

SOCIO-ECONOMIC IMPACT ANALYSIS OF THE TELE-SERVICE INDUSTRY ON CAPE BRETON ISLAND



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Executive Summary

Canmac Economics Ltd. conducted a socio-economic impact analysis of the Cape Breton Tele-service sector for the 1998 to 2002 period. The purpose of this study is to present our findings with respect to:

- 1. the total socio-economic impact of the Tele-service industry on Cape Breton Island including the direct, indirect, and induced impacts.*
- 2. the fiscal impacts on the federal, provincial and Cape Breton municipal governments.*

In addition to estimating the socio-economic impact, this study also develops estimates of the Cape Breton region Gross Domestic Product. These estimates are presented in Appendix A.

Canmac's approach to this project involved conducting direct interviews with the Tele-service sector firms and selected supplier surveys. The impact analysis involved simulations with the Canmac Econometric Model of Cape Breton and the Cape Breton Input-Output Model.

Our major findings are as follows:

- Over the 1998 to 2001 period, the Tele-service Sector generated \$23.4 million in Cape Breton based construction expenditures. These construction expenditures resulted in total household income creation of \$2.9 million per year. These construction expenditures also resulted in total employment of 101.1 full time equivalents per year.

- In 2002, the Tele-service Sector generated \$5.8 million in Cape Breton based construction expenditures. These construction expenditures resulted in total household income creation of \$3.0 million and total employment of 106 full time equivalents.
- On an annual average basis, the Tele-service sector spent \$14.9 million in operational expenditures over the 1998 - 2001 period. These operational expenditures resulted in direct household income creation of \$8.6 million, and total household income creation of \$11.7 million. These operational expenditures also resulted in direct employment of 677 full time equivalents and total employment of 804 full time equivalents per year.
- The Tele-service sector spent \$84.9 million in operational expenditures in 2002. These operational expenditures resulted in direct household income creation of \$49.2 million, and total household income creation of \$66.7 million. These operational expenditures also resulted in direct employment of 3,466 full time equivalents and total employment of 4,518 full time equivalents.
- The Tele-service sector is a significant generator of fiscal benefits. In 2002, the sector provided \$11.9 million in Federal fiscal benefits and \$9.4 million in Provincial benefits.
- The major industry sales in 2002 that are generated in the Cape Breton economy as a result of the tele-service sector include:

Telecommunications	\$7.1 million
Professional Services	\$11.8 million
Retail	\$36.7 million
- Some of the other socio-economic impacts associated with the Tele-service sector include:
 - reduction in out-migration of 636 persons over the next five years,
 - reduction in unemployment insurance payments with 17.5% of the Tele-services workers coming directly from EI.
 - reduction in welfare payments with 6.1% of Tele-service workers coming from social assistance.

The Cape Breton Tele-service sector has become an important economic driver of the Cape Breton economy. In 2002, this sector has accounted for \$66.7 million or 2.6% of total Cape Breton household income; 4,518 in person years of employment, or 8.3% of total employment. In 2002, we estimate the Cape Breton Gross Domestic Product at factor cost at \$3487.8 million. The tele-service sector's total economic impact accounts for \$83.0 million or 2.4% of GDP.

The Cape Breton Regional Municipality is the major beneficiary of the Cape Breton Tele-service sector. With all but one of the Cape Breton call centres located in the CBRM, the region receives the majority of the jobs, industry suppliers and municipal taxes.

Our review of the tele-service sector has revealed a significant creation of economic benefits. These benefits are created with taxpayer dollars. In terms of economic benefits, every dollar of government incentives generated, if we assume a project life of ten years and a discount rate of 10%, \$8.3 in income per \$1 of government incentive.

Chapter One

Introduction

1.1 Introduction

The purpose of this report is to present our findings with respect to the socio-economic impact of the tele-service industry on the Cape Breton economy. More specifically, the overall objective of this study is:

- 1. to measure the total socio-economic impact of the tele-service industry on Cape Breton Island including the direct, indirect, and induced impacts; and*
- 2. to examine the fiscal impacts on the federal, provincial and Cape Breton municipal governments.*

In addition to estimating the socio-economic impact, this study provides estimates of the Cape Breton Region Gross Domestic Product. These estimates are presented in Appendix A.

1.2 Methodology Overview

Canmac uses a multiple lines of inquiry approach to conduct our economic/fiscal impact assessment. An economic impact assessment involves both direct data collection and impact simulations using models that approximate the structure of the Cape Breton economy. We conducted direct survey interviews with each of the tele-service firms currently located in Cape Breton. Overall response rates were good with all but one firm providing information. In addition to the tele-service firms we also conducted surveys on several suppliers to the industry. Appendix B provides a copy of the survey instrument.

The total impact estimates are derived using the Canmac Econometric model with the Cape Breton I-O Model. The socio-economic impact develops what is generally referred to as a control-shock simulation. We first use the econometric model to provide a prediction of the path of the Cape Breton economy without the tele-service industry. We then shock the model with the introduction of the tele-service sector. The socio-economic impact of the tele-service sector is the difference between the model output in the shock case and the control case.

Under the control case we predict the demographic profile by age and gender that would exist in 2002, plus by GDP at factor cost, macro-variables such as total population, labour force, employment and unemployment rates. The model also provides income support and charitable contribution estimates.

1.3 Report Format

Chapter Two provides the main analytical results. Chapter Three summarizes the results of Chapter Two and provides concluding comments. Appendix A presents estimates of the Cape Breton Region Gross Domestic Product (GDP). Appendix B provides a sample of the survey instrument.

Chapter Two

Analysis

2.1 Introduction

This chapter sets out our main analytical results. The next section provides an economic overview of the Cape Breton tele-service industry and measures the direct impact of the construction activity and the operation activity over the 1998 to 2002 period. Section 2.3 examines the total impact of the tele-service sector's construction activity. Section 2.4 examines the total impact of the operations economic impact. Section 2.5 provides indirect industry impacts. In section 2.6, we provide estimates of the tax benefits of the Tele-service sector. Section 2.7 examines additional socio-economic benefits of migration demographics and charitable donations.

2.2 Direct Impact

The overall objective of an impact analysis is to determine how much employment, income and gross domestic product has been created in the Cape Breton region as a result of the tele-service industry locating in the area. The first step in this process is to measure the direct contributions of the sector - how much direct employment, income and GDP has been created.

The Tele-service sector makes two types of direct expenditures, 1) construction, and 2) operational expenditures. At present there are six tele-service firms operating seven call centres in Cape Breton. The bulk of these centres (six of the seven), are located within the Cape Breton Regional Municipality (CBRM) with the seventh centre being located

in the town of Port Hawkesbury. Within the CBRM the centres are well distributed with four residing in different areas of Sydney, one in North Sydney, and one in Glace Bay.



Direct Construction Expenditures

The setup of the Tele-Service Sector in Cape Breton involved over \$66 million in capital investment¹ between 1998 and 2002. Of this \$21.8 million (33.0%) was invested in construction of new or the renovation of existing commercial buildings, \$26.2 million (39.7%) was invested in office equipment with the remaining \$18 million (27.3%) being

¹Setup costs were estimated for one centre from partial data as one centre choose not to participate in this study.

invested in professional and other services such as legal, accounting, architecture and other miscellaneous services.

Table 1 provides an overview of the construction expenditures. The \$66 million of capital invested by the Tele-Services Sector, provided \$29.2 million (44.3%) in expenditures in Cape Breton. Of this local expenditure, \$21.7 million (74.1%) was invested in non-residential construction, \$2.5 million (8.7%) was invested in machinery and equipment, with the remaining \$5.0 million (17.3%) being invested in professional and other services.

Table 1: Capital Expenditures 1998-2002⁽¹⁾
Cape Breton Tele-Service Sector

Category	Total	in Cape Breton	% in Cape Breton
Non-Residential Construction	\$21,816,000	\$21,670,000	99.3%
% of Total	33.0%	74.1%	
Office Equipment, etc.	\$26,220,000	\$2,538,000	9.7%
% of Total	39.7%	8.7%	
Professional & Other Services	\$17,995,000	\$5,047,000	28.0%
% of Total	27.3%	17.3%	
Total Capital Expenditure	\$66,031,000	\$29,225,000	44.3%

Source: Tele-Service Survey

Direct Operations Expenditures

Annual total operating expenditures have grown from an estimated \$10 million in 2000 to close to \$88² million in 2002, growth of over 800% or 400% per year. Close to \$88 million in operating costs were expended in 2002, 97% or \$84.9 million is spent in Cape Breton. The largest portion of this annual operating expenditure is accounted for through wages and salaries, \$49.2 million or 57.9% of the total.

Along with a large wagebill comes significant employment in the 3,650 range of total jobs in 2002. This total consists of around 3,229 (88%) full-time jobs and 423 (12%) part-time jobs with part-time employees working on average 21.7 hours per week. As with operating expenditures, growth in employment has been significant over the same period, the total number of jobs has increased from around 665³ in 2000 to 3,652 in 2002, growth of over 549%. On a full-time equivalent basis the tele-service industry employed around 3,466 in 2002. A summary of employment between 2000 and 2002 is presented in Table 2.

²Numbers stated include estimates from partial data for 1 call centre choose not to participate in this study.

³Assuming constant level of employment for ICT at 2002 level.

**Table 2: Employment 1998-2002
Cape Breton Tele-Service Sector**

<i>Year</i>	<i>Full-Time Jobs</i>	<i>Part-Time Jobs</i>	<i>Total Jobs</i>	<i>Average Part- time Hours/Week</i>	<i>FTE Jobs</i>
<i>1998</i>	280	40	320	20.0	300
<i>1999</i>	280	40	320	20.0	300
<i>2000</i>	525	140	665	22.0	605
<i>2001</i>	1215	490	1705	21.3	1500
<i>2001 % Change</i>	131.43%	250.0%	156.39%	-3.0	147.93%
<i>2002</i>	3229	423	3652	21.7	3466
<i>2002 % Change</i>	165.76%	-13.67%	114.19%	1.9	131.07%
<i>2000-2002 % Change</i>	515.05%	202.14%	449.17%	-1.4	472.89%

Source: Tele-Service Survey

We also examined the wage level paid to employees. The majority of the jobs (44.9%) pay an annual income in the range of \$15,001 to \$20,000 followed closely by the \$20,001 to \$30,000 income range at 41.4%. The annual income range for all call centre jobs is presented Table 3.

**Table 3: Employment Income Range
Cape Breton Tele-Service Sector**

<i>Range</i>	<i>Wagebill</i>	<i>% of Total</i>
<i>10,000-15,000</i>	\$1,519,891	3.1%
<i>15,001-20,000</i>	\$22,073,730	44.9%
<i>20,001-30,000</i>	\$20,388,032	41.4%
<i>30,001-40,000</i>	\$3,309,985	6.7%
<i>40,001-50,000</i>	\$801,397	1.6%
<i>50,001+</i>	\$1,105,375	2.2%
<i>Total</i>	\$49,198,410	100.0%

Source: Tele-Service Survey

2.3 Total Construction Impact

Construction of facilities for call centres, office set-up and office equipment purchases create additional economic stimulus in the Cape Breton economy. A chain reaction of local suppliers is initiated that provides goods and services to the construction project. Impact analysis distinguishes two additional impacts. First, the indirect effect which is defined as the household income, employment and gross domestic product created by suppliers to the project. The final impact is the induced effect. The effect measures the impact of respending in the local economy by households that earned income from the direct and indirect effect.

Our estimates of the total economic impact of the tele-service sector construction activity is provided in Table 4. As shown in Table 4, over the years 1998-2001, the sector created on average, \$2.9 million in household income, \$3.8 million in Gross Domestic

Product, and 101.1 person years of employment. The results for 2002 were similar to the average of 1998 to 2001. The tele-service sector created \$3.0 million in household income, \$3.9 million in Gross Domestic Product, and 106 person years of employment.

**Table 4: Construction Expenditure - Total Economic Impact
Cape Breton Tele-Service Sector**

	1998 - 2001		2002
	Total	Average	
Construction Related Expenditures (Millions)	23.4	5.8	5.8
Total Household Income (Millions)	11.7	2.9	3.0
Total Employment (Person Years)	404.4	101.1	106
Total GDP (Millions)	15.2	3.8	3.9

Source: Canmac Economics Ltd.

2.4 Total Operations Impact

Whereas economic benefits from the construction phase are confined to the short length of the construction period, economic benefits from the operational phase continue year after year over the life of the project. Table 5 provides the results of the Canmac simulation model. Our estimates of the total economic benefits of the tele-service sector are presented for the years 1998 - 2001 and 2002. Our estimates are provided on this basis to protect individual firm confidentiality.

As shown in Table 5, the tele-service sector provided, on an annual average basis, \$11.7 million in total household income, 804 person years of employment, and \$14.6 million increase in Cape Breton Gross Domestic Product (at factor cost) from 1998 to 2001. In 2002, the tele-service sector represented a significant force in the local economy - \$66.7 million in household income, 4,518 person years of employment and 83.0 million in GDP.

**Table 5: Total Operations Impact, 1998 - 2001, 2002
Cape Breton Tele-Service Sector**

	1998 - 2001		2002
	Total	Average	
Operations Cost (\$ Millions)	59.7	14.9	84.9
Household Income (\$ Millions)			
Direct	34.6	8.6	49.2
Total	46.9	11.7	66.7
Employment (Person Years)			
Direct	2705	676	3466
Total	3216	804	4518
Gross Domestic Product (\$ Millions)			
Direct	37.0	9.2	52.6
Total	58.3	14.6	83.0

Source: Canmac Economics Ltd.

2.5 Industry Impact

The annual operational expenditures of the Cape Breton Tele-service sector provides many industries in the Cape Breton economy with significant sales opportunities that did not exist prior to the establishment of the tele-service sector. We interviewed several suppliers to the sector and found that for the majority of cases, the impact of this sector has been on increased sales to existing business rather than the establishment of new investment. Table 6 provides a breakdown of the major businesses that have enjoyed increased sales as a result of the establishment of the tele-service sector. The largest beneficiary was retail services. Some of the small businesses that have benefitted directly are security and catering services.

**Table 6: Indirect Industry Sales
Cape Breton Tele-Service Sector**

<i>Category</i>	<i>Sales (millions)</i>
<i>Retail</i>	\$36.7
<i>Telecommunications</i>	\$7.1
<i>Travel</i>	\$0.5
<i>Information Services</i>	\$2.8
<i>Professional Services</i>	\$11.8
<i>Training & Education</i>	\$1.1
<i>Rent/Lease</i>	\$2.7
<i>Repair/Maintenance</i>	\$2.4
<i>Office Supplies</i>	\$1.1
<i>Utilities</i>	\$1.4
<i>Other Expenditures</i>	\$4.9

Source: Canmac Economics Ltd.

2.6 Fiscal Impact

The establishment of the tele-service sector also provides significant fiscal benefits to the federal, provincial and municipal governments. Table 9 shows the estimated total fiscal benefits.

From our impact simulations it is estimated that the federal and provincial governments received \$8.240 million in direct household income tax and \$1.370 million in direct corporate income tax in 2002. Spending of the close to \$50 million in direct household income in 2002 is estimated to have generated a total fiscal impact of \$4.747 million in

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HST and another \$3.527 million in other indirect tax revenue. Finally, Over the period 1998 to 2002 it is estimated that call centres contributed \$1.8 million to municipal coffers in the form of business occupancy tax and property tax.

These are not the only fiscal benefits realized by the different levels of government. Those surveyed stated that a percentage of employees came from the employment insurance and social assistance ranks, 17.5% and 6.1% respectively. The employment of these people would have resulted in the federal government savings of \$8.75 million in employment insurance payments and the provincial government saving \$1.47 million in social assistance payments in 2002.

Table 7: Operations Fiscal Impact - Federal Government
Cape Breton Tele-service Sector

	<i>1998-2001</i>		<i>2002</i>
	<i>(Millions)</i>		
	<i>Total</i>	<i>Average</i>	
<i>Direct Household Income</i>	<i>3.705</i>	<i>0.926</i>	<i>5.270</i>
<i>Direct Corporate Income</i>	<i>0.703</i>	<i>0.176</i>	<i>1.000</i>
<i>Direct HST</i>	<i>1.124</i>	<i>0.281</i>	<i>1.600</i>
<i>Direct Other Indirect</i>	<i>0.661</i>	<i>0.165</i>	<i>0.940</i>
<i>Total Direct Impact</i>	<i>6.193</i>		<i>8.810</i>
<i>Total Household Income</i>	<i>5.025</i>	<i>1.256</i>	<i>7.148</i>
<i>Total Corporate Income</i>	<i>0.954</i>	<i>0.239</i>	<i>1.356</i>
<i>Total HST</i>	<i>1.526</i>	<i>0.382</i>	<i>2.170</i>
<i>Total Other Indirect</i>	<i>0.896</i>	<i>0.224</i>	<i>1.275</i>
<i>Total Fiscal Impact</i>	<i>8.401</i>		<i>11.950</i>

Source: Canmac Economics Ltd.

**Table 8: Operations Fiscal Impact - Provincial Government
Cape Breton Tele-service Sector**

	1998-2001 (Millions)		2002 (Millions)
	Total	Average	
<i>Direct Household Income</i>	2.088	0.522	2.971
<i>Direct Corporate Income</i>	0.260	0.065	0.370
<i>Direct HST</i>	1.336	0.334	1.900
<i>Direct Other Indirect</i>	1.167	0.292	1.600
Total Direct Impact	4.851		6.900
<i>Total Household Income</i>	2.832	0.708	4.029
<i>Total Corporate Income</i>	0.353	0.088	0.502
<i>Total HST</i>	1.812	0.453	2.577
<i>Total Other Indirect</i>	1.583	0.396	2.252
Total Fiscal Impact	6.580		9.359

Source: Canmac Economics Ltd.

**Table 9: Operations Fiscal Impact - Total Government
Cape Breton Tele-service Sector**

	1998-2001 (Millions)		2002 (Millions)
	Total	Average	
<i>Direct Household Income</i>	5.793	1.448	8.240
<i>Direct Corporate Income</i>	0.964	0.241	1.370
<i>Direct HST</i>	2.460	0.615	3.500
<i>Direct Other Indirect</i>	1.827	0.457	2.600
Total Direct Impact	11.044		15.709
<i>Total Household Income</i>	7.857	1.964	11.177
<i>Total Corporate Income</i>	1.306	0.327	1.858
<i>Total HST</i>	3.338	0.835	4.747
<i>Total Other Indirect</i>	2.479	0.620	3.527
Total Fiscal Impact	14.981		21.309

Source: Canmac Economics Ltd.

2.7 Other Socio-Economic Impacts

Demographics and Out-Migration

Along with income (salary) ranges information, we also developed a demographic profile of the call centre workforce. Call centres in Cape Breton have a workforce consisting of 35.0% male (1,406), 53.8% females (2,160), and 11.1% (447) employee's for which age and gender information was not provided. The male workforce is dominated by the 20 to 24 years of age group at 31.7% (446) of the total male workforce, 11.1% of total workforce. This male age group is followed by males 45 to 49 years of age at 18.2% (256) of the male workforce, 6.4% of the total workforce. A similar situation exists with the female workforce with females 20 to 24 years of age at 23% (496) of the female and 12.4% of the total workforce. Again the 45 to 49 female age group has the second highest percentage with 15.7% (340) of female workforce and 8.47% of total workforce. The age/gender breakdown of the Cape Breton Call Centre workforce is presented in Table 10.

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Table 10: Cape Breton Call Centre Workforce, Age/Gender Profile, 2002

<u>Age Group (Males)</u>	Number	% Sex	% Total
15-19	68	4.84%	1.69%
20-24	446	31.72%	11.11%
25-29	215	15.29%	5.36%
30-34	165	11.74%	4.11%
35-39	99	7.04%	2.47%
40-44	101	7.18%	2.52%
45-49	256	18.21%	6.38%
50-54	39	2.77%	0.97%
55-59	9	0.64%	0.22%
60-64	5	0.36%	0.12%
65+	3	0.21%	0.07%
Total Males	1406	100.00%	35.04%
<u>Age Group (Females)</u>	Number	% Sex	% Total
15-19	59	2.73%	1.47%
20-24	496	22.96%	12.36%
25-29	293	13.56%	7.30%
30-34	244	11.30%	6.08%
35-39	269	12.45%	6.70%
40-44	143	6.62%	3.56%
45-49	340	15.74%	8.47%
50-54	116	5.37%	2.89%
55-59	60	2.78%	1.50%
60-64	138	6.39%	3.44%
65+	2	0.09%	0.05%
Total Females	2160	100.00%	53.83%
Unknown	447		11.14%

Source: Tele-Service Sector Survey, Canmac Economics Ltd.

One important component of the socio-economic impact of the tele-service sector is its impact on migration. The retention of persons that would otherwise move from the area is important to the long term viability of the Cape Breton economy since it is from the persons (particularly younger members) that the entrepreneurs of tomorrow are born.

Our estimate of the retention of persons is based on the assumption that the tele-service workers probability to migrate is the same as the overall population in the same gender, age group as the tele-service worker. We assessed the retention levels using the demographic data from the surveys in conjunction with census data. To do this we collect 2001 Census data on migration by age groups at the census division level⁴ for two time periods, place of residence one year ago, and place of residence five years ago. Using this data and population by age group data from the 1996 census (5 years ago) and population by age group estimate 2000⁵ (1 year ago) and calculated the propensity to migrate out by age group and gender for Cape Breton County. This propensity to migrate out of Cape Breton County was then applied to the employment by age and gender to estimate the number kept in the County through the availability of a job. This resulted in an estimated 154 people (4.32 %) who did not migrate out based on the place of residence data one year ago, 66 males, 88 females.

This estimate only includes the 88.9% of employees for which we know age and gender, to get a total estimate we applied the 4.32% kept in Cape Breton County to all

⁴Source: Statistics Canada 2001 Nation Series, Pub #97F0008XCB01010 & #97F0008XCB01009- Cape Breton County.

⁵Source: Statistics Canada Annual Demographics 2000, Pub #91-213.

employees to estimate total deferred out-migration at 173 people. These results by age group and gender, as well as total by age group and presented in Tables 11, 12, and 13.

**Table 11: Estimated Deferred Out-Migration, Place of Residence 1 Year Ago
MALES**

Age Group	2000 Population	Total Out-Migration	Intra-provincial Migrants	Inter-provincial Migrants	Propensity to Migrate Out	Total Male Call Centre Employees	Kept By Job
1-4	3,038	90	60	30	2.9625%		
5-9	3,611	45	35	15	1.2462%		
10-14	4,069	65	25	35	1.5974%		
15-19	4,368	105	20	90	2.4038%	68	2
20-24	4,098	315	130	185	7.6867%	446	34
25-29	3,235	220	115	110	6.8006%	215	15
30-34	3,282	130	65	65	3.9610%	165	7
35-39	3,976	105	65	45	2.6408%	99	3
40-44	4,512	80	40	35	1.7730%	101	2
45-49	4,385	70	40	30	1.5964%	256	4
50-54	4,158	40	10	20	0.9620%	39	0
55-59	3,099	20	10	15	0.6454%	9	0
60-64	2,690	10	10	0	0.3717%	5	0
65+	6,893	45	15	10	0.6528%	3	0
Total	55,414	1,325	635	690	2.3911%	1,406	66 4.70%

Source: Statistics Canada Pub #97F008XCB01010, Canmac Economics Ltd., Tele-service Sector Survey.

**Table 12: Estimated Deferred Out-Migration, Place of Residence 1 Year Ago
FEMALES**

Age Group	2000 Population	Total Out-Migration	Intra-provincial Migrants	Inter-provincial Migrants	Propensity to Migrate Out	Total Females Call Centre Employees	Kept By Job
1-4	2,676	30	20	10	1.1211%		
5-9	3,423	80	35	45	2.3371%		
10-14	3,863	70	40	30	1.8121%		
15-19	4,296	120	55	60	2.7933%	59	2
20-24	4,077	365	230	135	8.9527%	496	44
25-29	3,236	245	110	130	7.5711%	293	22
30-34	3,521	100	50	50	2.8401%	244	7
35-39	4,515	70	35	35	1.5504%	269	4
40-44	4,810	75	25	45	1.5593%	143	2
45-49	4,425	60	30	30	1.3559%	340	5
50-54	4,192	40	15	25	0.9542%	116	1
55-59	3,260	15	15	0	0.4601%	60	0
60-64	2,796	10	10	0	0.3577%	138	0
65+	10,364	85	60	20	0.8201%	2	0
Total	59,454	1,355	735	615	2.2791%	2,160	88 4.08%

Source: Statistics Canada Pub #97F008XCB01010, Canmac Economics Ltd., Tele-service Sector Survey.

**Table 13: Estimated Deferred Out-Migration, Place of Residence 1 Year Ago
TOTAL**

Age Group	2000 Population	Total Out-Migration	Intra-provincial Migrants	Inter-provincial Migrants	Propensity to Migrate Out	Total Call Centre Employees	Kept By Job
1-4	5,714	115	80	35	2.0126%		
5-9	7,034	125	70	55	1.7771%		
10-14	7,932	135	65	65	1.7020%		
15-19	8,664	230	75	155	2.6547%	127	3
20-24	8,175	685	360	325	8.3792%	942	79
25-29	6,471	465	220	240	7.1859%	508	37
30-34	6,803	225	120	110	3.3074%	409	14
35-39	8,491	175	95	80	2.0610%	368	8
40-44	9,322	155	70	85	1.6627%	244	4
45-49	8,810	135	70	60	1.5323%	596	9
50-54	8,350	80	30	50	0.9581%	155	1
55-59	6,359	35	20	15	0.5504%	69	0
60-64	5,486	15	20	0	0.2734%	143	0
65+	17,257	115	75	35	0.6664%	5	0
Total	114,868	2,685	1,375	1,310	2.3375%	3,566	154
Total jobs *total age groups/gender percent kept by job					4.3200%	4,013	173

Source: Statistics Canada Pub #97F008XCB01010, Canmac Economics Ltd., Tele-service Sector Survey.

The same estimates were produced using place of residence five years ago data resulting in an estimate of deferred out-migration over the past five years. This resulted in an estimated 565 people (15.84%) who did not migrate out, 255 males, 310 females. Again this excluded those for whom we did not know age or gender to obtain a total estimate we applied the 15.84% to total employment of 4,013 to estimate total deferred out-migration over the past five years of 636 people.

These results by age group and gender as well as total by age group are presented in Tables 14, 15, and 16.

**Table 14: Estimated Deferred Out-Migration, Place of Residence 5 Year Ago
MALES**

Age Group	1996 Population	Total Out-Migration	Intra-provincial Migrants	Inter-provincial Migrants	Propensity to Migrate Out	Total Male Call Centre Employees	Kept By Job
5-9	4,121	275	125	150	6.6731%		
10-14	4,435	265	90	175	5.9752%		
15-19	4,530	305	120	180	6.7329%	68	5
20-24	4,060	1,070	430	630	26.3547%	446	118
25-29	3,260	1,170	445	725	35.8896%	215	77
30-34	3,790	550	190	360	14.5119%	165	24
35-39	4,455	435	195	240	9.7643%	99	10
40-44	4,510	330	120	215	7.3171%	101	7
45-49	4,340	200	95	105	4.6083%	256	12
50-54	3,265	150	50	100	4.5942%	39	2
55-59	2,915	160	100	60	5.4889%	9	0
60-64	2,555	80	65	15	3.1311%	5	0
65+	6,645	120	60	60	1.8059%	3	0
Total	56,450	5,105	2,080	3,020	9.0434%	1,406	255 18.11%

Source: Statistics Canada Pub #97F008XCB01009, Canmac Economics Ltd., Tele-service Sector Survey.

**Table 15: Estimated Deferred Out-Migration, Place of Residence 5 Year Ago
FEMALES**

Age Group	1996 Population	Total Out-Migration	Intra-provincial Migrants	Inter-provincial Migrants	Propensity to Migrate Out	Total Females Call Centre Employees	Kept By Job
5-9	3,880	250	120	125	6.4433%		
10-14	4,215	285	155	130	6.7616%		
15-19	4,555	225	120	110	4.9396%	59	3
20-24	3,945	1,175	580	590	29.7845%	496	148
25-29	3,465	905	410	495	26.1183%	293	77
30-34	4,405	475	220	255	10.7832%	244	26
35-39	4,925	345	145	195	7.0051%	269	19
40-44	4,645	305	140	170	6.5662%	143	9
45-49	4,365	190	90	100	4.3528%	340	15
50-54	3,435	235	100	140	6.8413%	116	8
55-59	3,010	105	75	30	3.4884%	60	2
60-64	3,825	75	55	20	2.6549%	138	4
65+	10,285	255	155	90	2.4793%	2	0
Total	61,400	4,820	2,380	2,445	7.8850%	2,160	310 14.36%

Source: Statistics Canada Pub #97F008XCB01009, Canmac Economics Ltd., Tele-service Sector Survey.

**Table 16: Estimated Deferred Out-Migration, Place of Residence 5 Year Ago
TOTAL**

Age Group	1996 Population	Total Out-Migration	Intra-provincial Migrants	Inter-provincial Migrants	Propensity to Migrate Out	Total Call Centre Employees	Kept By Job
5-9	8,001	525	245	275	6.5617%		
10-14	8,650	550	250	300	6.3584%		
15-19	9,085	530	245	290	5.8338%	127	7
20-24	8,005	2,240	1,015	1,225	27.9825%	942	264
25-29	6,725	2,080	860	1,220	30.9294%	508	157
30-34	8,195	1,020	410	610	12.4466%	409	51
35-39	9,380	775	335	435	8.2623%	368	30
40-44	9,155	640	260	385	6.9907%	244	17
45-49	8,705	390	185	205	4.4802%	596	27
50-54	6,700	385	150	240	5.7463%	155	9
55-59	5,925	265	175	90	4.4726%	69	3
60-64	5,380	160	120	35	2.9740%	143	4
65+	16,930	370	220	150	2.1855%	5	0
Total	117,850	9,930	4,465	5,465	8.4260%	3,566	565 15.84%
Total jobs *total age groups/gender percent kept by job					15.8400%	4,013	636

Source: Statistics Canada Pub #97F008XCB01009, Canmac Economics Ltd., Tele-service Sector Survey.

Charity

Another contribution that the existence of the call centres and the centre's employees make to the Cape Breton economy comes in the form of charitable donations. We polled the firms as to whether or not they make charitable donations, five of the six firms surveyed responded yes which equates to 83% of firms. These firms were also asked

about the level of contributions in 2002. Though many did not know the amount, of those who did, \$71,000 was contributed by employees directly through their employer or employee organizations and \$131,000 was contributed by the employer either in cash or in-kind donations. These charitable donations total \$201,000 in 2002.

We also attempted to quantify charitable donations made by individual and/or households outside the work environment. To accomplish this we reviewed various sources of charitable donations data as follows:

- 1999 Nova Scotia Taxation Statistics - Canada Customs and Revenue Agency
All Taxfilers: 645,370
Total Income: \$17,005,825,000
Charitable Donations: \$118,684,000
Using % of Income: $.6979 * 49,198,410 = \$343,356$
Using average per filer: $183.9 * 4,013 = \$737,991$
- Caring Canadians Involved Canadians; Statistics Canada Publication #71-542 (2000) Nova Scotia
Donar Rate: 87%
Average Donation: \$203
Using employment (jobs): $4,013 * .87 * 203 = \$708,736$
- Using Income Groups
Less than \$20,000: $2,252 * .82 * 190 = \$350,862$
\$20,001 to \$40,000: $1,482 * .91 * 144 = \$194,201$
\$40,001+”: $53 * .87 * 239 = \$ 11,020$
Unknown Income: $226 * .87 * 203 = \underline{\$ 39,914}$
Total: $\underline{\$595,997}$

As can be seen these estimates the charitable giving estimates range from \$595,997 to \$737,991.

Chapter Three

Summary

3.1 Summary

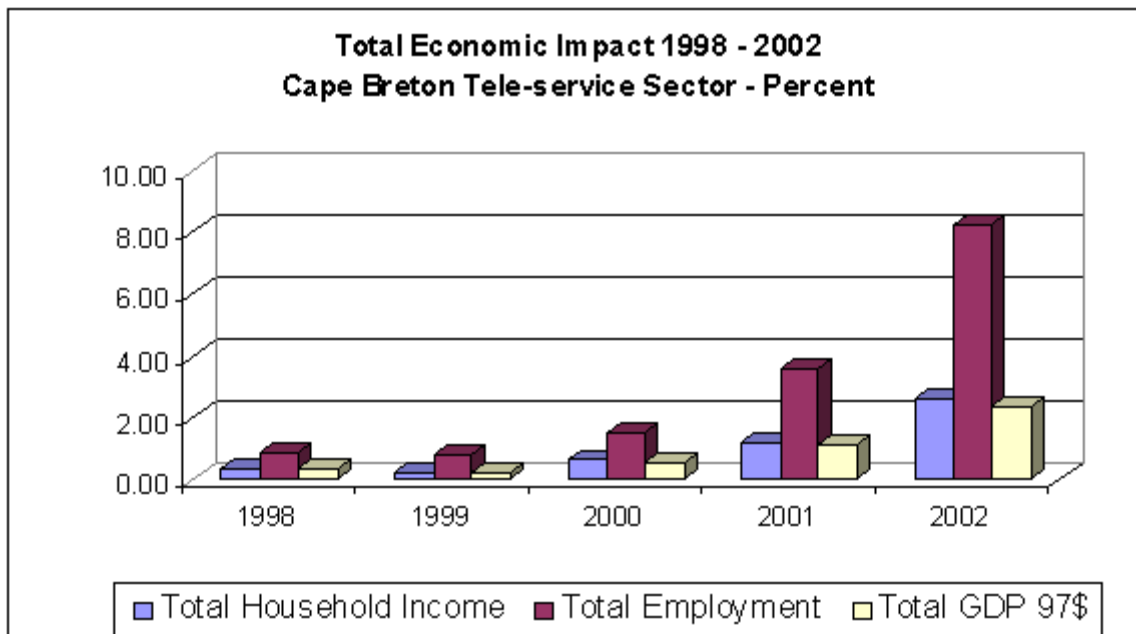
The total economic impact of the Tele-service sector on the Cape Breton economy is summarized in Table 17. As shown in Table 17, call centres by 2002 have become a significant component of the Cape Breton economic landscape. In 2002, this sector has accounted for \$66.7 million or 2.6% of total Cape Breton household income; 4,518 in person years of employment, or 8.3% of total employment. In 2002, we estimate the Cape Breton Gross Domestic Product at factor cost at \$3487.8 million. The tele-service sector's total economic impact accounts for \$83.0 million or 2.4% of GDP.

Small open economies like Cape Breton depend almost entirely on their export sector (such as the tele-service sector) for overall economic growth. It is clear that the tele-service sector has become a significant economic driver for the Cape Breton economy.

**Table 17: Total Economic Impact, 1998 - 2002
Cape Breton Tele-service Sector**

	Total Household Income (Millions)			Total Employment (Actual)			Total GDP (97\$ Millions)		
	Tele- Service	Cape Breton	%	Tele- Service	Cape Breton	%	Tele- Service	Cape Breton	%
1998	7.92	2299.10	0.34%	469.08	53800	0.87%	9.903	3246.40	0.31%
1999	6.17	2387.31	0.26%	414.78	52700	0.79%	7.674	3305.10	0.23%
2000	14.24	2373.72	0.60%	791.07	52400	1.51%	18.16	3397.20	0.53%
2001	30.24	2473.38	1.22%	1945.61	54600	3.56%	37.79	3442.20	1.10%
2002	66.74	2577.22	2.59%	4517.57	54500	8.29%	82.96	3487.80	2.38%

Source: Canmac Economics Ltd.



3.2 Conclusions

The Cape Breton Regional Municipality is the major beneficiary of the Cape Breton Tele-service sector. With all but one of the Cape Breton call centres located in the CBRM, the region receives the majority of the jobs, industry suppliers and municipal taxes.

**Table 18: Economic Benefit Cost Ratios
Cape Breton Tele-service Sector**

Funding Incentives	2002	10 Year Project	Benefit/Cost	
			2002	10 Year Project
Economic Benefits (income)	66.7	409.8		
Federal	36.5	36.5	1.8	11.2
Provincial	12.7	12.7	5.3	32.3
Total	49.2	49.2	1.4	8.3

Note: Net present value with discount 10%
Source: ECBC, Canmac Economics Ltd.

Our review of the tele-service sector has revealed a significant creation of economic benefits. These benefits are created with taxpayer dollars. Table 18 shows benefit/cost ratios for the year 2002 generated by these tax dollars. In terms of economic benefits, every dollar of government incentives generated \$1.4 in Cape Breton income in the year 2002. Alternatively, if we assume a project life of ten years and a discount rate of 10%, the benefit/cost ratio is 8.3, i.e. over the life of the project, the Cape Breton economy receives \$8.3 in income per \$1 of government incentive.

Appendix A

Estimation of Cape Breton

Gross Domestic Product

Appendix A

Estimation of Cape Breton Gross Domestic Product

Cape Breton Gross Domestic Product at Market Prices (*GDP*) was estimated using the expenditure based component method. This component method utilized the basic definition of GDP as Consumption © plus Investment (*I*) plus Government Expenditure (*G*) plus exports (*X*) less Imports (*M*) equals GDP.

$$GDP = C + I + G + X - M$$

As data is not available below the provincial level other indicators were used as proxies for each component and applied to the Nova Scotia component to estimate the Cape Breton component. These components and methods are outlined below.

Consumption

To estimate Cape Breton consumption retail sales data was used as an allocator. Data from the Financial Post Survey of Markets was used to calculate Cape Breton retail sales as a percent of Nova Scotia retail sales. This annual percentage was then applied to Nova Scotia consumption from the latest version of the Provincial Accounts (Statistics Canada Publication #13-213), to estimate consumption for Cape Breton. The results are presented in Table A1.

As a cross check of the Financial Post retail sales data we compared the Nova Scotia data against Statistics Canada Retail Sales (Publication # 63-005), and found the Financial post data captured an average of 99.2% of retail sales reported by Statistics Canada.

Table A1: Cape Breton Gross Domestic Product @ Market Price Estimates

CONSUMPTION

<i>Year</i>	<i>N.S. Personal Expenditure on Consumer Goods & Services (millions\$)</i>	<i>N.S. Retail Sales (millions\$)</i>	<i>C.B. Retail Sales (millions\$)</i>	<i>C.B. % of N.S. Retail Sales</i>	<i>C.B. Personal Expenditure on Consumer Goods & Services (millions\$)</i>
1987	9,645	5,151.1	858.9	16.67%	1,608.2
1988	10,315	5,606.6	907.7	16.19%	1,670.0
1989	10,923	5,994.5	962.6	16.06%	1,753.9
1990	11,485	6,382.4	1,017.4	15.94%	1,830.8
1991	11,749	6,713.8	1,015.3	15.12%	1,776.8
1992	12,144	7,176.7	1,076.0	14.99%	1,820.7
1993	12,501	6,401.7	918.0	14.34%	1,792.6
1994	12,885	6,588.3	969.4	14.71%	1,895.9
1995	13,151	6,399.7	921.6	14.40%	1,893.8
1996	13,590	6,513.7	963.5	14.79%	2,010.2
1997	14,352	6,946.2	1,019.7	14.68%	2,106.9
1998	14,887	7,177.9	1,151.8	16.05%	2,388.8
1999	15,769	7,409.5	1,283.8	17.33%	2,732.2
2000	16,626	8,724.3	1,343.3	15.40%	2,559.9
2001	17,207	8,690.3	1,306.6	15.04%	2,587.1

Sources:

N.S. Personal expenditure on consumer goods and services; Statistics Canada Pub#13-213 (Table 2 - Provincial Accounts 2001).

N.S. & C.B. Retail Sales; Financial Post Survey of Markets.

Investment

The second component of expenditure based GDP is investment. Investment was estimated using two sub-components, 1) residential investment, and 2) non-residential investment.

Cape Breton residential investment was estimated using value of building permits data (Statistics Canada Publication # 64-001 and 64-203) as an allocator. Using this data we calculated Cape Breton value of residential building permits as a percent of Nova Scotia value of residential building permits. This annual percentage was then applied to the Nova Scotia Resident Structures investment from the latest version of the Provincial Accounts (Statistics Canada Publication #13-213) to estimate Cape Breton residential structures investment. The results are presented in Table A2.

<i>Table A2: Cape Breton Gross Domestic Product @ Market Price Estimates</i>					
<u>RESIDENTIAL INVESTMENT</u>					
<i>Year</i>	<i>N.S. Residential Structures Investment (millions\$)</i>	<i>N.S. Residential Building Permits (000\$)</i>	<i>C.B. Residential Building Permits (000\$)</i>	<i>C.B. % of N.S. Residential Building Permits</i>	<i>C.B. Residential Structures Investment (millions\$)</i>
1987	887	453,303	47,853	10.56%	93.6
1988	869	478,897	57,315	11.97%	104.0
1989	822	500,323	65,640	13.12%	107.8
1990	925	466,673	61,854	13.25%	122.6
1991	808	390,685	56,579	14.48%	117.0
1992	821	422,563	54,811	12.97%	106.5
1993	898	420,842	52,822	12.55%	112.7
1994	939	453,974	55,888	12.31%	115.6
1995	934	425,592	52,986	12.45%	116.3
1996	1,003	474,957	56,815	11.96%	120.0
1997	1,022	429,747	45,704	10.64%	108.7
1998	902	381,312	47,863	12.55%	113.2
1999	1,130	477,026	47,261	9.91%	112.0
2000	1,262	505,385	43,851	8.68%	109.5
2001	1,264	467,766	32,233	6.89%	87.1
<i>Sources:</i>					
<i>N.S. Residential Structures Investment; Statistics Canada Pub#13-213 (Table 2 - Provincial Accounts 2001).</i>					
<i>N.S. & C.B. Value of Building Permits; Statistics Canada Pub#64-001, 64-203</i>					

Cape Breton non-residential structures investment was estimated using the same value of building permits data (Statistics Canada Pub. #64-001, 64-203) as an allocator. Using this data we calculated Cape Breton value of non-residential building permits as a percent of Nova Scotia's value of non-residential building permits. This annual

percentage was then applied to the Nova Scotia non-residential structures investment from the latest version of the Provincial Accounts (Statistics Canada Pub.#13-213), to estimate Cape Breton non-residential structures investment. The results are presented in Table A3.

Table A3: Cape Breton Gross Domestic Product @ Market Price Estimates					
<u>NON-RESIDENTIAL INVESTMENT</u>					
<i>Year</i>	<i>N.S. Non-Residential Structures Investment (millions\$)</i>	<i>N.S. Non-Residential Building Permits (000\$)</i>	<i>C.B. Non-Residential Building Permits (000\$)</i>	<i>C.B. % of N.S. Non-Residential Building Permits</i>	<i>C.B. Non-Residential Structures Investment (millions\$)</i>
1987	2,044	316,548	30,643	9.68%	197.9
1988	2,502	354,595	51,463	14.51%	363.1
1989	2,850	380,808	49,854	13.09%	373.1
1990	2,695	316,397	25,828	8.16%	220.0
1991	2,351	243,608	34,990	14.36%	337.7
1992	1,921	182,370	24,321	13.34%	256.2
1993	1,984	174,015	20,418	11.73%	232.8
1994	2,032	215,272	49,117	22.82%	463.6
1995	2,227	194,057	37,875	19.52%	434.7
1996	2,184	214,031	51,058	23.86%	521.0
1997	3,278	200,939	21,034	10.47%	343.1
1998	3,668	255,803	47,090	18.41%	675.2
1999	4,443	430,180	79,703	18.53%	823.2
2000	3,708	373,094	42,559	11.41%	423.0
2001	4,105	232,174	44,296	19.08%	783.2
<i>Sources:</i>					
<i>N.S. Non-Residential Structures Investment; Statistics Canada Pub#13-213 (Table 2 - Provincial Accounts 2001).</i>					
<i>N.S. & C.B. Value of Building Permits; Statistics Canada Pub#64-001, 64-203.</i>					

Net Government Investment

To estimate Cape Breton's net government expenditure public sector employment was used as an allocator. Employment data from Statistics Canada (Pub.#71F0004XCB) was used to calculate Cape Breton's public sector employment (health, education and public admin) as a percentage of Nova Scotia's public sector employment. This annual percentage was applied to Nova Scotia's net government expenditure (Statistics Canada Pub.#13-213), to estimate Cape Breton net government expenditure. The results are presented in Table A4.

Table A4: Cape Breton Gross Domestic Product @ Market Price Estimates
NET GOVERNMENT EXPENDITURE

<i>Year</i>	<i>N.S. Net Government Current Expenditure on Goods & Services (millions\$)</i>	<i>N.S. Employment, Health, Education & Public Administration (000\$)</i>	<i>C.B. Employment Health, Education & Public Administration (000\$)</i>	<i>C.B. % of N.S. Public Sector Employment</i>	<i>C.B. Net Government Current Expenditure on Goods & Services (millions\$)</i>
1987	5,245	93.7	12.9	13.77%	722.1
1988	5,586	98.5	15.0	15.23%	850.7
1989	5,882	99.3	14.7	14.80%	870.7
1990	6,319	101.2	15.0	14.82%	936.6
1991	6,499	103.6	13.9	13.42%	872.0
1992	6,657	104.9	13.9	13.25%	882.1
1993	6,839	106.3	15.5	14.58%	997.2
1994	6,790	107.3	15.8	14.73%	999.8
1995	6,807	103.7	14.0	13.50%	919.0
1996	6,550	101.6	15.4	15.16%	992.8
1997	6,512	105.1	14.1	13.42%	873.6
1998	6,771	107.3	15.3	14.26%	965.5
1999	7,102	104.4	15.2	14.56%	1,034.0
2000	7,550	108.5	15.5	14.29%	1,078.6
2001	7,802	109.2	15.9	14.56%	1,136.0

Sources:

N.S. Net Government Current Expenditure on Goods and Services; Statistics Canada Pub#13-213 (Table 2 - Provincial Accounts 2001).

N.S. & C.B. Public Sector Employment; Statistics Canada Pub#71F0004XCB (2001)

Exports and Imports

Unlike the other previously discussed components, exports and imports do not have a readily available proxy by which to allocate Cape Breton exports and imports. To create an allocator for exports and imports we utilized the previous three (3) components (consumption, investment and net government expenditures) and calculate Cape Breton consumption plus investment plus net government expenditure as a percent of Nova Scotia. This annual percentage was then applied to Nova Scotia Provincial Accounts exports and imports to estimate exports and imports for Cape Breton. The results are presented in Tables A5 and A6.

<i>Table A5: Cape Breton Gross Domestic Product @ Market Price Estimates</i>					
<u>EXPORTS</u>					
<i>Year</i>	<i>N.S. Exports of Goods & Services (millions\$)</i>	<i>N.S. Consumption, Investment & Government Expenditure (millions\$)</i>	<i>C.B. Consumption, Investment & Government Expenditure (millions\$)</i>	<i>C.B. % of NS (C+I+G)</i>	<i>C.B. Exports of Goods & Services (millions\$)</i>
1987	5,910	17,821	2,621.8	14.71%	869.5
1988	5,554	19,272	2,987.8	15.50%	861.0
1989	6,011	20,477	3,105.6	15.17%	911.7
1990	6,139	21,424	3,110.0	14.52%	891.2
1991	6,289	21,407	3,103.4	14.50%	911.7
1992	6,663	21,543	3,065.5	14.23%	948.1
1993	6,983	22,222	3,135.4	14.11%	985.2
1994	7,330	22,646	3,475.0	15.34%	1,124.8
1995	8,113	23,119	3,363.7	14.55%	1,180.4
1996	8,825	23,327	3,644.0	15.62%	1,378.6
1997	9,371	25,164	3,432.3	13.64%	1,278.2
1998	9,652	26,228	4,142.7	15.79%	1,524.5
1999	10,499	28,444	4,701.4	16.53%	1,735.3
2000	12,277	29,146	4,171.0	14.31%	1,756.9
2001	12,634	30,378	4,593.4	15.12%	1,910.4
<i>Sources:</i>					
<i>N.S. Exports of Goods and Services; Statistics Canada Pub#13-213 (Table 2 - Provincial Accounts 2001).</i>					
<i>N.S. (C+I+G); Statistics Canada Pub#13-213 (Table 2 - Provincial Accounts, 2001).</i>					
<i>CB (C+I+G); Estimated by Canmac Economics Ltd.</i>					

<i>Table A6: Cape Breton Gross Domestic Product @ Market Price Estimates</i>					
<i><u>IMPORTS</u></i>					
<i>Year</i>	<i>N.S. Imports of Goods & Services (millions\$)</i>	<i>N.S. Consumption, Investment & Government Expenditure (millions\$)</i>	<i>C.B. Consumption, Investment & Government Expenditure (millions\$)</i>	<i>C.B. % of NS (C+I+G)</i>	<i>C.B. Imports of Goods & Services (millions\$)</i>
1987	9,213	17,821	2,621.8	14.71%	1,355.4
1988	9,658	19,272	2,987.8	15.50%	1,497.3
1989	10,321	20,477	3,105.6	15.17%	1,565.3
1990	10,598	21,424	3,110.0	14.52%	1,538.5
1991	10,125	21,407	3,103.4	14.50%	1,467.8
1992	10,015	21,543	3,065.5	14.23%	1,425.1
1993	10,786	22,222	3,135.4	14.11%	1,521.8
1994	11,466	22,646	3,475.0	15.34%	1,759.4
1995	12,004	23,119	3,363.7	14.55%	1,746.5
1996	12,771	23,327	3,644.0	15.62%	1,995.0
1997	14,151	25,164	3,432.3	13.64%	1,930.2
1998	14,476	26,228	4,142.7	15.79%	2,286.5
1999	15,997	28,444	4,701.4	16.53%	2,644.1
2000	17,287	29,146	4,171.0	14.31%	2,473.9
2001	17,866	30,378	4,593.4	15.12%	2,701.5
<i>Sources:</i>					
<i>N.S. Imports of Goods and Services; Statistics Canada Pub#13-213 (Table 2 - Provincial Accounts 2001).</i>					
<i>N.S. (C+I+G); Statistics Canada Pub#13-213 (Table 2 - Provincial Accounts, 2001).</i>					
<i>CB (C+I+G); Estimated by Canmac Economics Ltd.</i>					

Cape Breton GDP at Market Prices

Using the previously discussed components we were able to estimate expenditure based current dollar Gross Domestic product at Market Prices for Cape Breton between 1987 and 2001. This estimate including the components are presented in Table A7.

As a cross check to this estimation method, we calculated income based GDP at market prices for the same period of time. This estimate was accomplished using earned income plus self-employment income data from Revenue Canada taxation statistics. Cape Breton earned plus self employment income was calculated as a percentage of Nova Scotia's earned plus self employment income. This annual percentage was then applied to the Nova Scotia income based GDP at market prices to estimate Cape Breton income based GDP at market prices. This estimation was then compared to the expenditure based estimate which showed on average 89.95% of expenditure based GDP was captured, this comparison is presented in Table A8.

Socio-Economic Impact of the
Tele-service Industry on Cape Breton

Table A7 Cape Breton Gross Domestic Product @ Market Price Estimates
TOTAL GDP@MP

<i>Year</i>	<i>Personal Expenditure on Consumer Goods & Services (millions\$)</i>	<i>Residential Structures Investment (millions\$)</i>	<i>Non-Residential Structures Investment (millions\$)</i>	<i>Net Government Current Expenditure on Goods & Services (millions\$)</i>	<i>Exports of Goods & Services (millions\$)</i>	<i>Imports of Goods & Services (millions\$)</i>	<i>Gross Domestic Product @ Market Price (millions\$)</i>	<i>Gross Domestic Product @ Market Price (% Change)</i>
1987	1,608.2	93.6	197.9	722.1	869.5	1,355.4	2,135.9	
1988	1,670.0	104.0	363.1	850.7	861.0	1,497.3	2,351.5	10.10%
1989	1,753.9	107.8	373.1	870.7	911.7	1,565.3	2,452.0	4.27%
1990	1,830.8	122.6	220.0	936.6	891.2	1,538.5	2,462.7	0.44%
1991	1,776.8	117.0	337.7	872.0	911.7	1,467.8	2,547.3	3.43%
1992	1,820.7	106.5	256.2	882.1	948.1	1,425.1	2,588.5	1.62%
1993	1,792.6	112.7	232.8	997.2	985.2	1,521.8	2,598.8	0.40%
1994	1,895.9	115.6	463.6	999.8	1,124.8	1,759.4	2,840.3	9.29%
1995	1,893.8	116.3	434.7	919.0	1,180.4	1,746.5	2,797.6	-1.50%
1996	2,010.2	120.0	521.0	992.8	1,378.6	1,995.0	3,027.6	8.22%
1997	2,106.9	108.7	343.1	873.6	1,278.2	1,930.2	2,780.3	-8.17%
1998	2,388.8	113.2	675.2	965.5	1,524.5	2,286.5	3,380.7	21.59%
1999	2,732.2	112.0	823.2	1,034.0	1,735.3	2,644.1	3,792.6	12.18%
2000	2,559.9	109.5	423.0	1,078.6	1,756.9	2,473.9	3,454.0	-8.93%
2001	2,587.1	87.1	783.2	1,136.0	1,910.4	2,701.5	3,802.3	10.08%
<i>Source: Estimated by Canmac Economics Ltd.</i>								

Socio-Economic Impact of the
Tele-service Industry on Cape Breton

Table A8 Cape Breton Gross Domestic Product @ Market Price Estimates
TOTAL GDP@MP

Year	GDP @ Market Price (Expenditure Method)			GDP @ Market Price (Income Method)					
	C.B. GDP @ Market Price	% N.S.	% Change	N.S. Earned Income	C.B. Earned Income	% N.S.	C.B. GDP@Market Price	% Change	% of Expenditure Method
1987	2,135.9	14.80%		8,046,581	1,136,136	14.12%	2,037.7		95.40%
1988	2,351.5	15.38%	10.10%	8,071,747	1,180,530	14.63%	2,236.8	9.77%	95.12%
1989	2,452.0	15.04%	4.27%	8,709,473	1,242,579	14.27%	2,326.4	4.00%	94.88%
1990	2,462.7	14.49%	0.44%	9,303,421	1,276,828	13.72%	2,332.2	0.25%	94.70%
1991	2,547.3	14.43%	3.43%	9,455,288	1,293,006	13.67%	2,413.6	3.49%	94.75%
1992	2,588.5	14.31%	1.62%	9,601,926	1,309,591	13.64%	2,467.8	2.24%	95.34%
1993	2,598.8	14.17%	0.40%	9,651,687	1,289,886	13.36%	2,451.4	-0.66%	94.33%
1994	2,840.3	15.22%	9.29%	9,558,972	1,276,654	13.36%	2,493.1	1.70%	87.78%
1995	2,797.6	14.50%	-1.50%	9,666,401	1,287,559	13.32%	2,570.2	3.09%	91.87%
1996	3,027.6	15.52%	8.22%	9,759,434	1,248,620	12.79%	2,496.4	-2.87%	82.45%
1997	2,780.3	13.65%	-8.17%	10,133,572	1,304,284	12.87%	2,621.5	5.01%	94.29%
1998	3,380.7	15.80%	21.59%	10,947,323	1,378,811	12.59%	2,695.4	2.82%	79.73%
1999	3,792.6	16.51%	12.18%	11,798,275	1,453,746	12.32%	2,830.3	5.00%	74.63%
2000	3,454.0	14.26%	-8.93%	12,463,032	1,494,502	11.99%	2,904.8	2.63%	84.10%
2001	3,802.3	15.09%	10.08%						

Source: GDP (income and expenditure); Statistics Canada Publication #13-213, Table 1 and 2 (2001)
Earned and self employment Income, Canada Customs and Revenue Agency Locality Tax Statistics, Website
CB GDP Estimated by Canmac Economics Ltd.

Appendix B

Survey Instrument

Date: _____

**Cape Breton
Tele-Service Industry
Supplier Survey**

The purpose of this Tele-service Industry Supplier Survey is to obtain data on the expansion of existing businesses or the setup of new businesses related to the supply of the Cape Breton Tele-service Industry. All firm specific information will be kept strictly confidential and only report in aggregate form.

1.1 Introduction

- 1.1 Company Name: _____
- 1.2 Respondent Name: _____
- 1.3 Respondent Phone #: _____
- 1.4 Company Address: _____
-

2. Supply Operations

- 2.1 Does your business supply the Cape Breton Tele-service Industry? Yes _____ No _____

If NO, thank the respondent and terminate the survey.

Supply Operations (Existing)

- 2.2 Has your business expanded due to increased demand supplying the Cape Breton Tele-service Industry?
Yes _____ No _____

If NO, skip to Question 3.0

- 2.3 Have you increased your employment level? No _____ **Go to 2.4**

Yes _____, # Full time _____, # Part Time _____, Hrs/Wk _____,
Annual Wagebill _____, or Average Wage _____.

- 2.4 Have you increased your sales level? No _____ **Go to 2.5**

Yes _____, \$ _____ (level), % of Sales _____.

- 2.5 Have you expanded your facilities? No _____

Yes _____, Square Feet _____, \$ _____.

Thank the respondent and terminate the survey.

3. ***Supply Operations (New)***

3.1 Has your business setup to supply the Cape Breton Tele-Service Industry?

Yes _____, No _____

1. ***If NO thank the respondent and Terminate the survey***

3.2 What year did you setup your business? _____

3.3 What was the capital cost of setting up your business? \$ _____

3.4 What are you annual operating costs. \$ _____

3.5 What is your annual average employment level, # FT _____, #PT _____, PT HR/WK _____.

3.6 Do you operate from an owned facility _____, or leased _____.

3.7 What percentage of your operation is directly related to the supply of the Cape Breton Tele-service Industry?
_____ %

Thank the respondent and terminate the survey.