0.065	0.603	0.668
TOTALS	10.282	4.733	8.346	23.361
Output Multipliers		Type 1 1.460		Type 2 2.272

There have been relatively high impacts upon regional household income in the sectors of Property and Business Services (\$6.682m), Retail Trade (\$5.986m), and Cultural and Recreational Services (\$2.531m). Similar relative impacts can be discerned from Tables 26 and 27.

TABLE 26

ECONOMIC IMPACT ANALYSIS – TWEED GOLD COAST CAMPUS STUDENT EXPENDITURE				
REGIONAL HOUSEHOLD INCOME (\$m)				
Tweed Region				
SECTOR	Final Demand \$m	Industrial Effect	Consumpn Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.006	0.012	0.018
Mining	-	0.000	0.000	0.001
Manufacturing	-	0.021	0.044	0.065
Electricity, Gas & Water	-	0.004	0.008	0.012
Construction	-	0.002	0.001	0.003
Wholesale Trade	-	0.019	0.029	0.049
Retail Trade	0.284	0.047	0.184	0.516
Accomm, Cafes & Restaurants	-	0.015	0.047	0.062
Transport & Storage	0.081	0.016	0.018	0.115
Communication Services	-	0.014	0.014	0.028
Finance & Insurance	-	0.020	0.035	0.055
Property & Business Services	0.294	0.168	0.059	0.52
Government Admin & Defence	-	0.017	0.010	0.027
Education	-	0.010	0.054	0.064
Health & Community Services	-	0.002	0.072	0.074
Cultural & Recreational Services	0.161	0.011	0.026	0.198
Personal & Other Services	-	0.004	0.042	0.046
TOTALS	0.820	0.377	0.656	1.853
Output Multipliers		Type 1 1.460		Type 2 2.260

TABLE 27

ECONOMIC IMPACT ANALYSIS – COFFS HARBOUR CAMPUS STUDENT EXPENDITURE REGIONAL HOUSEHOLD INCOME (\$m) Coffs Coast Region				
SECTOR	Final Demand \$m	Industrial Effect	Consumpn Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.010	0.019	0.029
Mining	-	0.001	0.000	0.001
Manufacturing	-	0.050	0.097	0.147
Electricity, Gas & Water	-	0.009	0.018	0.027
Construction	-	0.003	0.002	0.005
Wholesale Trade	-	0.038	0.059	0.096
Retail Trade	0.514	0.082	0.326	0.922
Accomm, Cafes & Restaurants	-	0.027	0.085	0.112
Transport & Storage	0.144	0.037	0.037	0.218
Communication Services	-	0.032	0.033	0.065
Finance & Insurance	-	0.047	0.088	0.135
Property & Business Services	0.539	0.303	0.111	0.952
Government Admin & Defence	-	0.031	0.017	0.049
Education	-	0.019	0.097	0.116
Health & Community Services	-	0.004	0.128	0.133
Cultural & Recreational Services	0.315	0.037	0.055	0.407
Personal & Other Services	-	0.008	0.077	0.084
TOTALS	1.512	0.736	1.251	3.499
Output Multipliers		Type 1	Type 2	
		1.487	2.314	

3.4 TOTAL AND SECTORAL REGIONAL VALUE ADDED ATTRIBUTABLE TO STUDENTS FOR EACH CAMPUS

Tables 28, 29 and 30 show the impact upon total and sectoral value added as a result of student expenditure in each region.

TABLE 28

ECONOMIC IMPACT ANALYSIS – LISMORE CAMPUS				
STUDENT EXPENDITURE				
REGIONAL VALUE ADDED (\$m)				
Lismore Region				
SECTOR	Final Demand \$m	Industrial Effect	Consumption Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.221	0.457	0.678
Mining	-	0.006	0.004	0.010
Manufacturing	-	0.600	1.351	1.950
Electricity, Gas & Water	-	0.264	0.530	0.794
Construction	-	0.026	0.015	0.041
Wholesale Trade	-	0.358	0.554	0.913
Retail Trade	5.327	0.858	3.427	9.612
Accomm, Cafes & Restaurants	-	0.310	0.865	1.175
Transport & Storage	1.858	0.358	0.421	2.637
Communication Services	-	0.771	0.821	1.593
Finance & Insurance	-	0.642	1.312	1.954
Property & Business Services	6.422	3.065	1.269	10.755
Government Admin & Defence	-	0.188	0.100	0.288
Education	-	0.150	0.738	0.888
Health & Community Services	-	0.032	1.047	1.079
Cultural & Recreational Services	4.307	0.482	0.497	5.286
Personal & Other Services	-	0.093	0.87	0.963
TOTALS	17.915	8.425	14.277	40.617
Output Multipliers		Type 1		Type 2
		1.072		1.939

The total impact on regional value added for the Lismore region as a result of student expenditure within the region is estimated at \$40.617m. As can be seen from the following Tables the amounts for the Tweed and Coffs Harbour regions are estimated at \$3.220m and \$6.112m, respectively.

Table 29

ECONOMIC IMPACT ANALYSIS – TWEED GOLD COAST CAMPUS STUDENT EXPENDITURE REGIONAL VALUE ADDED (\$m) Tweed Region				
SECTOR	Final Demand \$m	Industrial Effect	Consumpn Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.023	0.042	0.065
Mining	-	0.002	0.001	0.003
Manufacturing	-	0.040	0.083	0.123
Electricity, Gas & Water	-	0.018	0.035	0.053
Construction	-	0.004	0.002	0.007
Wholesale Trade	-	0.026	0.039	0.065
Retail Trade	0.439	0.073	0.284	0.796
Accomm, Cafes & Restaurants	-	0.026	0.084	0.109
Transport & Storage	0.162	0.032	0.037	0.232
Communication Services	-	0.034	0.034	0.068
Finance & Insurance	-	0.041	0.074	0.115
Property & Business Services	0.522	0.299	0.104	0.925
Government Admin & Defence	-	0.019	0.010	0.029
Education	-	0.011	0.062	0.073
Health & Community Services	-	0.003	0.089	0.092
Cultural & Recreational Services	0.323	0.022	0.052	0.397
Personal & Other Services	-	0.006	0.062	0.068
TOTALS	1.446	0.678	1.095	3.220
Output Multipliers		Type 1 1.469		Type 2 2.227

Table 30

ECONOMIC IMPACT ANALYSIS – COFFS HARBOUR CAMPUS STUDENT EXPENDITURE REGIONAL VALUE ADDED (\$m) Coffs Coast Region				
SECTOR	Final Demand \$m	Industrial Effect	Consumpn Effect	Total (\$m)
Agriculture, Forest & Fishing	-	0.034	0.067	0.101
Mining	-	0.003	0.002	0.005
Manufacturing	-	0.090	0.177	0.268
Electricity, Gas & Water	-	0.041	0.080	0.122
Construction	-	0.009	0.004	0.013
Wholesale Trade	-	0.051	0.079	0.130
Retail Trade	0.811	0.130	0.516	1.457
Accomm, Cafes & Restaurants	-	0.047	0.150	0.197
Transport & Storage	0.281	0.072	0.072	0.425
Communication Services	-	0.077	0.081	0.158
Finance & Insurance	-	0.100	0.186	0.285
Property & Business Services	0.953	0.535	0.196	1.684
Government Admin & Defence	-	0.034	0.019	0.053
Education	-	0.021	0.112	0.133
Health & Community Services	-	0.005	0.158	0.164
Cultural & Recreational Services	0.617	0.071	0.107	0.796
Personal & Other Services	-	0.011	0.112	0.123
TOTALS	2.663	1.331	2.118	6.112
Output Multipliers		Type 1 1.500		Type 2 2.295

4. SUMMARY AND CONCLUSIONS

- The **total impact** of each Campus upon their regional economy is summarised in the Tables below. These tables show the total estimated economic impact of each SCU campus on the surrounding region according to Value of Regional Output, Regional Employment Impact, Household Income and Value Added.
- The substantial relative importance of the SCU campus to the Lismore regional economy is shown in the Table below. It can be seen from the Table that the SCU campus is responsible for an estimated regional value of output of \$233.566m. This is equivalent to 10 per cent of the total value of output of the Lismore region as a whole. In addition, the SCU campus is responsible for an estimated 2106 jobs, equivalent to 9 per cent of the total number of jobs within the region.

TOTAL ECONOMIC IMPACT - LISMORE CAMPUS

Measure	Value	Share of region
Region's value of annual output attributable to employment at SCU Lismore campus plus student expenditure impact	\$148.393m + \$85.173m = \$233.566	10 per cent
Region's employment attributable to SCU Lismore campus plus student expenditure impact	1,507 jobs + 599 = 2106	9 per cent
Region's annual household income attributable to SCU Lismore campus plus student expenditure impact	\$66.186m + \$23.361m = \$89.547	13 per cent
Region's value added attributable to SCU Lismore campus plus student expenditure impact	\$90.427m + \$40.617m = \$131.044	11 per cent

TOTAL ECONOMIC IMPACT - TWEED GOLD COAST CAMPUS

Measure	Value	Share of region
Region's value of annual output attributable to employment at SCU Tweed Gold Coast campus plus student expenditure impact	\$7.074m + \$6.811m = \$13.885	1 per cent
Region's employment attributable to SCU Tweed Gold Coast campus plus student expenditure impact	76 jobs + 50 = 126	1 per cent
Region's annual household income attributable to SCU Tweed Gold Coast campus plus student expenditure impact	\$3.241m + \$1.853m = \$5.094	1 per cent
Region's value added attributable to SCU Tweed Gold Coast campus plus student expenditure impact	\$4.366m + \$3.220m = \$7.586	1 per cent

TOTAL ECONOMIC IMPACT - COFFS HARBOUR CAMPUS

Measure	Value	Share of region
Region's value of annual output attributable to employment at SCU Coffs Harbour campus plus student expenditure	\$15.861m + \$13.002m = \$28.863	1 per cent
Region's employment attributable to SCU Coffs Harbour campus plus student expenditure impact	164 jobs + 90 = 254	1 per cent
Region's annual household income attributable to SCU Coffs Harbour campus plus student expenditure impact	\$7.093m + \$3.499m = \$10.592	1 per cent
Region's value added attributable to SCU Coffs Harbour campus plus student expenditure impact	\$9.642m + \$6.112m = \$15.754	1 per cent

- The relative economic impacts of the Tweed Gold Coast and Coffs Harbour campuses, while important, are not as substantial as that for the Lismore region. This reflects both the smaller size of the SCU campuses in these regions as well as the relative size of the regional economies of the Tweed and Coffs Harbour regions.
- The total regional value of output impact of the Tweed campus on the surrounding region is estimated at \$13.885m. This constitutes around 1 per cent of the total value of annual output within the region. The Tweed Gold Coast campus is also estimated to be responsible for 126 jobs within the region.
- The SCU Coffs Harbour campus is estimated to be responsible for \$28.863m value of regional output, or 1 per cent of the value of output of the region, as a whole. The total regional employment impact of the SCU Coffs Harbour campus is estimated at 254 jobs, again constituting around 1 per cent of all jobs within the region. The relative economic impact of both coastal campuses on their surrounding regions is therefore found to be similar.
- Each SCU Campus offers their region, educational and career-development opportunities which may not otherwise be readily available. However, these campuses are also a significant employer in their own right and, via the economic activity which they generate, a substantial *current* contributor to the region's value of output and employment across a range of industry sectors.