

Annex C

THE BERMUDA LABOUR MARKET AND THE DEMAND FOR HIGHER EDUCATIONAL QUALIFICATIONS FOR BERMUDIANS

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Contents

Population Developments	1
Educational Attainment of the Working Age Population	9
Labour Force Activity.....	15
Industry Employment Growth.....	19
Industry Access by Citizenship Status.....	25
Occupational Employment Developments	29
Job Access to Occupations by Citizenship Status.....	34
Recent Trends in Employment	41

Population Developments

The population of Bermuda is measured in a number of useful ways designed to gain insight into the size and composition of the island nation's population. Unlike the U.S. where a resident population measure is employed, the Bermudian Census Office employed de facto and de jure measures of population in its 2000 Census enumeration. The de facto population measure produces a complete count of all those who were present on the island at the time of the census reference period. The de facto population estimate includes the civilian non-institutional household population, the institutionalized population, and the military (largely foreign military assigned to Bermuda). Additionally it includes a substantial number of visitors and transients. The de jure measure includes the civilian non-institutional population who are normally residents in Bermuda and thus includes those who are temporarily absent due to overseas travel or schooling. The de jure population is the measure that the Census Office utilizes in its analysis of population trends and structure; this measure is composed of the civilian non-institutional population of Bermuda. The remainder of this report will employ the de jure measure of population in our analysis, unless otherwise noted

During the 1991 to 2000 period the population of Bermuda increased from 58,460 during 1991 (the last year in which a census of the population was conducted) to 62,059 by 2000, an increase of about 3,600 residents over the nine-year period. This increase in population represents a relative increase of 6.1 per cent, a comparatively slow rate of population growth. Indeed if Bermuda were ranked against the 50 U.S. states, its ranking would have been 39th out of 50 states in terms of population growth rate between 1990 and 2000 when the U.S. population increased by 13 per cent.

The net population change that occurred over the 1990s was heavily influenced by a sharp rise in the size of the foreign born population. Foreign-born residents of Bermuda increased by a net of 1,852 persons between 1991 and 2000. This increase accounted for 51 per cent of the total population increase of the nation.

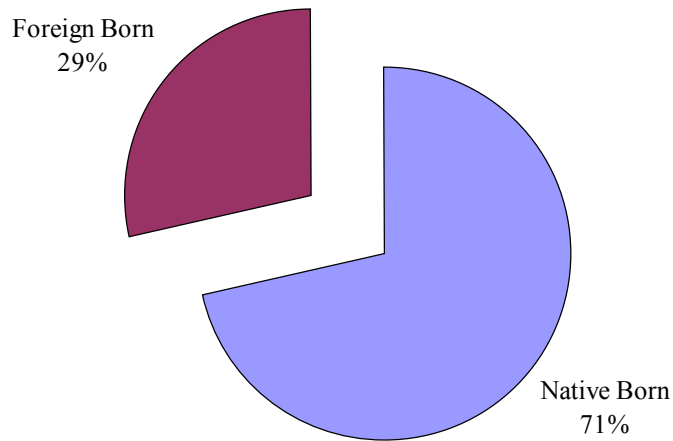
Table 1: Trends in the Size of the Civilian Non Institutional Population in Bermuda, By Nativity Status, 1991 to 2000

	1991	2000	Absolute Change	Relative Change
Total	58,460	62,059	3,599	6.2%
Native Born	42,634	44,290	1,656	3.9%
Foreign Born	15,823	17,675	1,852	11.7%

Between 1991 and 2000, the rate of growth of the foreign-born population was 12 per cent, which was nearly three times the rate of growth of the island nation's native born population, which increased by 1,656 individuals or 4 per cent over the same time period.

In 2000, foreign-born population accounted for 29 per cent of the total population of Bermuda.

Chart 1: Distribution of the Bermudian Population, by Nativity Status, 2000



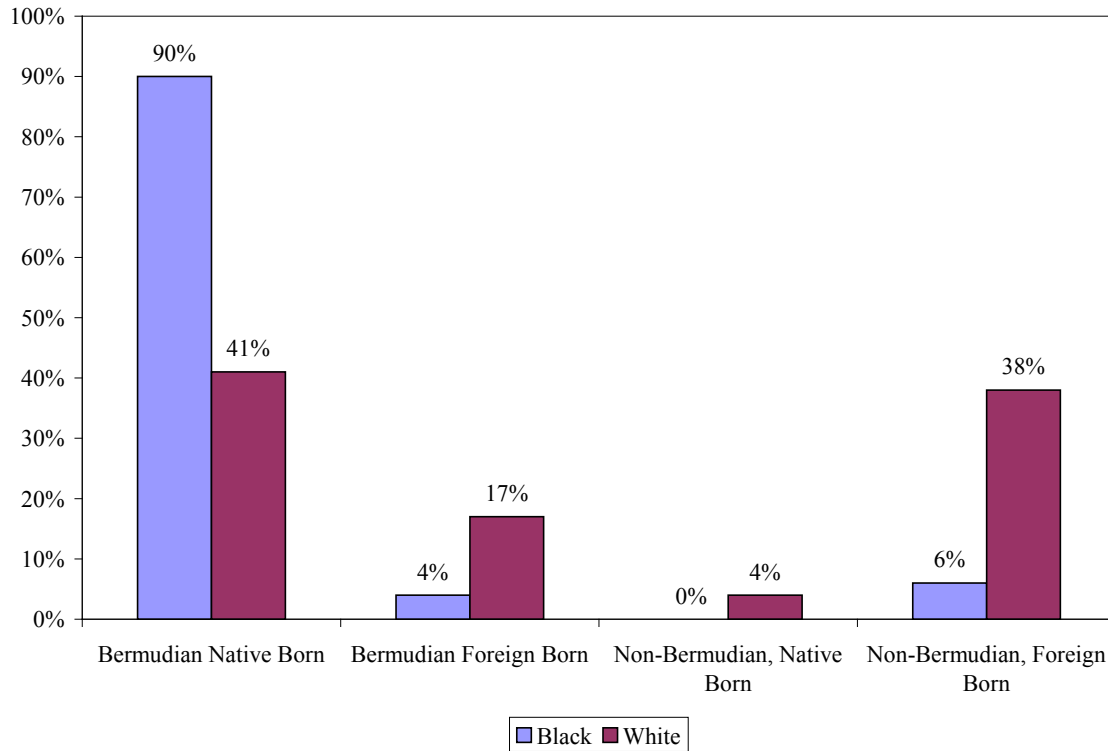
The racial composition of the immigrant population of Bermuda is much different than that of the native born population. The findings in Table 2 reveal that about 70 per cent of the native born population of the Island was Black with about 21 per cent classified as White. These proportions were almost exactly reversed among the foreign born population. About two thirds of all foreign-born residents were classified as White at the time of the Census while about 19 per cent of all foreign born were classified as Black. This finding suggests that the increase in the rate of immigration observed in Bermuda over the last decade may be influencing the racial composition of the Island's population.

Table 2: Race Composition of the Native Born and Foreign Born Population of Bermuda, 2000

	Native Born		Foreign Born	
	Number	Per cent Distribution	Number	Per cent Distribution
Black	30,662	69.2%	3,301	18.7%
White	9,493	21.4%	11,613	65.7%
Mixed	3,210	7.2%	759	4.3%
Other	764	1.7%	1,905	10.8%
Not Stated	161	0.4%	97	0.5%
Total	44,290	100.0%	17,675	100.0%

Chart 2 contains a distribution of the White and Black population by their nativity and citizenship status. Each race group is classified into four nativity-citizenship categories: native-born Bermudian, native born non-Bermudian, foreign-born Bermudian, and foreign-born non-Bermudian. The overwhelming majority of Black residents were native born. The findings in Chart 2 reveal that 90 per cent of the Black population was native born, while only 41 per cent of the nation's White population consisted of native born Bermudians. Among the nation's foreign-born White population, a large share was not Bermudian. The White foreign-born population is twice as likely to be non-Bermudian than to be Bermudian. Only 17 per cent of the Island's White population consisted of foreign-born Bermudians; a share that was less than half compared to the 38 per cent of the White population that consisted of foreign-born non-Bermudians, many of whom are recent arrivals to the country. About 40 per cent of the White population is composed of non-Bermudian immigrants, many of whom are recent arrivals to the country.

Chart 2: Distribution of the Black and White Population of Bermuda, by Nativity and Citizenship Status, 2000



Much of the Bermudian resident immigrant population is composed of relatively new arrivals to the Island. The findings in Table 3 reveal that more than 5,800 residents or about one-third of the immigrant population have resided in Bermuda for less than five years and an additional 2,600 persons or 15 per cent of the immigrant population moved to the Island in the prior five to nine years. Thus about 48 per cent of the nation’s immigrant population would be considered ‘recent’ immigrants—arriving in the nation between 1991 and 2000. These new immigrants differed from long-term immigrants in a number of ways; one key difference is their Bermudian citizenship status. Only 7.5 per cent of recent immigrants were citizens while 54 per cent of the long-term immigrant population had achieved citizenship status.

Table 3: Distribution of the Foreign Born Population in 2000, by Years of Residence

Years of Residence	Number	Per cent Distribution
Less than five years	5,863	33%
5 to 9 years	2,600	15%
10 to 19 years	3,573	20%
20 to 29 years	2,065	12%
30 years or more	3,420	19%
Total	17,663	100%

The new immigrant population played a critical role in influencing the rate of population growth on the island. The total increase in the civilian non-institutional population of Bermuda was about 3,600 between 1991 and 2000. However, the number of new immigrants to Bermuda just between 1996 and 2000 was nearly 5,900, a figure well above the net absolute rise in the size of the country's population during the entire 1990s. Thus new immigration that occurred after 1995 accounted for 163 per cent of the net increase in the Island's population between 1991 and 2000. This means that in the absence of this new and very recent foreign immigration the population of Bermuda would have declined by more than 2,200 or nearly 4 per cent instead of rising by 6 per cent as it actually did over the decade of the 1990s.

Table 4: New Immigration's Contribution to Population Growth in Bermuda, 1991 to 2000

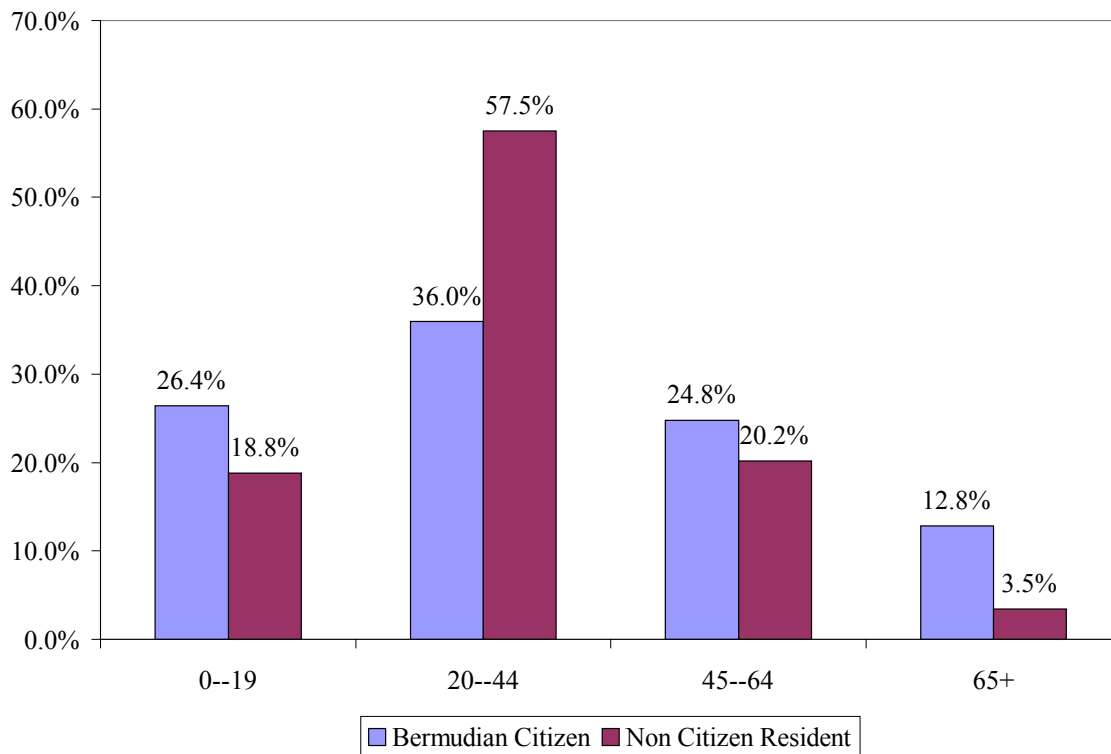
1991 population	58,460
2000 population	62,059
Absolute change in the population, 1991-2000	3,599
Population change from new immigration since 1996	5,863
Share of population change from new immigration since 1996	163%
Population change from new immigration since 1991	8,463
Share of population change from new immigration since 1991	235%

If we were to expand our definition of new immigrants to the comparable definition employed in the U.S., that is an arrival that occurred over the entire intercensal period, then the net contribution of new immigrants to population growth would have been nearly 8,500 persons, a level equal to 235 per cent of Bermuda's total population change between 1991 and 2000.

Data on the age composition of the immigrant population were not available from the Census tables to analyze differences in the age structure of the foreign born and native born population of Bermuda. However, the Census Office did produce a set of tables on

the age composition of the population by citizenship status. We have analyzed these data to gain insights into the potential impact of foreign immigration on the size of the Island’s working age population (those aged 16 and over).

Chart 3: Distribution of the Bermudian Civilian Non-Institutional Population By Citizenship Status and Age Cohort, 2000

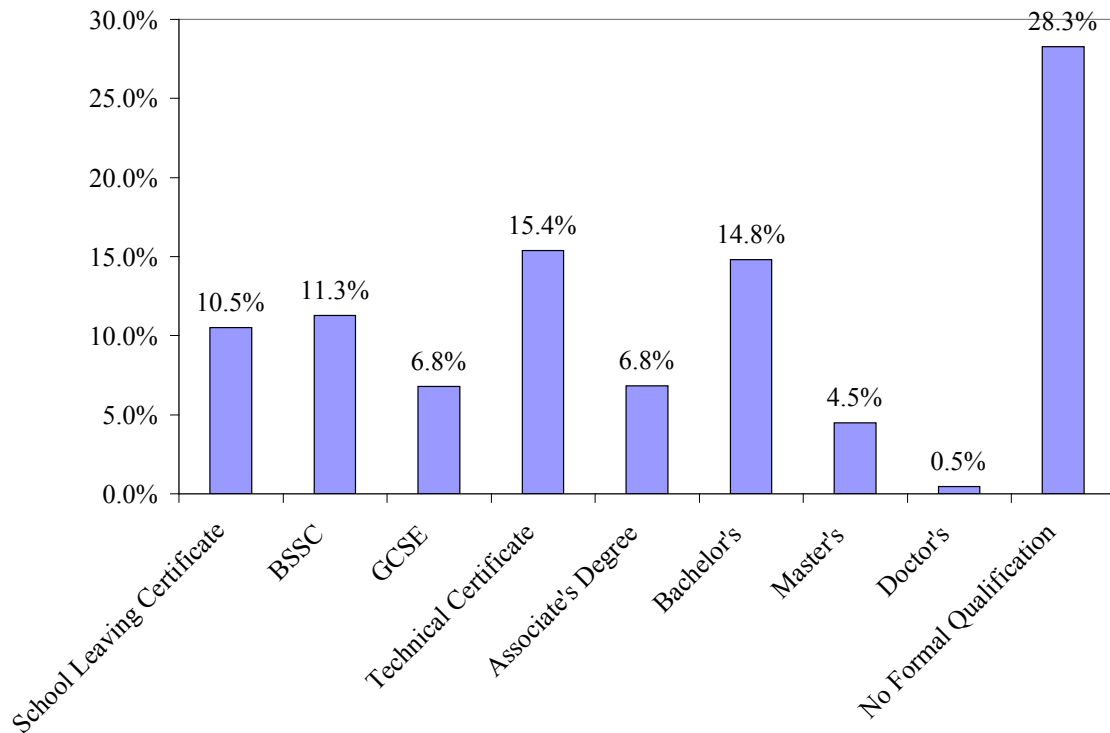


The data reveal very sharp differences in the age distribution of the Bermudian population relative to non-Bermudian population of the Island. A disproportionate share of the non-Bermudian population was between the ages of 20 and 44 at the time of the 2000 Census. The findings provided in Chart 3 reveal that 57 per cent of the non-Bermudian population was in this age group. In contrast, only 36 per cent of Bermudian citizens were aged 20 to 44. Thus the non-Bermudian population was 1.6 times more likely to be in this age group that is often characterized by a strong labour force attachment. Indeed while non Bermudian’s accounted for about one-fifth of the nation’s overall population they represented one-third of the 20 to 44 year old population of the nation—a considerable proportion of the nation’s potential human resource capacity. Compared to the age distribution of non-citizens, the Bermudian population had a somewhat more even population distribution across all age groups. There was a particularly large share of the Bermudian citizen population over the age of 65. Nearly 13 per cent of all citizens were in their retirement years compared to just 3.5 per cent of the non-Bermudian population who were over the age of 65.

Educational Attainment of the Working Age Population

In addition to the size and rate of growth of the working age population, most economists agree that the educational attainment of the working age population (16 years of age or older) also influences the productive capacity of a nation. The Bermudian Census Office prepared a set of tabulations that examine the educational attainment of the 16+ non-institutional population. The measure of educational attainment refers to the highest level of educational qualification earned rather than to the number of years of schooling completed. The data reveal that 28 per cent of the Island's working age population had not earned any academic qualification at all. Since the data published by the Census Office did not explicitly exclude the enrolled population it is possible that this share overestimates the number of persons with no formal qualifications since it would include those students enrolled at the time of the Census who were matriculating towards some type of secondary or post-secondary qualification who had not yet earned any qualification. At the secondary level, 28 per cent of the working age population reported that they had earned a qualification of some type ranging from the school-leaving certificate to the GCSE. A considerable share of the working age population

Chart 4: The Distribution of the Working Age Population in Bermuda, by Highest Earned Educational Qualification



in Bermuda reported that they had earned a technical or vocational college certificate. About 15 per cent of this population group reported that they had earned a technical certificate of some type. An additional 7 per cent of the working age population reported that they had earned an associate's degree, a proportion that would be similar to that found in the U.S. as a whole. About one fifth of the nation's working age population reported that they had earned a four-year or higher college degree (Bachelor's, Master's or Doctorate).

The level of educational attainment of the working age population in Bermuda varied systematically by citizenship status and implicitly by nativity status. Bermudians were much more likely to report that they had not earned any formal educational qualification. About one third of all Bermudians had no formal certificate. In contrast only about one in six non-Bermudians reported that they had not earned any educational certificates. Bermudians were also much more likely to report that they had earned only a secondary qualification. A total of 31 per cent of the Bermudian working age population reported a secondary qualification as the highest degree or diploma that they had earned. Among non-Bermudians this share

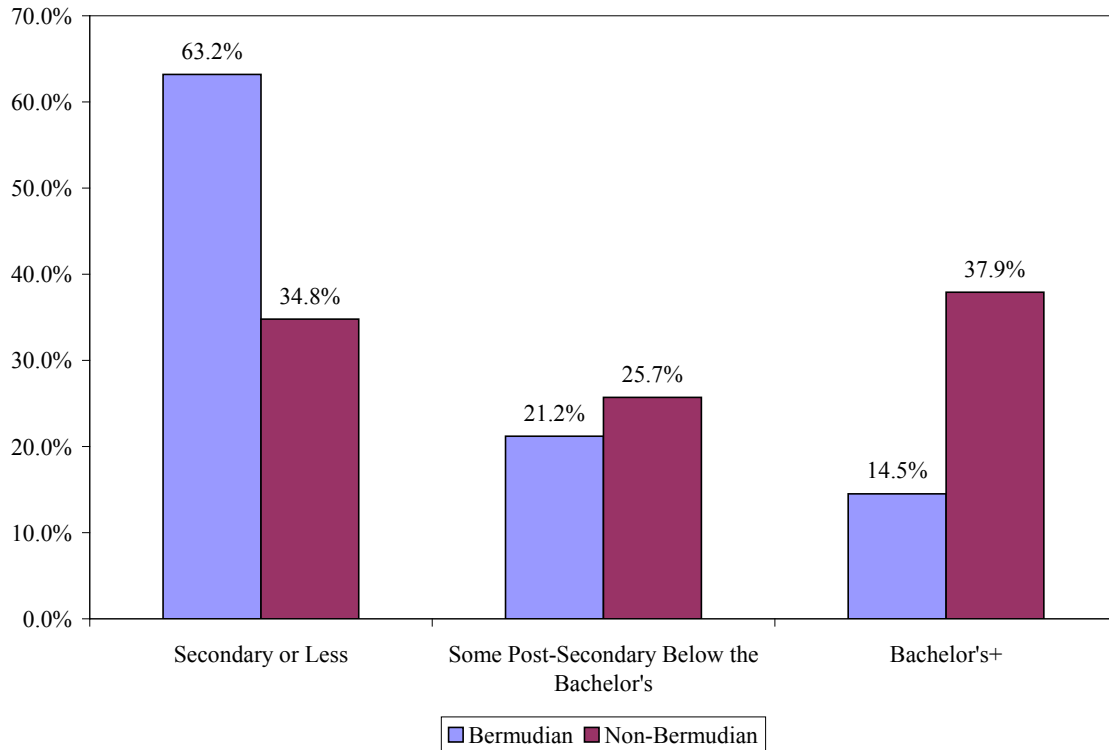
Table 5: Distribution of the Working Age Population by the Highest Educational Qualification Earned, by Citizenship Status, 2000

	Bermudian	Non Bermudian	Ratio of Non Bermudian to Bermudian Share
No Formal Certificate	32.2%	14.7%	0.458
School Leaving Certificate	11.4%	7.3%	0.641
BSSC	13.3%	4.2%	0.315
GCSE	6.3%	8.6%	1.368
Technical Certificate	14.6%	18.1%	1.236
Associate's	6.6%	7.6%	1.141
Bachelor's	10.8%	28.6%	2.634
Master's	3.4%	8.3%	2.435
Doctor's	0.3%	1.0%	3.50

was 20 per cent. Taken together these findings reveal that about 63 per cent of the Bermudian working age population reported that they had no more than a secondary qualification. This proportion among the non-Bermudian population was about 35 per cent. Thus Bermudians were 1.8 times more likely to have only a secondary qualification or less compared to the non-Bermudian working age population. At the post secondary level about 21 per cent of Bermudians reported either a vocational/technical certificate or an associate's degree as the highest educational qualification they had earned. This proportion was somewhat higher among the non-Bermudian working age population. About one in four non Bermudians reported that they had received a vocational/technical or associate's award, a share that was about 1.2 times that of their Bermudian counterparts.

At the four-year college level, very wide disparities were found in the level of educational attainment between Bermudian and non-Bermudian working age populations. Fewer than 15 per cent of all Bermudians aged 16 or over reported that they had earned a bachelor's degree or higher at the time of the 2000 census. Non-Bermudians were 2.6 times more likely to have earned a four-year college degree compared to their non-Bermudian counterparts. The data reveal that a very large share of the non-Bermudian population (nearly 38 per cent) reported that they had earned a bachelors' degree or above. Labour force participation rates, employment to population ratios unemployment rates, occupational access and level of annual earnings are all closely associated with the level of educational attainment of the population.

Chart 5: Distribution of the Working Age Population by the Highest Educational Qualification Earned, by Citizenship Status, 2000



The large disparity in the level of educational attainment that exists between the Bermudian and non Bermudian population suggests substantial segmentation in the Bermudian job market with Bermudians less able to supply labour to the nation's expanding high end array of occupations that require high levels of academic qualifications.

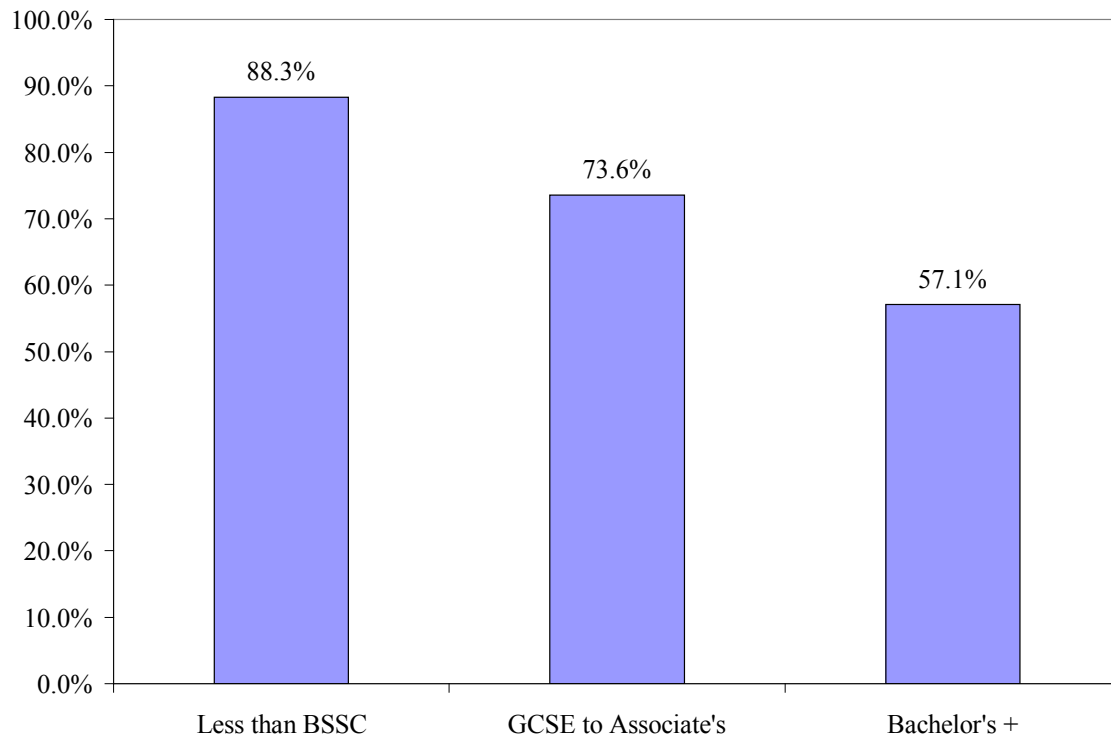
The findings provided in Table 6 and Chart 6 provide additional insights into the educational differences between the Bermudian and non-Bermudian population. The data reveal that nearly 90 per cent of the working age population of the nation with no formal schooling were Bermudian and just over 10 per cent of those with no formal schooling were classified as non Bermudian at the time of the 2000 Census. These findings suggest that most of the potential labour supply of poorly educated workers in Bermuda are Bermudian with non-Bermudians accounting for only a small share of this potential source of labour supply to the lower end of the labour market.

Table 6: Ratio of Working Age Population by Citizenship Status and by the Highest Educational Qualification Earned, 2000

	Bermudian	Non Bermudian	Share Bermudian	Share Non Bermudian
No formal certificate	12,350	1,630	88.3%	11.7%
School leaving certificate	4,383	810	84.4%	15.6%
BSSC	5,119	465	91.7%	8.3%
GCSE	2,414	952	71.7%	28.3%
Technical certificate	5,606	1,998	73.7%	26.3%
Associate's	2,544	837	75.2%	24.7%
Bachelor's	4,162	3,160	56.8%	43.2%
Master's	1,297	917	58.6%	41.4%
Doctor's	113	115	49.6%	50.4%
Total	38,362	11,059	77.6%	22.4%

The overwhelming majority of persons with either a school leaving certificate or a BSSC were Bermudians. The data reveal that about 85 per cent of the working age population of Bermuda who had earned only a school-leaving certificate was Bermudian. Among those who had earned a BSSC the data reveal that more than 90 per cent were Bermudian. The findings reveal that the working age population with less than a BSSC is overwhelmingly Bermudian. However, it is important to note that this group includes those who are still enrolled in secondary school. This factor may contribute to overestimating the share of the working age Bermudians who have no formal certificate. Analysis of the micro data files from the 2000 Census by current enrollment status would be required to gain further insight into this issue.

Chart 6: Bermudian Share of the Working Age Population by Level of Educational Attainment, 2000



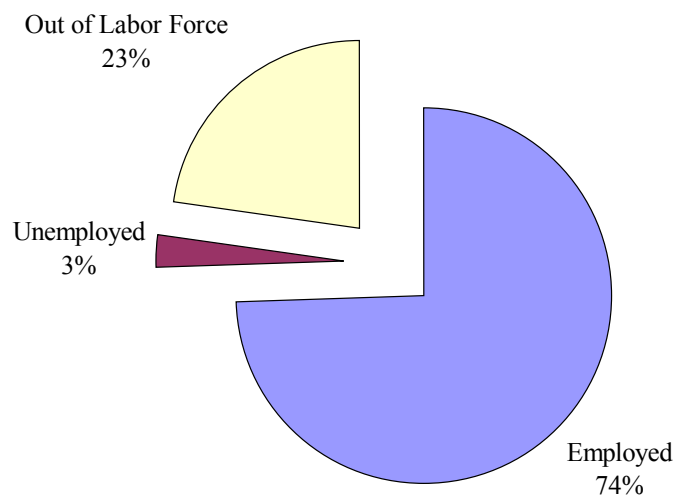
Among those with higher levels of educational attainment the share of the working age population that is Bermudian is somewhat smaller. The share of Bermudians was about 72 per cent of those who had earned a GCSE, 74 per cent of those who had earned a technical degree, and three quarters of the working age population who had earned an Associate's degree. These shares are about equal to the proportion of the nation's overall working age population that consisted of Bermudians (77 per cent).

At the four-year college and university level the share of the working age population that was Bermudian was much lower. The data reveal that only 57 per cent of the working age population who had earned a bachelor's degree was classified as Bermudian at the time of the Census. At the master's degree level this proportion was about 58 per cent and at the doctor's level the just half of the working age population was classified as Bermudian.

Labour Force Activity

The Census of 2000 included a set of questions designed to determine the labour force activities of the working age population of Bermuda.¹ The Census classified the entire working age population of the nation into one of three groups including those who were employed, unemployed or out of the labour force as of the reference week of the Census.² The fraction of the population that was classified as employed by the Census was quite high; nearly 75 per cent of the working age population reporting that they were working at the time of the Census.

Chart 7: Labour Force Status of the Working Age Population of Bermuda, 2000



Unemployed persons accounted for a very small fraction of the working age population; just 3 per cent of all those aged 16 and over were officially classified as unemployed. The out of the labour force group was composed of about 11,200 persons or 23 per cent of the working-age population who were neither employed nor unemployed at the time of the 2000 Census enumeration in Bermuda.

The classification of individuals as employed is based on a variety of activities including those persons who worked in a job for pay or profit, those employed in an unpaid family business and those with a job, but temporarily absent from work. The findings provided in Table 7 reveal that virtually all of the employed in the nation were working for pay; only 94

¹ The analysis in this section of the paper is limited to the working age population, that is persons aged 16 and over. However, the Bermudian Census also measured the employment activity of those aged 12 to 15 as part of its enumeration.

² The reference week of the labour force component of the 2000 Census was the week of May 13 to 19.

respondents reported that they worked unpaid in a family business. The Census found that only a very small fraction of those who were employed worked as apprentices. The Census found only 116 apprentices out of an employed population of nearly 36,900, thus only 0.3 per cent of the nation's workforce held an apprenticeship at the time of the survey. The number of working age students who were employed at the time of the Census was 2,128 out of a total of a total of 4,400 students yielding a student employment to population ratio of 49 per cent. Thus about one half of all students in Bermuda opt to mix work and school at any point in time.

To be classified as unemployed respondents had to be jobless and reported that they were seeking work for the first time, that they had looked for work before and were looking for working again, or were students looking for work. This definition of unemployed is far more inclusive than that used in the U.S. where a job search test is utilized along with a work availability test in order to determine a respondent's unemployment status.

Despite the broadly encompassing definition of unemployment used by the Bermuda Census the number of unemployed and the national unemployment rate measured by Census was quite low. The data reveal that fewer than 1,400 persons were classified as unemployed at the time of the Census. This number differs somewhat from the official unemployment estimate published by the Census Office. The Census Office excludes working age students who were looking for work. At the time of the Census there were about 380 students seeking work representing more than one in four unemployed workers in the nation. We include these individuals in our unemployment data since the U.S. and other nations include students who meet the criteria for unemployment as unemployed.

Table 7: Definitions of the Employed, Unemployed and Out of Labour Force Population of Bermuda, 2000

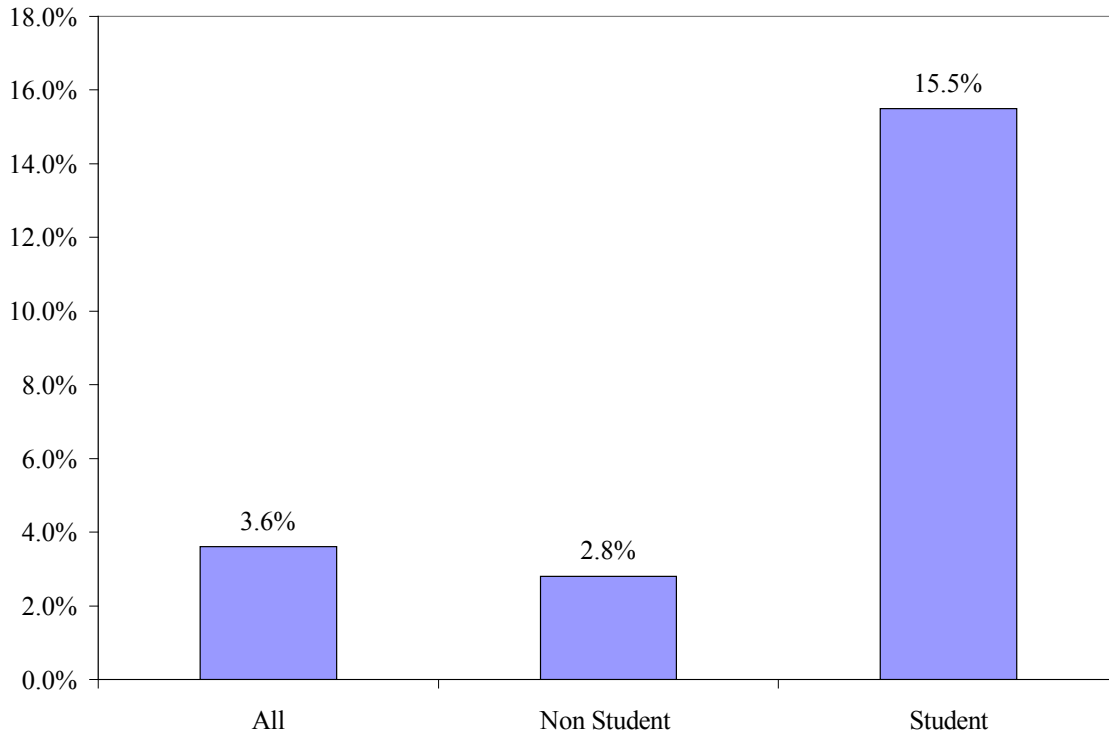
Working Age Population					
Employed	Number	Unemployed	Number	Not in Labour Force	Number
Working for pay	33,914	Looking for work	917	Retired	5,478
Working student	2,128	Student looking for work	380	At Home	2,385
With job, not working	626	First time seeking work	84	Student not working	1,900
Apprentice	116			Unable to work	727
Working w/out pay	94			Volunteer	470
				Other	136
				Not stated	110
Total	36,878	Total	1,381	Total	11,206

The unemployment rate in the nation is calculated as a share of the labour force where the labour force is simply the sum of both the employed and unemployed individuals. The Census office calculations of the unemployment rate excluded students and calculated the unemployment rate as the number of non-students classified as unemployed as a share of the labour force where the labour force includes the total number of employed plus the number of non students classified as unemployed. This yields an unemployment rate for the nation of just 2.6 per cent.

The findings provided in Chart 8 present a set of unemployment rate estimates that differ slightly from those produced by the Census Office. First, the overall unemployment rate we estimated includes unemployed students in the numerator and the denominator (while the Census Office estimate of overall unemployment excludes unemployed students from the numerator). The result is that we found that the unemployment rate in Bermuda was 3.6 per cent, while the Census Office unemployment rate estimate was just 2.6 per cent. If we exclude students from both the numerator and denominator the non-student unemployment rate at the time of the Census was 2.8 per cent, a clear indicator of full employment conditions in Bermuda at the time of the 2000 Census.

Despite the strong overall labour market conditions that prevailed in Bermuda at the time of the Census, students were experiencing some difficulty finding work. The student working age labour force at the time of the census consisted of 2,128 working students and 380 students looking for work. This meant that 15.5 per cent of all students in the labour force were unemployed. This finding is consistent with results in the U.S. where teens and young adults operating at the margin of the labour market have much higher unemployment rates and much lower labour force attachment than their adult counterparts.

Chart 8: Unemployment Rates by Student Status



About 11,200 working age individuals or 23 per cent of Bermuda’s working age population was not actively engaged in the labour market at the time of the 2000 Census. The single largest element of the out of the labour force population consisted of retired individuals. The Census found nearly 5,500 retirees residing on the Island that accounted for about half of all those outside of the labour force. The second largest group was those who classified themselves as ‘at home’ engaged in home responsibilities including child rearing. About 2,400 persons or one fifth of the out of the labour force group reported that they were at home. An additional 1,900 of those classified as outside of the nation’s labour force were students accounting for 17 per cent of the working age population that was out of the labour force. Disability seems to play a small role in the Bermuda labour market. Only 727 persons reported that they were out of the labour force because they were unable to work. This accounts for just 6 per cent of the out of the labour force population and is equal to just 2 per cent of the nation’s labour force, a proportion dramatically smaller than that found in the U.S.

Industry Employment Growth

Information on trends in employment by industry and the changing industry distribution of employment is critical to understanding education and training requirements in the Bermuda labour market. The Census Office as part of both its 1991 and 2000 enumerations collected information on the main industries in which the employed population was working. The data on industry employment trends presented in this paper are thus based on reports from the household enumeration and are not derived from establishment surveys and thus differ somewhat from the more familiar non agricultural wage and salary survey of business establishments that is used to measure national, state and local industry employment developments in the U.S. The household based estimates of employment include the self-employed, domestic workers and agricultural workers that are excluded from the survey of business establishments in the United States. However, the household survey counts each employed person only once, regardless of the number of jobs a worker might hold. Multiple job holding occurs at a much higher rate of frequency in Bermuda relative to the U.S. with about 9 per cent of the employed in the Island reporting they held more than one jobs versus about 5 to 6 per cent in the U.S. The establishment survey counts the number of jobs at business establishments and therefore is expected to yield a higher count of employment than that derived from the household survey which counts each individual with multiple jobs only once.

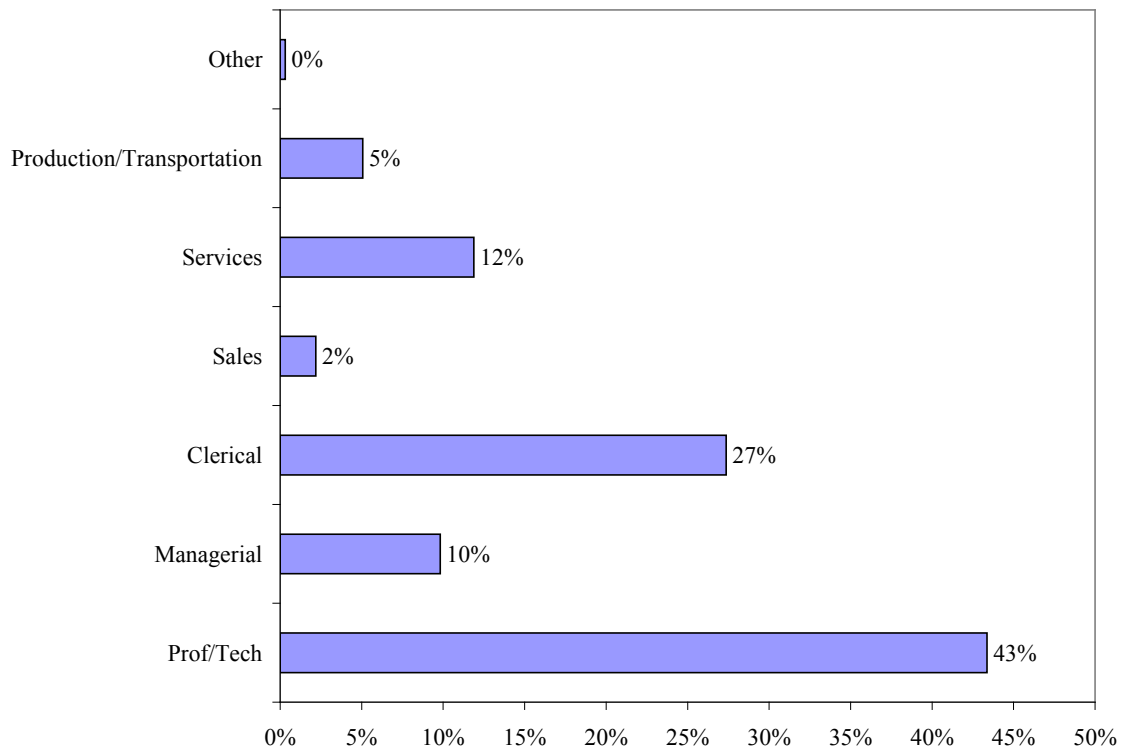
The 1991 Bermuda Census found a total of 33,120 persons employed at the time of the enumeration. By 2000 this level had increase by over 3,700 to 36,878 representing an 11 per cent increase over the period. By U.S. standards, the relative rate of increase in employment in Bermuda would be considered moderately below average. Between 1991 and 2000, payroll employment in the U.S. increased by 21 per cent. It is important to note however the considerable rate of regional variation in employment growth in the U.S. with the Northeast section of the nation adding jobs at a much slower pace the rest of the nation, in part, because Northeast region of the United States faces many of the same labour supply constraints that contribute to limiting new job creation in Bermuda.

Table 8: Trends in the Number of Employed Persons, by Major Industry Sector, 1991 to 2000

Major Industry Sector	1991	2000	Absolute Change	Relative Change
Total	33,120	36,878	3,758	11%
AFF	599	573	-26	-4%
Manufacturing	869	1,176	307	35%
Utilities	521	425	-96	-18%
Construction	3,426	3,792	366	11%
Wholesale, Retail Trade, Repair Services	4,842	4,773	-69	-1%
Hotels	3,496	2,738	-758	-22%
Restaurants	1,206	1,559	353	29%
Transportation and Communication	2,681	2,843	162	6%
Financial Intermediaries	2,598	2,791	193	7%
Real Estate	287	454	167	58%
Business Services	1,692	3,198	1,506	89%
Public Administration	2,382	2,510	128	5%
Education, Health and Social Work	3,055	4,026	971	32%
Other Community Services	3,302	2,762	-540	-16%
International Companies	1,914	3,167	1,253	65%
Not Stated	250	91	-159	-64%

The rate of new employment growth in Bermuda varied considerably across industry sectors. The most rapidly expanding sector of employment was the business service industry. The number of employed persons in the industry increased by more than 1,500 a rise of 89 per cent in just nine years. The Business Services industry accounted for 40 per cent of the net increase in total employment in Bermuda during the 1990s playing an increasingly important role in the growth and development of the nation's economy. Indeed by 2000 Business Services accounted for 9 per cent of the total employment in the country. The expansion of employment in the nation's Business Service sector has resulted in a rise in the demand for workers with higher levels of educational attainment. Chart 9 provides data on the occupational staffing pattern of firms that make up the Business Service industry in Bermuda. The data reveal that 43 per cent of all those employed in that industry work in professional and technical fields, and an additional 10 per cent of the staff work in high end administrative and managerial positions.

Chart 9: Distribution of Employment by Major Occupational Group in the Business Services Industry in Bermuda, 2000



Taken together these two major occupational groups are considered to be the core of the college labour market in the U.S. Our analysis of the educational attainment of workers in these occupations also reveals that a large proportion of workers in these occupations in Bermuda have earned four year college degrees or better.³ Over one in four of those working in the Business Services industry were employed in clerical occupations at the time of the 2000 Census. Thus employment expansion in this sector has meant growth in the demand for college graduates and for clerical workers.

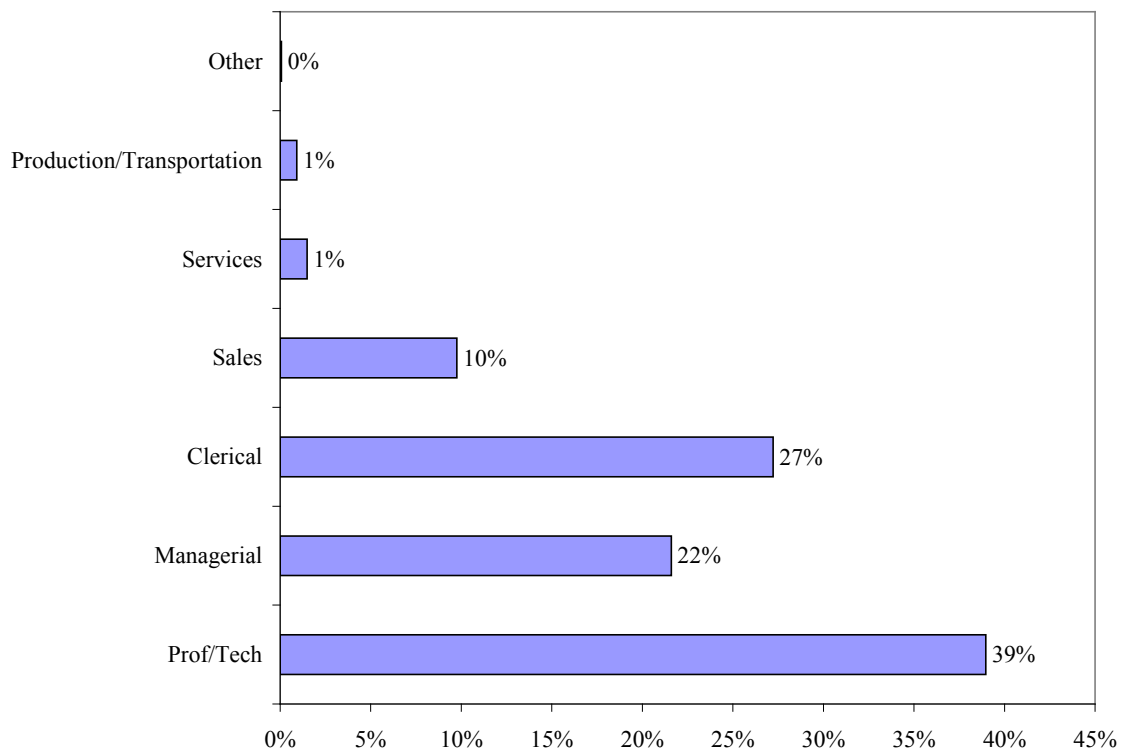
International Companies also posted rapid rates of employment expansion during the 1990s. The total number of workers employed in this sector of the economy increased from 1,914 in 1991 to 3,167 by 2000, representing an increase in employment of 65 per cent in just 9 years. This rapid pace of growth meant that the International Companies industry accounted for one third of the net increase in employment that occurred in Bermuda during the 1990s. Like the Business Services industry the International Company sector had a staffing structure that was heavily concentrated in the college labour market.

The findings in Chart 10 reveal that 39 per cent of all those who were employed by International Companies worked in professional or technical occupations with an additional

³ 61 per cent of professional technical workers reported that they hold a bachelor's degree or higher while 37 per cent of administrative/ managerial workers said they held at least a bachelor's degree. About 21 per cent of all employed were college graduates at the time of the 2000 Census.

22 per cent of the staff employed in managerial and administrative positions. This 61 per cent of the staffing structure in this industry sector was concentrated in the array of college labour market occupations. Like the Business Services industry employment growth among International Companies had a disproportionately large impact on the demand for college graduates in Bermuda. Clerical workers also accounted for 27 per cent of employment in among International Companies, rising employment in the industry also contributed to the demand for workers with clerical skills in the Bermuda labour market.

Chart 10: Distribution of Employment by Major Occupational Group in the International Companies Industry in Bermuda, 2000

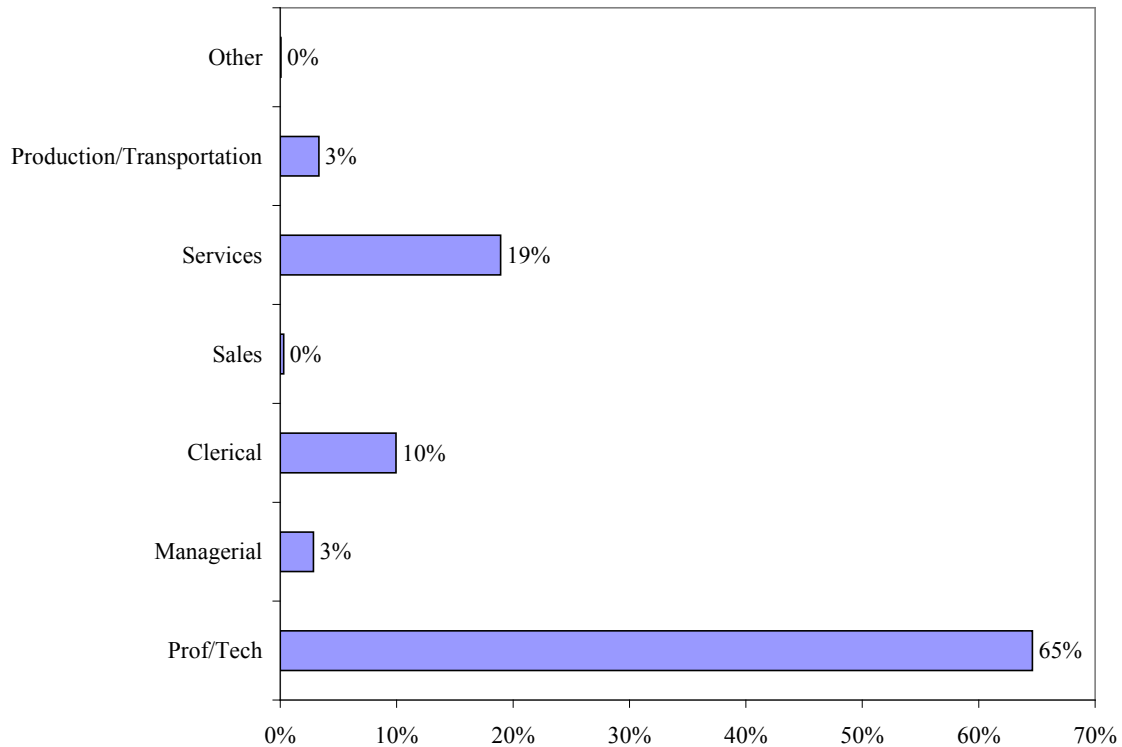


The Education Health and Social Work (EHSW) sector of the Bermuda labour market also posted large absolute and relative employment gains during the 1990s. At the time of the 1991 Census 3,055 persons were employed in the EHSW sector of the nation's economy; by 2000 this figure had increased to 4,026, a rise of 32 per cent in employment in the sector over the entire period. The increase of 971 workers in the EHSW sector accounted for one quarter of the total rise in employment that has occurred over the course of the decade.

The staffing structure of this industry sector is very heavily weighted toward college labour market occupations. Staffing structures at elementary and secondary schools, at various

kinds of health providers and at social service organizations are unsurprisingly dominated by professional level workers. Nearly two-thirds of those employed in the EHSW sector work in a professional or related occupation.

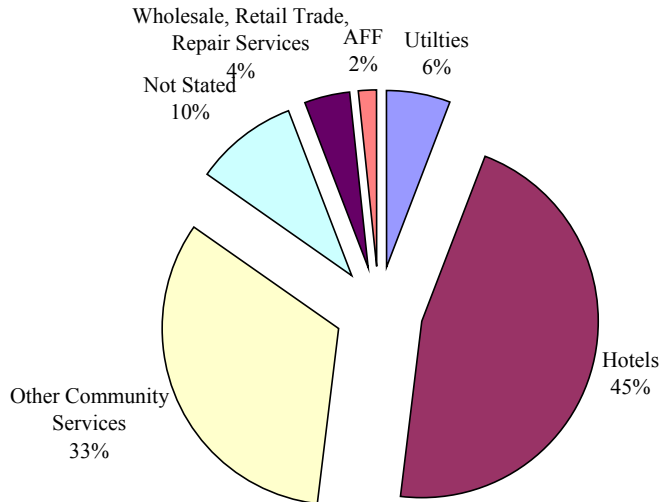
Chart 11: Distribution of Employment by Major Occupational Group in the Education Health and Social Work Industry in Bermuda, 2000



Typical of this industry segment a substantial fraction of the staff also work in service occupations, in this case about 19 per cent of all those employed in the sector work in service jobs. These service jobs include nurse's aides and cleaners.

The three major industry sources of new job creation in Bermuda during the 1990s have all employed large proportions of workers in college labour market occupations, which as we shall see, increased employment among those with higher levels of educational attainment. During this time of employment expansion not all industries in Bermuda were able to add workers. Several industry sectors posted employment losses over this period of time. The leading source of employment decline was the hotel industry. The hotel sector saw its employment levels fall from 3,496 in 1991 to 2,738 by 2000, a loss of 22 per cent of the industry's workforce in just nine years. The Hotel sector accounted for 45 per cent of the losses sustained in declining sectors of the Bermuda labour market.

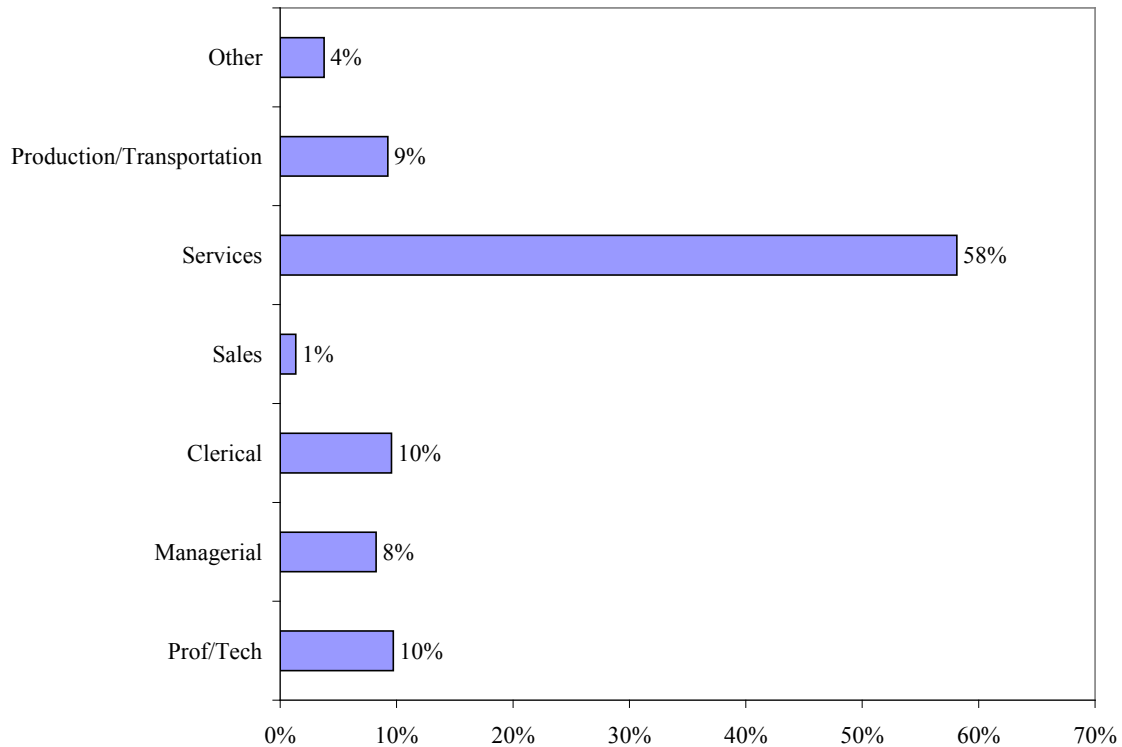
Chart 12: Industry Sources of Employment Losses in Bermuda, 1991 to 2000



The Community Services industry also posted substantial employment declines over the 1991 to 2000 period losing 540 jobs over the period for a relative job loss of 16 per cent. Together the Hotel and Community Services industry sectors accounted for nearly 80 per cent of the gross job loss that had occurred in declining industry sectors in Bermuda during the 1990s. The industries that generated employment growth in the Bermudian economy were characterized by a staffing structure that was heavily concentrated in college labour market occupations. In contrast, the two sectors that accounted for the overwhelming share of net employment decline were characterized by lower educational level occupational staffing patterns dominated by high school graduate and high school dropout dominant occupations.

Chart 13 examines the combined staffing structure of the Hotel and Community Services industries in Bermuda at the time of the 2000 Census. The data reveal that nearly 60 per cent of the staff in these industries worked in service occupations.

Chart 13: Distribution of Employment by Major Occupational Group in the Hotels and Community Services Industries in Bermuda, 2000



These occupations include wait staff and bartenders, cleaners, housekeepers, hairdressers and other personal service workers.⁴ Professional and technical employment and managerial/administrative employment account for less than one in five positions, with clerical workers accounting for an additional 10 per cent of the staff in the two industry sectors combined.

Industry Access by Citizenship Status

Access to employment in key industry segments was influenced not only by the level of education and skill required for employment, but also by citizenship status. The data reveal that the employment of non-Bermudians is much more heavily concentrated in the high growth/high educational attainment Business Services and International Companies sectors of the nation’s labour market. Nearly one quarter of all employed non-Bermudians work in these sectors.

⁴About one half of all those employed in service occupations had a school leaving certificate or less. Only 5 per cent reported that they had earned a bachelor’s degree or higher.

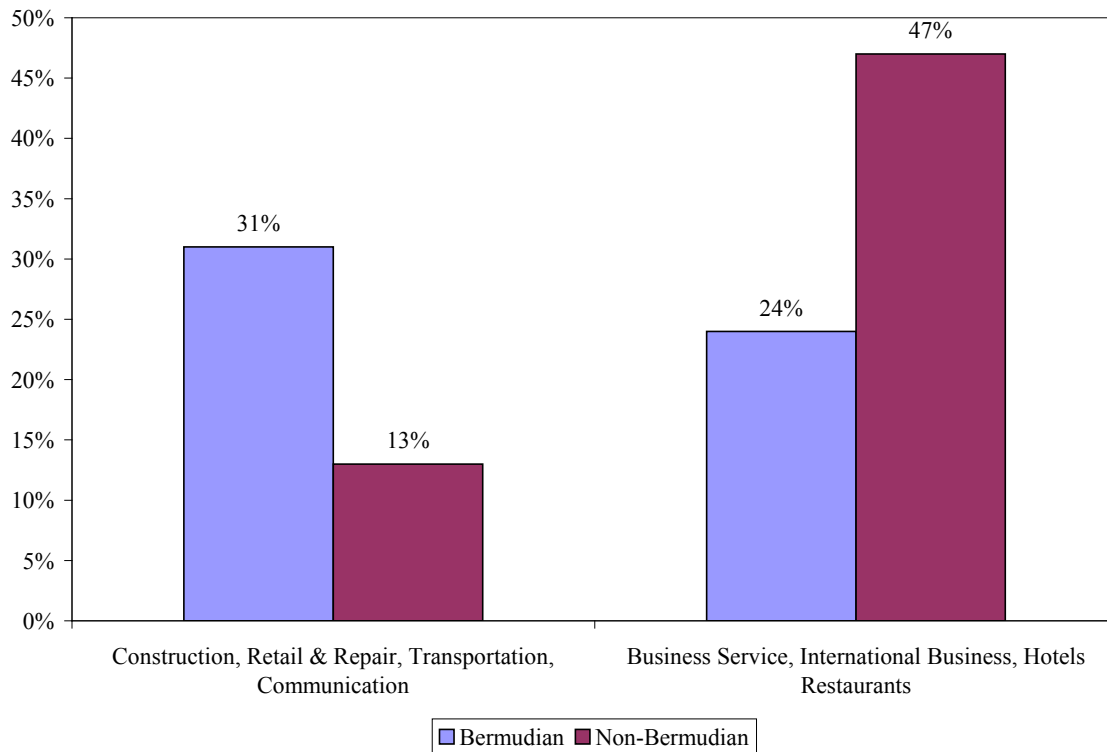
Table 9: The Distribution of Employed Persons by Industry Sector and Citizenship Status, 2000

Major Industry Sector	Bermudian		Non Bermudian	
Total	28,203	100%	8,670	100%
AFF	361	1%	212	2%
Manufacturing	928	3%	248	3%
Utilities	384	1%	41	0%
Construction	3,338	12%	454	5%
Wholesale, Retail Trade, Repair Services	1,145	4%	163	2%
Retail and Repair	2,935	10%	528	6%
Hotels	1,881	7%	857	10%
Restaurants	868	3%	691	8%
Transportation and Communication	2,640	9%	202	2%
Financial Intermediaries	2,227	8%	564	7%
Real Estate	387	1%	67	1%
Business Services	2,011	7%	1,187	14%
Public Administration	2,232	8%	278	3%
Education, Health and Social Work	3,089	11%	936	11%
Other Community Services	1,863	7%	899	10%
International Companies	1,834	7%	1,333	15%
Not Stated	80	0%	10	0%

In contrast only 14 per cent of Bermudians work in either the Business Services or International Company sectors. Non-Bermudians were 70 per cent more likely to work in this high-end sector of the nation's economy than their Bermudian counterparts. Non-Bermudians are also over-represented in both the hotels and restaurants industry sectors. 18 per cent of non-Bermudians were employed in these two industries while only 10 per cent of Bermudians worked in hotels and restaurants. Bermudians were much more likely than non-Bermudians to work in construction (12 per cent vs. 5 per cent) retail trade and repair (10 per cent vs. 6 per cent) and transportation and communication (9 per cent vs. 2 per cent).

These findings suggest considerable differences in access to employment into key industry segments of the nation's economy. Bermudians are much more likely to work in construction, retail and repair, transportation and communication relative to non-Bermudians. Chart 14 reveals that together these industries employ 31 per cent of Bermudians, an employment share that is 2.4 times greater than the non-Bermudian share. In contrast the data reveal that nearly half of all non-Bermudians work in business services, international business, hotels and restaurants while only one quarter of Bermudians work in these industries. Thus non-Bermudians were twice as likely to work in these industries compared to employed Bermudians.

Chart 14: Share of Bermudians and Non-Bermudians Employed in Key Industry Sectors of the Bermuda Economy, 2000



The role of Bermudians in supplying labour to employers varies sharply by industry sector. The findings in Table 10 reveal that Bermudians fill just three quarters of the nation’s workforce needs. A closer look at the table indicates that the most rapidly growing sectors of the nation’s economy are least likely to rely on Bermudians as a source of labour supply. The Business Services industry staff is much more heavily reliant on non-Bermudians as a source of labour supply with 37 per cent of all workers in that sector of the economy reporting that they were non- Bermudians, while overall non-Bermudians accounted for 24 per cent of all the employed in the nation. Thus workers employed in the Business Service sector were 1.54 times more likely to be non-Bermudian than the average of all industries. International Companies were even more dependent on non-Bermudians to meet the skill needs with 42 per cent of the staff employed in this sector reporting that they were non-Bermudian.

Table 10: Share of Employment within Major Industries by Citizenship Status, 2000

Major Industry Sector	Bermudian Share	Non-Bermudian Share
Total	76%	24%
AFF	63%	37%
Manufacturing	79%	21%
Utilities	90%	10%
Construction	88%	12%
Wholesale, Retail Trade, Repair Services	88%	12%
Retail and Repair	85%	15%
Hotels	69%	31%
Restaurants	56%	44%
Transportation and Communication	93%	7%
Financial Intermediaries	80%	20%
Real Estate	85%	15%
Business Services	63%	37%
Public Administration	89%	11%
Education, Health and Social Work	77%	23%
Other Community Services	67%	33%
International Companies	58%	42%
Not Stated	89%	11%

The restaurant sector, which also posted rapid rates of employment expansion during the 1990s, was also heavily dependent on non-Bermudians to meet its labour supply needs. Only 56 per cent of all workers in this sector of the economy were Bermudian. This meant that restaurants were 1.8 times more dependent on non-Bermudians compared to the job market as a whole. Besides these three high growth industries, the two industry sectors that posted large absolute and relative employment declines during the 1991 to 2000 period—the Hotels and the Community Service sector also employed above average shares of non-Bermudians. Unlike the growth sectors where a high proportion of jobs were in college labour market occupations, the Hotel and Community Service sector employed comparatively few college graduates. Nearly 6 in 10 workers in these industries were employed in lower end service occupations.

Occupational Employment Developments

During the 1990s the growth sectors of the Bermuda economy were characterized by staffing structures that were heavily weighted toward professional and technical employment. The findings provided in Table 11 examine trends in employment of the working age population in Bermuda between 1991 and 2000 by major occupational group. The data reveal a very mixed pattern of employment growth and decline across occupations over the decade. Several major occupational groups posted strong new job growth while others experienced decline over the same time period. Our earlier discussion of the shift of employment toward International Business and Business Services suggested that the demand for college graduates increased greatly in Bermuda over the past decade given the high incidence of college labour market workers found in these industry sectors.

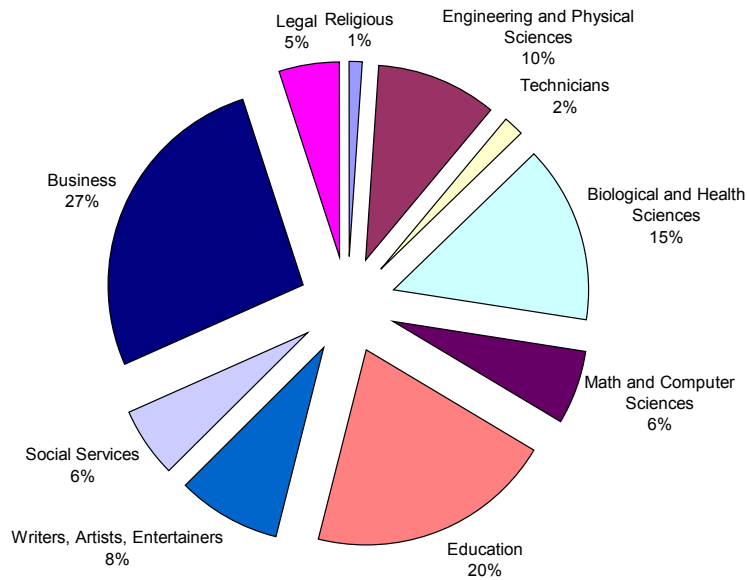
Table 11: Trends in the Number of Employed Persons, by Major Occupational Sector, 1991 to 2000

Major Occupation	1991	2000	Absolute Change	Relative Change
Total	33,120	36,878	3,758	11.3%
Professional Technical	5,440	7,740	2,300	42%
Administrative and Managerial	4,460	4,055	-405	-9%
Clerical	6,774	7,049	275	4%
Sales	1,959	2,898	939	48%
Service	6,485	6,532	47	1%
Production and Transport	7,003	7,721	718	10%
Other	999	883	-116	-12%

The findings in Table 11 in fact reveal the extraordinary rate of new job creation in professional and technical occupations, with employment growth in these fields accounting for more than 60 per cent of the net increase in total employment that occurred in Bermuda over that time period. Somewhat surprisingly employment in administrative and managerial jobs declined over the same period of time, while employment in sales occupations grew at a very rapid pace and accounted for an additional one quarter of the total rise in employment in Bermuda during the 1990s.

The professional and technical fields employ workers in a fairly broad array of professional specialty areas ranging from physical scientists and engineers to health professionals, educators and business and financial experts. Chart 15 examines the occupational composition of the professions in Bermuda in a somewhat more detailed fashion. The data reveal that more than one quarter of professional workers in Bermuda work in a business-related field including accounting and insurance related underwriting activities.

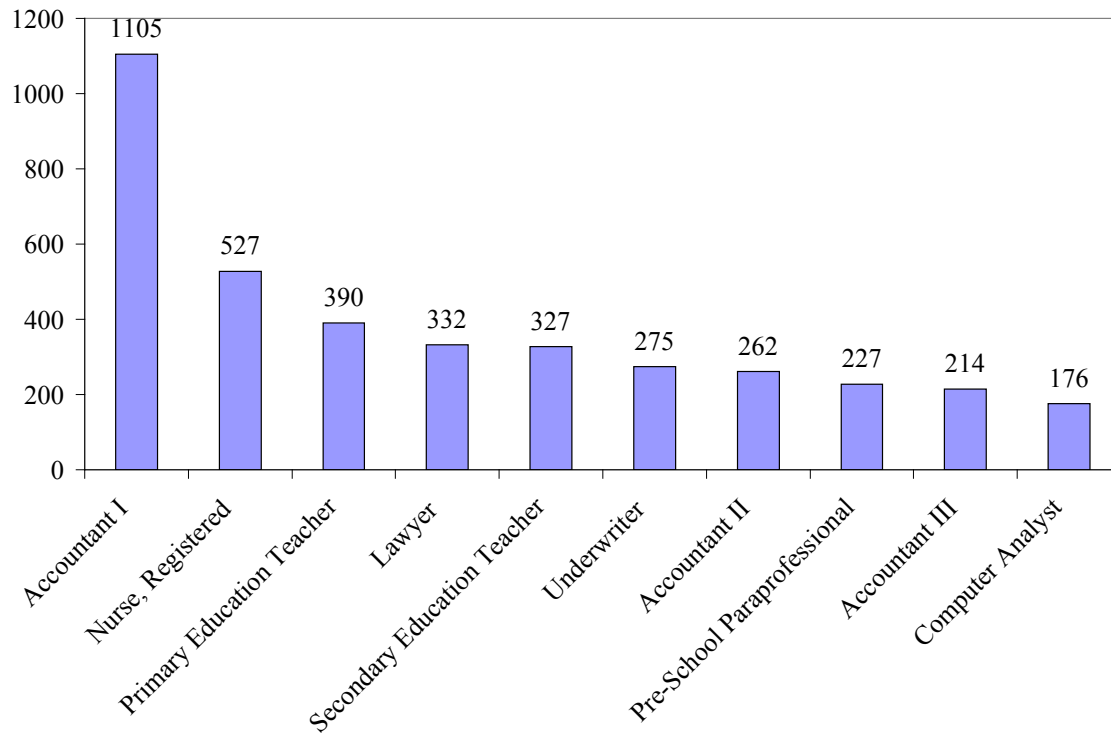
Chart 15: The Detailed Occupational Composition of Professional and Related Technical Occupations in Bermuda, 2000



Business professions are the single largest professional group in the nation and are likely heavily concentrated in the rapidly expanding Business Services and International Company sectors. Education professionals account for an additional 20 per cent of professional employment in Bermuda with a large fraction of this group employed as primary and secondary school teachers. Biological and health sciences accounted for 15 per cent of total professional and related employment in Bermuda with the nurse occupation accounting for about half of all employment in this category.

Chart 16 ranks the 10 largest sources of employment among the specific occupations that compose the professional and related occupational category.

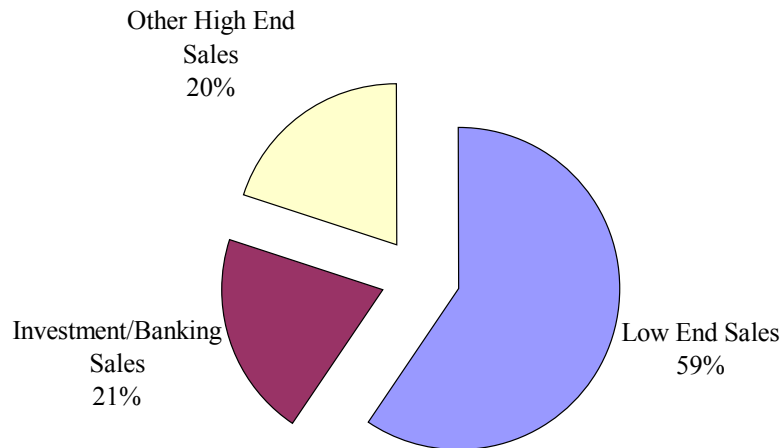
Chart 16: Ten Largest Professional and Related Occupations in Bermuda, 2000



Together these 10 occupations account for one-half of the total professional and related employment in Bermuda. The data reveal that the accounting field is the single largest source of professional employment in Bermuda. If the three accountant levels are aggregated we find that the accounting field taken as a whole accounts for one in five professional occupations in the nation. Primary and secondary school teachers along with pre-school teachers together accounted for about 12 per cent of professional employment in Bermuda at the time of the census.

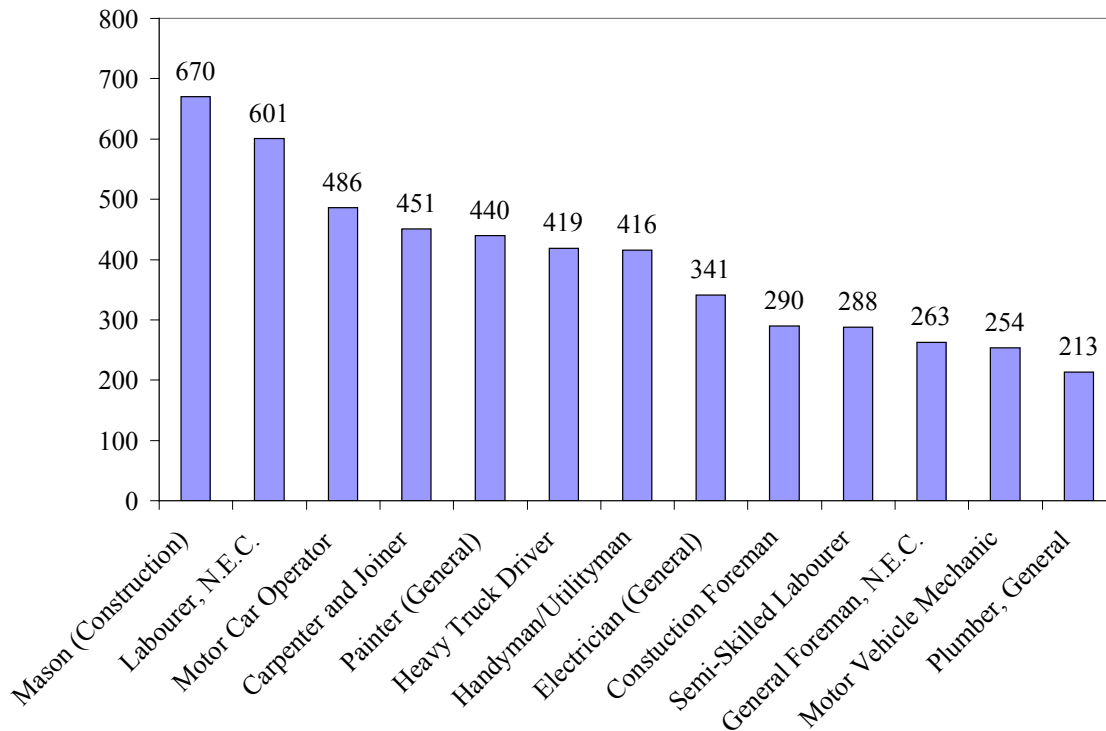
Employment levels in sales occupations in Bermuda also expanded rapidly during the 1991-2000 period with the number of workers reporting that they worked in a sales related job rising by 48 per cent, making the sales field among the most rapidly expanding of any occupation in the nation. Growth in the sales occupation accounted for one-fourth of the net increase in employment that occurred in the nation between 1991 and 2000. The sales field in Bermuda is composed of a set of occupations that include low-end retail trade sales workers as well as very sophisticated sales workers in banking and finance. About six out of ten sales workers in Bermuda are employed in lower level sales positions with a very large share of this group working as sales clerks in retail trade business establishments. However, about 40 per cent of those employed in sales jobs are engaged in some type of high-end sales activity.

Chart 17: The Detailed Occupational Composition of Sales Occupations in Bermuda, 2000



Investment officers, trust officers, and investment and commodity brokers account for about one-fifth of employment in the sales occupations. These individuals bring a high level of skills to the sale of investment instruments in international markets as well as sales in banking and related financial services. The 'other high end sales' workers are primarily composed of insurance and real estate sales brokers. It is likely that much of the growth that has occurred in the sales field measured in Table 11 is in the high-end sales area. Retail trade in Bermuda did not increase rapidly during the 1990 suggesting that growth in sales jobs did not occur in this sector. In contrast the International Company sector added a large number of workers over the decade and about 10 per cent of those employed in that sector of the nation's economy worked in sales positions.

Chart 18: Blue Collar Occupations Employing 200 or More Workers in Bermuda, 2000



Blue-collar occupations were also an important source of new employment opportunity in Bermuda. Overall employment levels in production, transportation and related blue-collar occupations increased by more than 700, representing a 10 per cent rise in employment in that occupational area. Strong growth in construction and manufacturing employment fueled growth in the demand for blue-collar workers in Bermuda during the 1991 to 2000 time period. These industries together accounted for most of the rise in demand for a wide array of high level construction trade and machine repair workers.

A number of skilled construction jobs employ considerable numbers of blue-collar workers in Bermuda. Masons and bricklayers, carpenters and joiners, painters, electricians, plumbers and construction foreman occupations all make up a considerable proportion of blue collar employment opportunities in the goods producing sector of the nation's economy, accounting for nearly one third of overall blue collar employment in the nation. The semiskilled and other labourers occupations together employed nearly 900 workers accounting for an additional 12 per cent of blue-collar job opportunities in Bermuda.

Job Access to Occupations by Citizenship Status

About three quarters of all those who were employed during 2000 were classified as Bermudian by the 2000 Census enumeration while the remaining quarter of the employed population were of course classified as non-Bermudian. The pace of job growth for both Bermudians and non-Bermudians was about the same over the 1991 to 2000 time period.

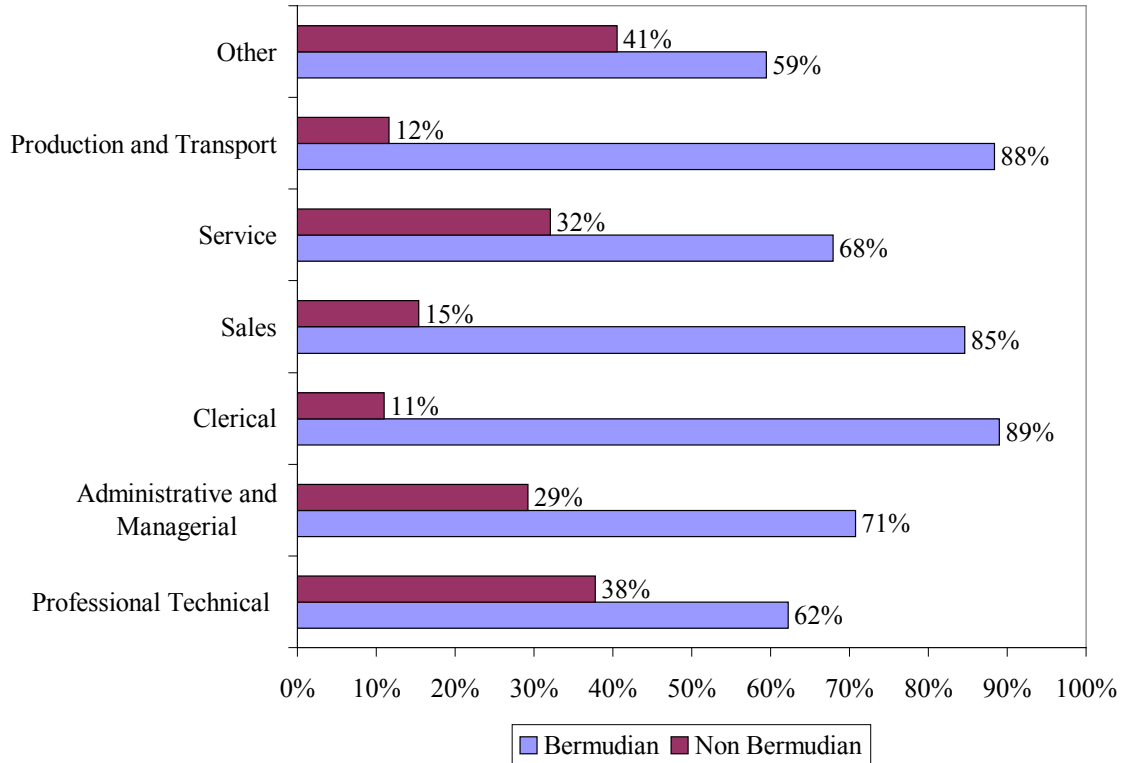
Table 12: Trends in Employment in Bermuda, by Occupation and Bermudian Status, 1991 to 2000

Major Occupations	Bermudian		Non Bermudian	
	Absolute Change	Relative Change	Absolute Change	Relative Change
Total Employment	2815	11%	943	12%
Professional Technical	1466	44%	834	40%
Administrative an Managerial	-512	-15%	107	10%
Clerical	380	6%	-105	-12%
Sales	757	45%	182	69%
Service	25	1%	22	1%
Production and Transport	673	11%	45	5%
Other	26	5%	-142	-28%

The total number of employed Bermudians increased by about 11 per cent over the period, while the number of employed non-Bermudians increased by 12 per cent. A closer look at the table reveals that the rates of employment growth were quite similar across the broad occupational areas captured in the table. For example professional employment increased by 44 per cent among Bermudians over the 1991 to 2000 period, while employment in these fields increased by 40 per cent among non-Bermudians. However, a closer look at occupational access within each field reveals sharp disparities in occupational access between Bermudians and non-Bermudian workers.

The share of workers who held Bermudian status did vary considerably among the major occupational groups in Bermuda. The findings provided in Chart 19 reveal for example that less than two thirds of those employed in the high growth professional/technical field were Bermudian. Indeed, the findings reveal that nearly 40 per cent of those employed in the professional fields were classified as non-Bermudian at the time of the 2000 census.

Chart 19: Proportion of Employed in Each Major Occupational Area, by Citizenship Status, Bermuda, 2000



Within the professional and technical fields the proportion of Bermudians who were employed within a specific specialty area varied quite sharply. The findings in Table 13 reveal for example that in high-level accountant positions (accountant I) nearly 70 per cent of those employed were non-Bermudian, 60 per cent of computer programmers were non-Bermudians and half of all registered nurses employed at the time of the Census were non-Bermudian. A large fraction of the professional fields that are tied to private sector international business and business service firms employed disproportionately large numbers of non-Bermudians. About one half of all those employed in the professional business specialties were non-Bermudian. In addition to accountants I (the single largest professional occupation in Bermuda) and computer programmer/analyst, other business related professions with disproportionately high shares of non-Bermudians include: lawyer, underwriter, computer analyst, business consultant, and computer programmer. The data indicate that Bermudians working in a professional field

Chart 20: Employment in Education Professional and Private Business Professional Specialties, by Bermudian Status

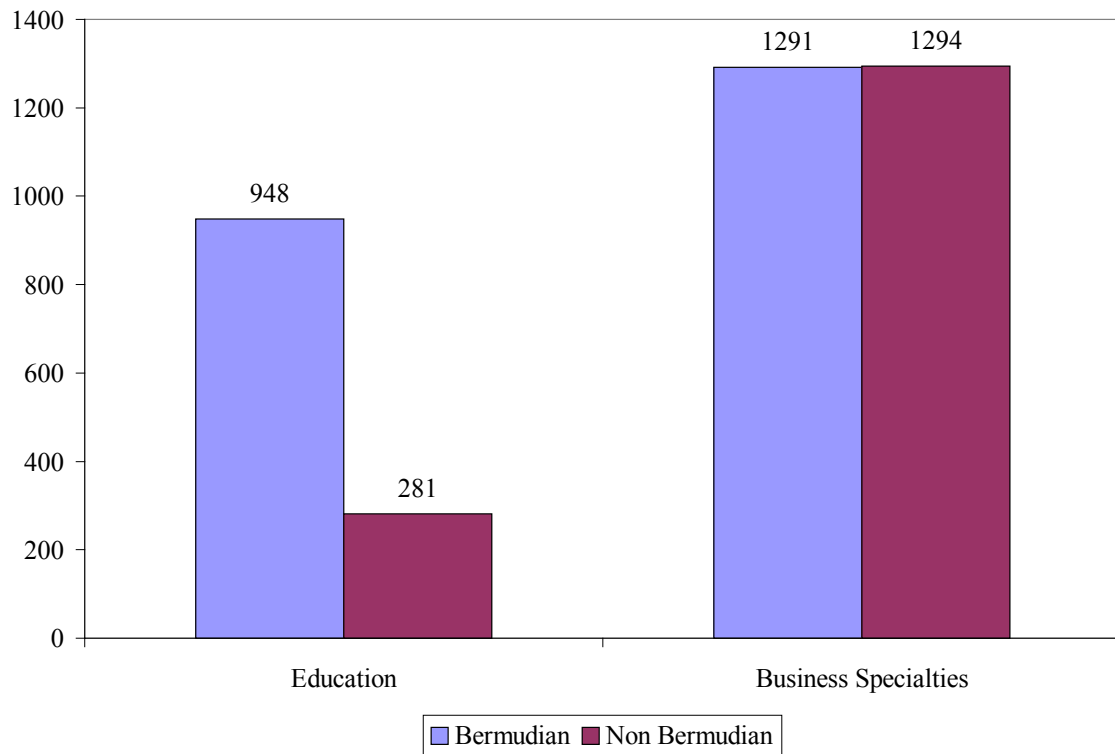


Table 13: Proportion of Employed in Specific Professional/Technical Fields that Employed 100 or more Workers, By Citizenship Status, Bermuda, 2000

Detailed Professional/Technical Fields	Non	
	Bermudian	Bermudian
Accountant I	31%	69%
Nurse, Registered	49%	51%
Primary Education Teacher	83%	17%
Lawyer	60%	40%
Secondary Education Teacher	58%	42%
Underwriter	59%	41%
Accountant II	76%	24%
Pre-School Paraprofessional	93%	7%
Accountant III	87%	13%
Computer Analyst	53%	47%
Pre-School Teacher	79%	21%
Electrical and Electronics Engineering Technician, N.E.C.	76%	24%
Consultant, Business (General)	56%	44%
Middle School Teacher	79%	21%
Computer Programmer	55%	45%
Personnel Specialist	72%	27%
Architect	56%	44%
Computer Programmer/Analyst	40%	60%

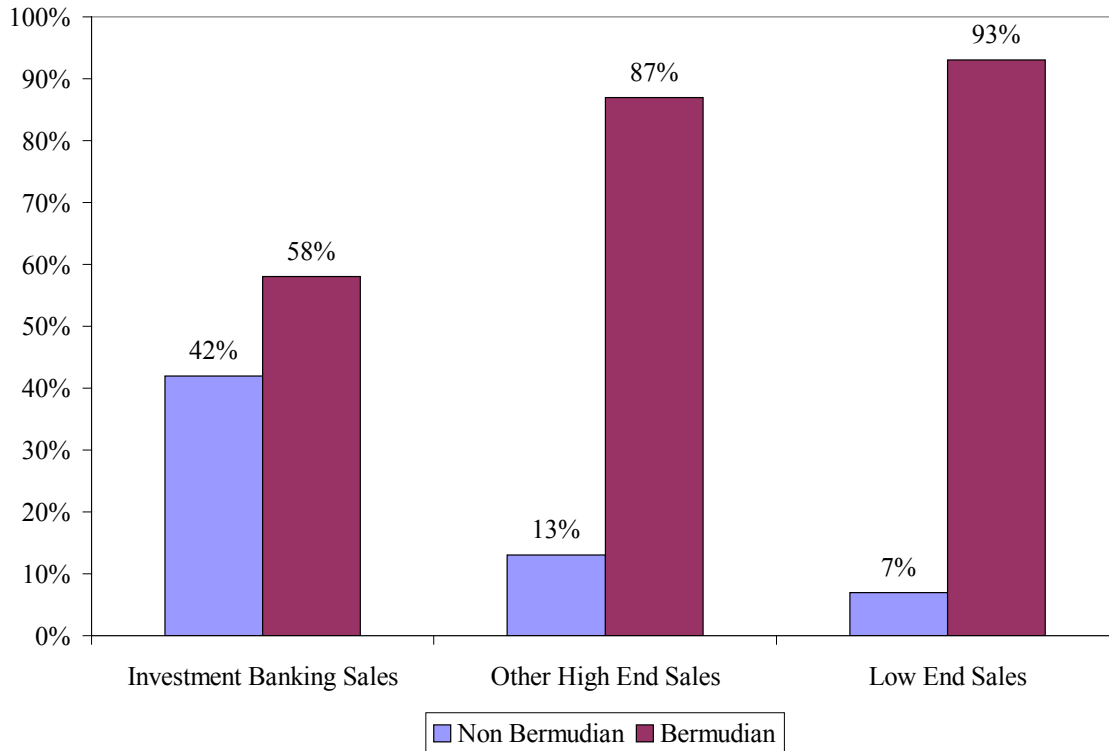
were more likely employed in education with 75 per cent of professionals in the education fields—such as primary education teachers (but not secondary teachers), pre-school paraprofessionals, pre-school teachers, middle school teachers—are classified as Bermudian. Indeed 20 per cent of all Bermudian professionals were employed in a teaching field at the time of the 2000 Census versus just 10 per cent of the employed non-Bermudians.

These findings suggest that within the professional specialties fields, sharp differences in employment access exist between Bermudian and non-Bermudian workers based on the occupation and the skills and education required for access to these career fields. The sales occupations were among the most rapidly expanding in the Bermudian economy. The findings in Chart 19 reveal that about 85 per cent of overall employment in the broad array of sales occupations was concentrated among Bermudians. However, a closer look at the detailed sales specialties that compose sales occupations reveals sharp differences in the share of employed Bermudians across these detailed sales occupation categories. Chart 21 and Table 14 provide a more detailed review of the degree of access that Bermudians have to alternative types of sales occupations.

Chart 21 organizes the various sales occupations included in Table 13 into three categories including investment and banking sales, other high-end sales and low-end sales and by

Bermudian status of workers employed in these occupations. The data reveal that the proportion of investment and banking sales workers who were Bermudian was much lower than for the other two sales areas. Only 58 per cent of investment and banking sales workers were classified as Bermudian.

Chart 21: Employment in Sales Occupations, by Bermudian Status



The data provided in Table 14 reveal that 42 per cent of investment banking sales officers were non-Bermudian, 31 per cent of trust officers were classified as non- Bermudian and more than one half of all brokers were classified as non-Bermudian.

Table 14: Proportion of Employed in Specific Sales Fields that Employed 100 or more Workers, By Citizenship Status, Bermuda, 2000

Detailed Sales Occupations	Bermudian	Non-Bermudian
Sale Clerk, Retail Trade	92%	8%
Investment Officer	58%	42%
Salesperson	90%	10%
Sales Assistant and other Sales Personnel, N.E.C.	97%	3%
Trust Officer	69%	31%
Broker	48%	52%
Real Estate Salesperson/House Agent	90%	10%
Merchandiser	97%	3%
Buyer	85%	15%
Insurance Salesperson	91%	9%
Sales Supervisor	89%	11%
Purchasing Officer	92%	8%
Manufacturers' Agent (Salesperson)	85%	15%
Business Services and Advertising Salesperson	67%	33%
Technical Salesperson	75%	25%
Technical Service Advisor	80%	20%
Appraiser/Valuer	92%	8%

Sales workers classified as other high-end sales workers were much more likely to be Bermudian than those classified in the investment and banking sales fields, with 87 per cent of workers engaged in sales jobs such as real estate sales, insurance sales purchasing and manufacturing agent reported as Bermudian at the time of the 2000 census enumeration.

Workers employed in low-end sales occupations which include retail trade sales clerks and sales persons as well as sales assistants were overwhelmingly classified as Bermudian. The data reveal that 93 per cent of those classified in the low-end sales occupations were Bermudian. These data suggest once again considerable difference in access to employment in differing sectors of the Bermudian sales labour market. The data clearly reveal that non-Bermudians are a critical source of labour supply to investment and banking sales occupations, but play only a limited role in supplying labour to the low-end sales positions.

The third major area of occupational employment growth in the Bermudian economy was the blue-collar production related field. 88 per cent of all those who work in the array of construction, production, repair, transportation worker and labourer occupations were

classified as Bermudian at the time of the 2000 census. Unlike the other occupational growth sectors of the Bermudian economy, large differences in Bermudian access to individual blue-collar occupations was not prevalent. That is seen in the findings provided in Table 15 for those blue collar jobs that employed 100 or more workers at the time of the census.

Table 15: Proportion of Employed in Specific Blue-Collar Fields that Employed 100 or more Workers, By Citizenship Status, Bermuda, 2000

Detailed Blue-Collar Occupations	Bermudian	Non Bermudian
Mason (Construction)	88%	12%
Labourer, N.E.C.	93%	7%
Motor Car (Includes Taxi and Chauffeur-Driven Car)	99%	1%
Carpenter and Joiner (includes Assistant Cabinet Maker)	92%	8%
Painter (General)	97%	3%
Heavy Truck Driver	96%	4%
Handyman/Utilityman	88%	12%
Electrician (General)	91%	9%
Supervisor/Foreman (Construction)	86%	14%
Semi-Skilled Labourer	91%	9%
Supervisor/General Foreman, N.E.C.	88%	12%
Motor Vehicle Mechanic	77%	23%
Plumber, General	90%	10%
Refrigeration & Air Conditioning Plant Installer and Mechanic	82%	18%
Motor Bus/Limousine Driver	98%	2%
Electronic Computer and Related Equipment Mechanic	85%	15%
Earth-Moving and Related Equipment Operators	97%	3%

The major construction trades occupations included in the table all employed above average proportions of Bermudians including painters and earth moving equipment operators (each 97 per cent Bermudian) as well as masons (88 per cent Bermudian) and carpenters and joiners (92 per cent Bermudian). Outside of the construction trades, Bermudians still accounted for a disproportionate share of blue-collar employment. Truck drivers, cabbies and other transportation workers were overwhelming Bermudian. An above average proportion of workers in the various mechanic/repairer fields were also Bermudian.

The data on the high growth sectors of the Bermudian labour market reveal that in both the professional and sales areas, access to employment within specific occupational fields

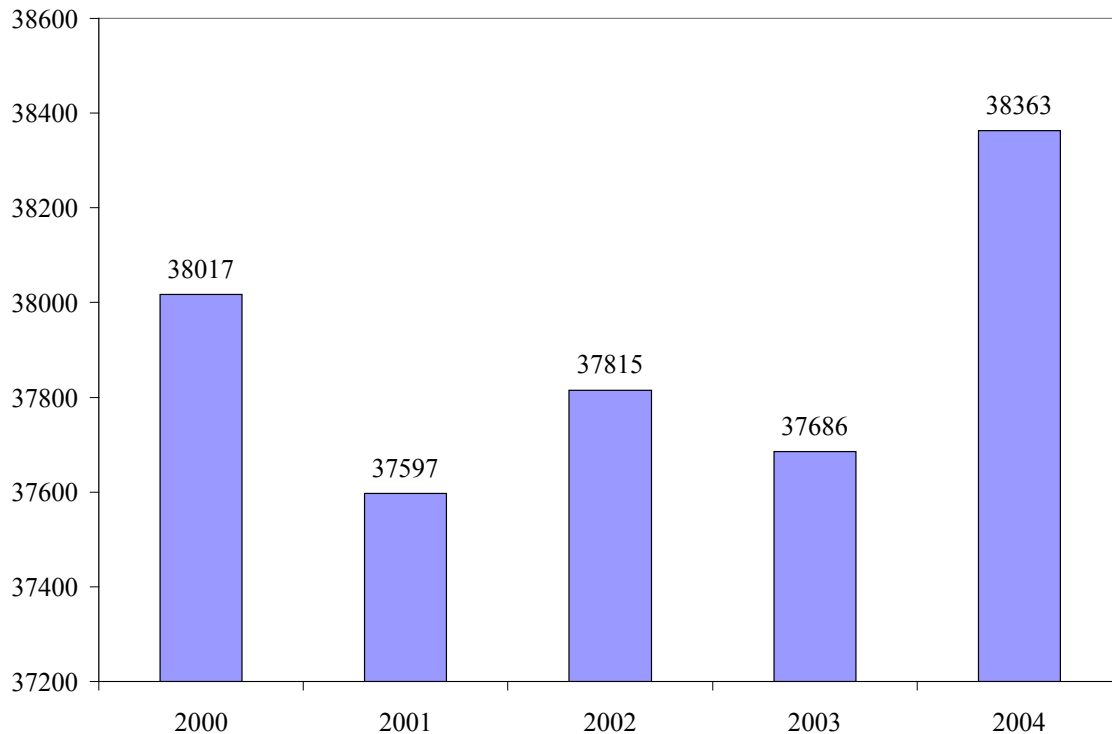
for Bermudians varies sharply. Private sector business professions are much less likely to employ Bermudians than teaching and some other social service fields. Similarly, in the high growth sales area, access to investment and banking sales was much reduced for Bermudians compared to other kinds of high-end sales jobs or lower end sales clerks/assistants jobs. The only high growth occupational area that had across the board high rates of Bermudian access was the blue-collar area.

Much of the difference in Bermudian access to employment in specific occupations may be associated with educational attainment. Skills and abilities utilized in many of the blue-collar occupations are often developed informally through on-the-job training and apprenticeship programs. In contrast, many professional jobs require four-year college degrees, often with concentrations that develop specific occupational proficiencies including such fields as accounting, finance and nursing to name just a few. Sharp differences in the level of educational attainment between Bermudians and non-Bermudians in part, explain the differences in job access in specific occupational areas in the nation

Recent Trends in Employment

During the 2000 to 2004 period, Bermuda experienced a mild economic downturn followed by a modest recovery. The findings provided in Chart 22 reveal that total employment in the nation declined by 420 jobs or by about 1 per cent between 2000 and 2001 as the U.S. economy entered a more substantial economic recession associated with sharp declines in values in equities markets at that time. The recovery in Bermuda, like that of the U.S. was slow with the nation failing to recover the jobs lost until 2004. The slow recovery from the recession has meant that the pace of job growth in Bermuda has slowed considerably from the pace of growth achieved during the 1990s expansion.

Chart 22: Trends in Overall Employment in Bermuda 2000 to 2004



During the 1990s the nation's economy was able to add employment at an annual average rate of 1.2 per cent. Over the past four years the annual rate of employment expansion has slowed to just 0.2 per cent per year. Despite this slow rate of new job creation, the job vacancy rate remains relatively high. With nearly 1,200 jobs vacant at the time of the survey in 2004, the nation had an aggregate job vacancy rate of 3.0 per cent. Comparisons of unemployment rates and job vacancy rates allow analysts to gauge problems of labour shortage and surplus, as well as to gain insight into frictional, structural and demand deficient unemployment problems. However, while Bermuda conducts an annual survey of employment and job vacancies, no estimates of unemployment or unemployment rates are produced. Therefore, it is not possible to measure the nature of potential labour market imbalances in the nation. However, if we assume that the nation's unemployment rate has remained in the 3 to 4 per cent range then it is likely that most of the unemployment in the nation is not the product of inadequate demand for labour. Rather unemployment associated with skills mismatch and job search are likely the major causes of unemployment in the nation.

A look at the data on job growth by industry over the 2000 to 2004 period reveals that while overall employment growth was modest, this growth masks sharp variations in the job generation performance across industries in Bermuda. Retail and repair, hotels, restaurants, and financial intermediaries all posted considerable employment decline over the past four years with losses ranging from 6 to 9 per cent of the 2000 employment base.

Table 16: Trends in Employment by Major Industry Sector in Bermuda, 2000 to 2004

Major Industry Sector	2000	2004	Absolute Change	Relative Change
AFF	564	651	87	13%
Manufacturing	1,235	1,012	-223	-22%
Utilities	449	405	-44	-11%
Construction	2,638	3,230	592	18%
Wholesale, Retail Trade, Repair Services	1,301	1,401	100	7%
Retail and Repair	3,873	3,509	-364	-10%
Hotels	3,409	3,122	-287	-9%
Restaurants	1,871	1,766	-105	-6%
Transportation and Communication	2,958	2,903	-55	-2%
Financial Intermediaries	2,984	2,737	-247	-9%
Real Estate	455	514	59	11%
Business Services	3,627	3,715	88	2%
Public Administration	4,310	4,104	-206	-5%
Education, Health and Social Work	2,820	3,006	186	6%
Other Community Services	2,242	2,214	-28	-1%
International Companies	3,281	4,074	793	19%

The manufacturing sector experienced a considerable reversal of fortune losing 22 per cent of its job base—in an industry that has been dominated by Bermudian workers. Substantial losses also occurred in white-collar industries including financial intermediaries and public administration. Offsetting these losses were strong gains in the International Companies sector, which saw employment rise by nearly 800 jobs, achieving a 19 per cent rise in employment in just four years. Construction industry employment also increased at a very rapid pace with total employment in that sector of the nation’s economy increasing by nearly 600 jobs, for about an 18 per cent rise. The rise in construction, an intensive employer of Bermudians, partially offset the losses of Bermudian employment opportunities associated with manufacturing employment declines.

The nature of occupational employment growth in Bermuda was largely reflective of the changing structure of industry employment in the nation over the past four years. The findings provided in Table 17 reveal sharp reductions in clerical, sales and service occupations. Clerical employment in the nation declined by more than 860 jobs, for a decline of 11 per cent in four years. Employment levels in what appear to be lower-end sales jobs (associated with declining retail industry employment) occupations fell by nearly 400, representing a 14 per cent reduction in employment. Lower end service occupation employment fell by more than 300 jobs between 2000 and 2004.

Table 17: Trends in Employment by Major Occupation in Bermuda, 2000 to 2004

Major Occupation	2000	2004	Absolute Change	Relative Change
Professional Technical	7,046	7,801	755	11%
Administrative and Managerial	4,852	5,442	590	12%
Clerical	8,107	7,246	-861	-11%
Sales	2,848	2,456	-392	-14%
Service	7,485	7,178	-307	-4%
Production and Transport	6,777	7,313	536	8%

Sharp increases in employment in professional-technical and managerial-administrative fields (college labour market occupations) offset the job losses in lower level occupational areas. Professional-technical employment increased by 755 jobs or 11 per cent between 2000 and 2004, rising with the demand for workers in the International Company sector. Managerial and administrative employment increased by nearly 600 jobs over the same time period. The rise in production and transport occupational employment has almost exclusively been fueled by increasing demand for workers in the construction trades, since the manufacturing sector has posted considerable employment losses since 2000.

The changing industrial and occupations structure of labour demand in Bermuda over the past four years has altered the nature of access for employment for Bermudians. Strong growth for workers in the college labour market coupled with declines in clerical, low end sales and service jobs has meant that demand for workers with higher levels of educational attainment has risen rapidly, while the demand for workers with fewer years of schooling has declined. We observed large gaps in the level of educational attainment between the Bermudian and non-Bermudian working-age populations. Lower levels of educational attainment among Bermudians diminish their employment prospects in an economy that is demanding workers with higher levels of educational attainment.