



A HUMAN RESOURCES STUDY OF THE HOME BUILDING AND RENOVATING SECTOR IN NOVA SCOTIA An Update of Phases I and II

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Introduction

1.0 Introduction

This report updates the findings from Phases I and II of a four-phased human resources sector study of the Home Building and Renovation (HBR) Sector of Nova Scotia. Phase I presented a profile of the HBR sector and its contribution to the economy. In particular, Phase I covered the following topics:

- ▲ current sales values and GDP, by type of home building and renovation company and trade;
- ▲ structure in terms of number, types, size, and geographic location of home building and renovation companies and tradespeople;
- ▲ aggregate employment by sector;
- ▲ employment trends including seasonality, incidence of sub-contracting, etc.;
- ▲ legislative and regulatory environment facing the HBR sector;
- ▲ growth trends of the HBR sector;
- ▲ general industry trends including the underground economy; and,
- ▲ importance of the sector to the economy of Nova Scotia (in terms of GDP and employment).

Phase II presented a profile of human resources in the HBR sector including:

- ▲ current employment levels by type (full-time, part-time, seasonal, self-employment, etc.) and sector;
- ▲ forecasts of employment levels by type and sector;
- ▲ characteristics of human resources (education, age, gender, etc.); and,
- ▲ employment trends such as seasonality, business versus independent operator, employees versus sub-contracting.

2.0 GDP and Sales Values

2.1 Capital Expenditures on Residential Construction

Capital expenditures on residential construction in Nova Scotia are available from Statistics Canada. Annual data from 1990 to 2000 are presented in this report. Overall, these two years exhibited increased spending in nearly all categories as well as increased numbers of firms and persons employed.

Residential construction is defined as follows by Statistics Canada:

“Includes all buildings intended for private occupancy whether on a permanent basis or not. Dwellings are divided into the following types: single-family, mobile, cottage, semi-detached, row house and apartment building.” (Statistics Canada, Catalogue No. 64-001, p. 80)

Residential capital expenditures are divided into the following categories:

- ▲ Capital expenditures on new housing excluding cottages and mobile homes.
- ▲ Improvements.
- ▲ Other capital expenditures, including Conversions, Acquisition Costs , Cottages and Mobiles.

Minor residential repairs that do not require a building permit are not included in residential capital expenditures reported by Statistics Canada.

A few definitions will assist in the interpretation of the economic data on the home building and renovation industry.



Glossary of Terms

Improvements – Major renovations that require a building permit. Improvements include additions and alterations. Investment in Improvements is recorded in CANSIM Matrix 441-D849351.

Conversions – Dwellings added to the housing stock by conversion of existing dwellings. Investment in Conversions is recorded in CANSIM Matrix 441-D849349.

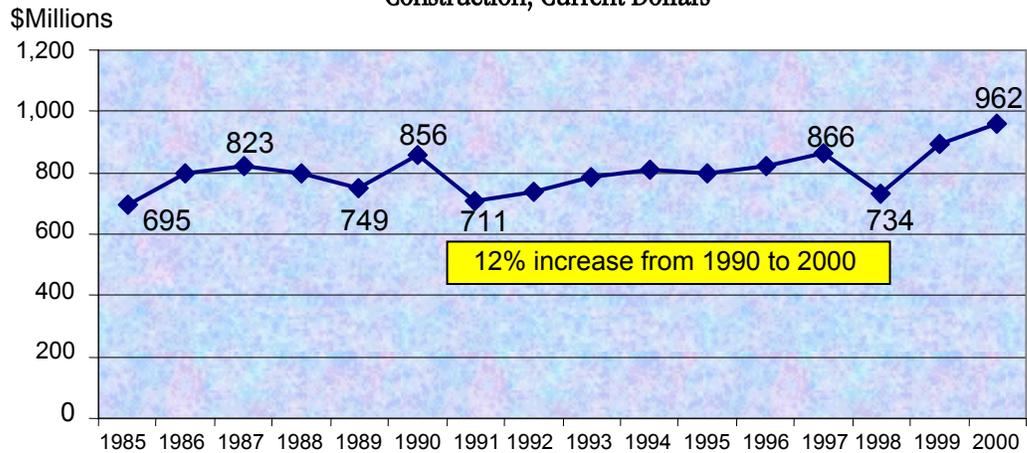
Acquisition Costs – Include legal fees, surveying fees and accrued interest. Investment in Acquisitions Costs are recorded in CANSIM Matrix D849350.

Minor Repairs – Expenditures on repairs and maintenance for which no building permit is required. Common examples are painting, roofing and tiling. Investment in Minor Repairs are recorded in CANSIM Matrix 439-D849552. The data in this matrix cover expenses that improve livability but do not add to capital. One limitation of the data is that homeowners and landlords often have difficulty in differentiating repairs and renovations.

Capital spending on residential construction in Nova Scotia is illustrated in Exhibits 2.1 to 2.3. Note that these values are in current dollars and do not remove inflation. Total capital spending on residential construction has increased over time, reaching \$962 million in 2000, the highest level yet recorded. This past decade has seen two sharp drops in spending. It is not unreasonable to assume the drop in 1991 was due to recessionary pressures. Spending in all three categories also dropped in 1998. While the exact cause of the phenomenon is unclear, there is speculation the drop is tied to the elimination of HST rebates on new home construction.



Exhibit 2.1: Total Capital Expenditures on Residential Construction, Current Dollars

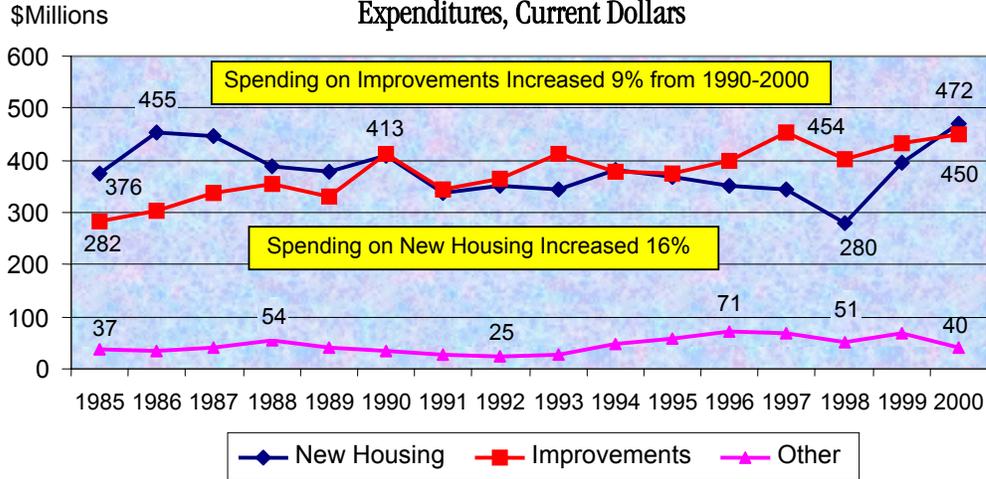


*Note: Derived by summing expenditures in the categories of New Housing, Improvements and Conversions.
Source: CANSIM Matrix 441, Statistics Canada.*

Increased total expenditures from 1990 to 2000 was fueled by spending on improvements and new housing, up 16% and 9% over 1990 levels, respectively (see Exhibit 2.2). Over the long-term, however, spending on improvements has increased while new housing expenditures generally declined, hitting a low of \$280 million in 1998. Thereafter, spending on new housing recovered dramatically and reached a high of \$472 million in 2000. Capital spending on “Other” (cottages, mobile homes and conversions) fluctuated throughout the period but had not recovered to levels seen previously.



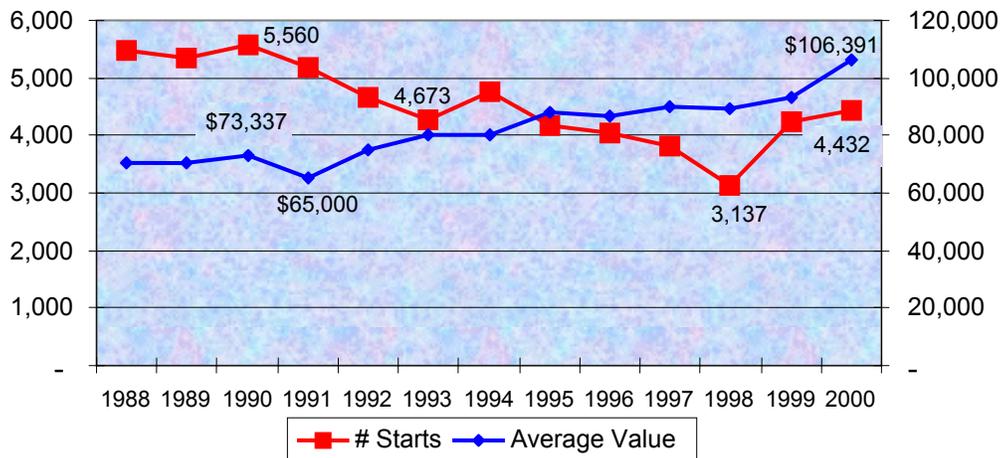
Exhibit 2.2: Components of Residential Construction Expenditures, Current Dollars



Source: CANSIM Matrix 441, Statistics Canada.

Annual housing starts dropped by 44% over the period 1990 to 1998 (from 5,560 to 3,137) but increased significantly from 1998 to 2000 (a 41% increase, from 3,137 to 4,432). Average housing values rose by 45% over the decade (from \$73 to \$106 thousand).

**Exhibit 2.3
Housing Starts and Average Value, Nova Scotia**



Source: Canada Mortgage and Housing Corporation.

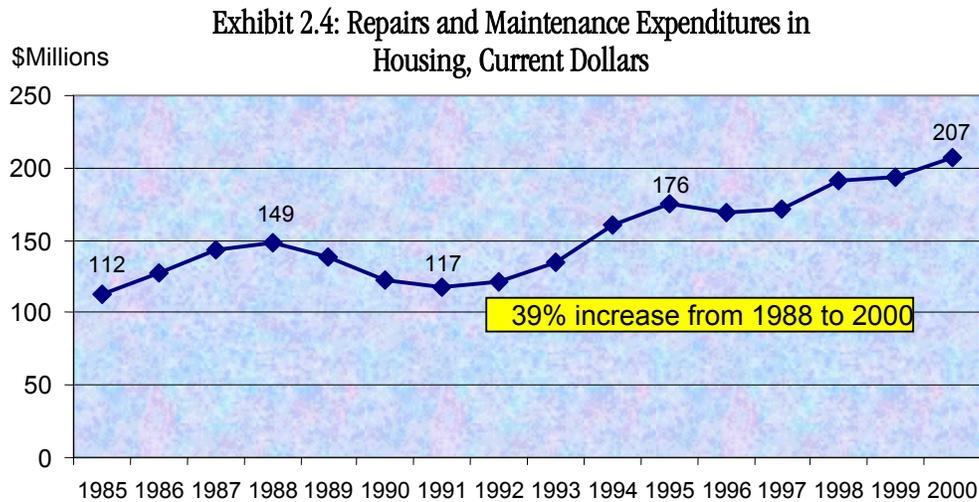
It is important to note that increased spending on new housing shown in Exhibit 2.2 resulted from

rising house values rather than increases in housing starts. Exhibit 2.7 shown later in this chapter adjusts residential construction values to remove the effect of rising prices.

Data on the number of renovations in residential construction is not available.

2.2 Expenditures on Repairs and Maintenance – Residential Housing

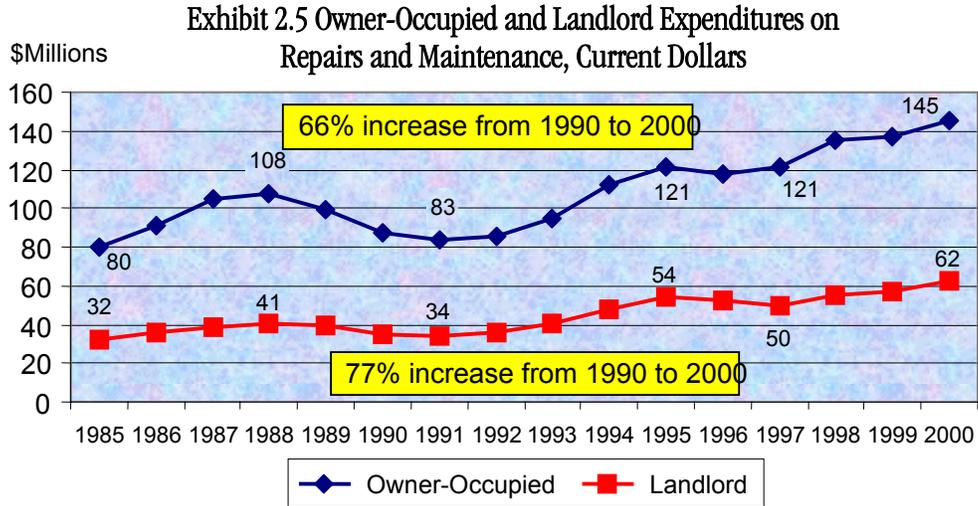
Total spending on home building and renovations includes spending on minor repairs that do not require building permits. These expenditures must be added to residential capital expenditures to obtain estimates of total spending on residential construction. Spending on minor repairs for a 15-year period is presented in Exhibit 2.4.



Source: CANSIM Matrix 439-D849552, Statistics Canada.

Repairs and maintenance expenditures have increased over time. By 2000, total spending in this category had reached a high of \$206 million. The patterns of decline during the early and later parts of the past decade are consistent with those presented earlier in this chapter.

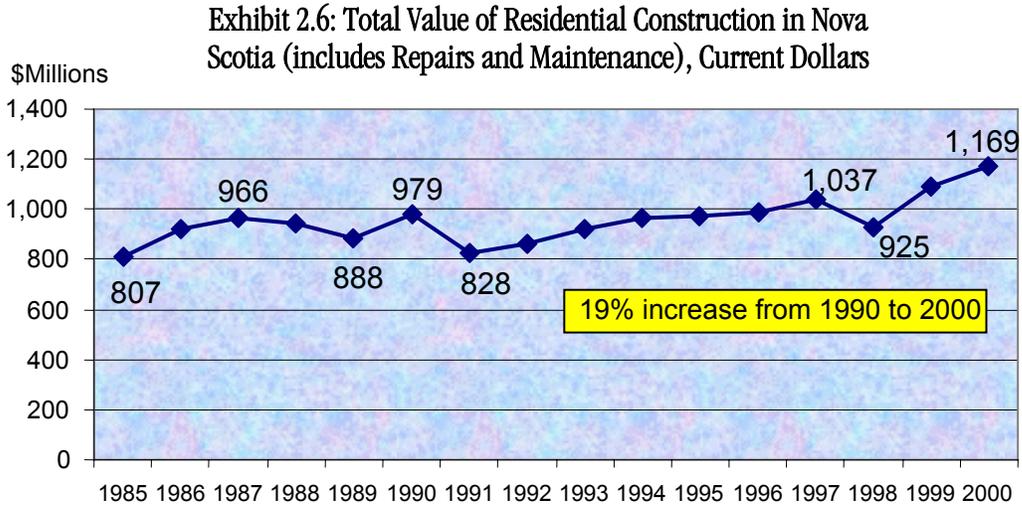
Total spending on repairs and maintenance is broken into spending by house owners, termed as owner-occupied, and by landlords (see Exhibit 2.5). Both categories have increased over time. Owner-occupied expenditures account for the lion's share of repairs and maintenance expenditures.



Source: CANSIM Matrices 439-DS49576 (Landlord) and DS49564 (Owner-Occupied).

2.3 Total Expenditures on Residential Construction

Total expenditures on residential maintenance and repairs are estimated by combining total capital expenditures on residential construction with the expenditures on repairs and maintenance shown previously. These estimates are illustrated in Exhibit 2.6.



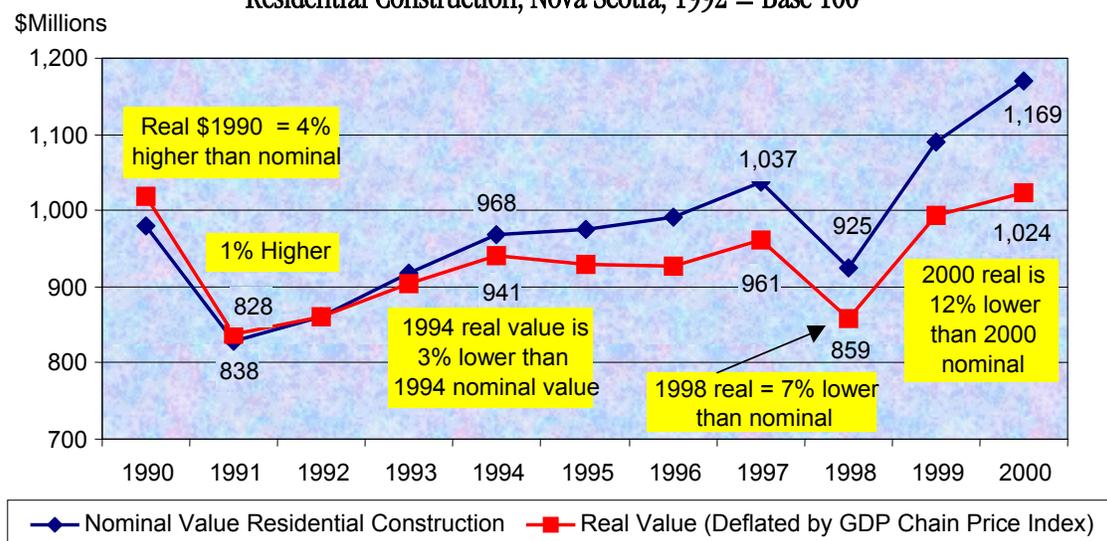
Note: Derived from data contained in Exhibits 2.1 and 2.4.
Source: See previous exhibits.



The exhibit shows that total residential expenditures in Nova Scotia have generally increased over time to a record high of \$1.2 billion in 2000. The data presented in this section are in current dollars and do not account for inflation. Exhibit 2.7 shows the total value of residential construction as shown in Exhibit 2.6 in “real” terms, that is, adjusted for inflation.

The exhibit shows the widening gap between current dollars and the real value of residential construction. The real value in 2000 was about 12% lower than the 2000 nominal value of total residential expenditures in Nova Scotia.

Exhibit 2.7: Nominal (Current Dollars) and Real Expenditures on Residential Construction, Nova Scotia, 1992 = Base 100



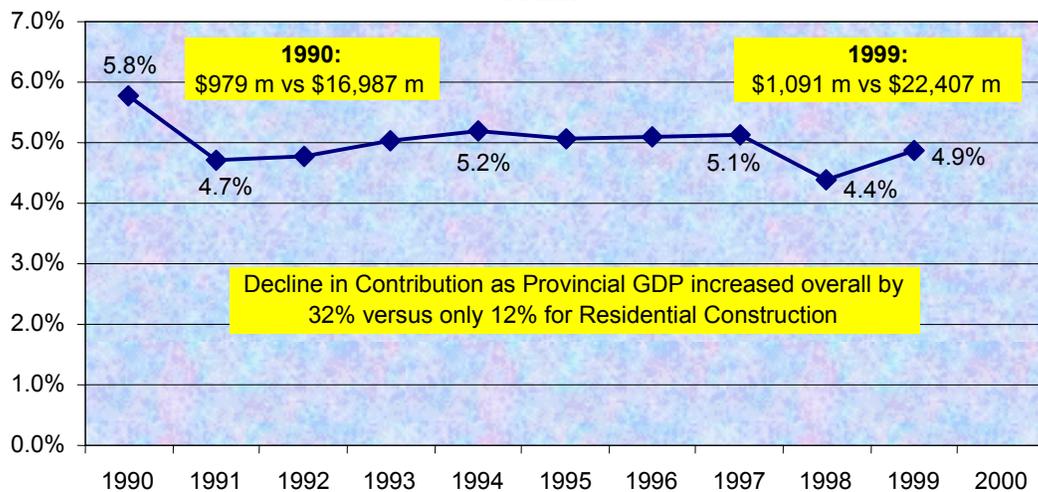
Source: Exhibit 2.6 and GDP at market prices (Chain Price index) from Statistics Canada CANSIM Matrix D15632 6545-1. Note that this matrix was terminated as of December 2000.

2.4 Total GDP in Nova Scotia and Expenditures on Residential Construction

The contribution of residential construction to the economy as measured by GDP is presented in Exhibit 2.8. As shown in the previous exhibit, expenditures in residential construction have increased over time. In 1990, these expenditures accounted for 5.8% of the provincial economy (\$979 million

versus \$16.9 billion). Following a sharp decline in the sector's share in 1991, the contribution recovered to 5.2% in 1994 and remained steady until another decline in 1998. By 1999, residential construction contributed 4.9% to the total provincial GDP. Overall, provincial GDP grew faster over the ten-year period than did expenditures in residential construction, leading to the decline in residential construction's share of the provincial economy from 1990 levels.

Exhibit 2.8: Total Value of Residential Construction as a Proportion of Provincial Gross Domestic Product (at Market Prices), Current Dollars



Note: GDP at market prices data obtained from Statistics Canada. GDP for 2000 is not yet available (expected release date of October/November 2001).

Source: See Exhibit 2.6.

2.5 The Macroeconomic Impacts of the Housing Sector

A 1997 publication by the Canada Mortgage and Housing Corporation and Infrometrica provides an overview of the contribution of the housing sector to the economy. It does this by using the Infrometrica Model (TIM) to simulate the impact of a temporary increase in housing activity in the economy in 1998 over the two-year period 1999-2000. It examines the impacts of new housing and renovations separately and compares the impacts on both a fast growing and slow growing economy. The impact of inflation is removed from the estimates to show the effect of the housing sector on the



economy in real dollars.

Direct and indirect impacts of increased spending on the housing industry are estimated. Direct impacts on producers of residential structures are also estimated as well as indirect impacts on firms that supply goods and services to residential housing producers. For example, concrete used to build or renovate houses results in increased production by cement producers who in turn require more raw material from quarries and sandpits.

The simulation also estimates induced impacts on consumers, businesses and governments associated with increases in incomes attributable to direct and indirect impacts.

Estimates produced by the TIM are subject to two caveats that could offset impacts projected by the model. These caveats are described as follows in the CMHC/Informetrica publication:

“Reasonably, one might expect that an exogenous shock at one point could lead to an offsetting negative shock at a later time. CMHC initiatives in the mid-1970’s, that spurred housing construction for a couple of years, were quickly followed by sharp reductions on the grounds that the market had been ‘over built’”. Similarly, these simulations do not consider directly the ‘financing’ of the exogenous shock. Arguably, this could have contemporaneous as well as lagged effects on non-housing spending.

Assuming the economy is performing at a high level, the cumulative multiplier impact of increased spending on new housing is 20% higher than the value of the initial spending and the impact of increased renovation spending is 11% higher than the value of the initial spending.” (pp. 15-16)

The contribution of a \$1 increase in spending on residential construction to Gross Domestic Product by industry is shown in Table 2.1.



Table 2.1
Contribution to Gross Domestic Product at Factor Cost
New Housing and Renovations
Incremental Spending of \$1 in Residential Construction, 1986 Prices

	New Housing	Renovations
Residential Construction	0.34	0.26
Other Construction	0.00	0.00
Non-Construction	0.33	0.36
Forestry	0.01	0.01
Wood Industry	0.05	0.06
Metal Fabricating	0.02	0.02
Cement and Clay Products	0.02	0.02
Transportation Industries	0.02	0.02
Professional Services	0.04	0.03
Wholesale Trade	0.06	0.06
Finance, Business	0.02	0.02
Other Industries	0.10	0.11
Total Economy	0.66	0.62

Source: "Macroeconomics Impacts of the Housing Sector", CMHC and Informetrica Limited, October 14, 1997.

Table 2.1 shows that GDP in the residential construction industry increases by \$0.34 for every dollar of incremental spending on new housing. That is, labour income, self-employment income and returns to capital in the residential construction industry increase by \$0.34 for every dollar of incremental spending on new housing. GDP in the renovations sector of the residential construction industry increases by \$0.26 for each dollar of incremental spending on renovations. These data show that the direct impact of new housing on the economy is substantially higher than that of the renovations sector.

The indirect impact of increased spending on residential construction on industries other than residential construction is \$0.33 for every dollar of incremental spending on new housing and \$0.36 for renovations. The Wholesale Trade, Wood and Professional Services industries that experience the largest increase in income and profits as a result of increased spending in residential construction.

The TIM model estimates the incremental employment in the construction industry resulting from a \$1 billion expenditure in residential construction to be 4,650 or about 0.5 person years per \$100,000 in expenditure. Incremental employment in the total economy resulting from \$1 billion in residential construction expenditures was estimated to be 15,350, or about 1.5 person years per \$100,000 in expenditures.

Structure of the HBR Sector

3.0 Structure of the HBR Sector

Companies in the new home building and renovation sector of the economy can be divided into two components:

- ▲ establishments primarily engaged in residential building and development; and,
- ▲ those that provide trades contracting services to residential builders and renovators.

The Statistics Canada Business Register provides information on the number of companies in the Nova Scotia Residential Building and Development and Trade Contracting industries. The Business Register uses both the Standard Industrial Classification (SIC) and North American Industrial Classification (NAICS) systems. Establishments involved in residential building and development are included in SIC code 4010. This code includes establishments involved in single-family housing (4011), other multiple housing (4012) and residential renovation (4013).

3.1 Number of Active Residential Building and Development Companies

The number of active residential building and development companies in Nova Scotia in 1998 and 1999 is shown in Table 3.1. The companies are categorized by the number of employees per company depicted in the top row. The first category of companies has 0 employees; that is, they are sole proprietors, including partnerships, with no employees.

Table 3.1
Number of Active Residential Building and Development Companies
Nova Scotia, SIC 4010

	0	1-4	5-9	10-19	20-49	50-99	100-199	Total
1998	247	641	135	67	22	6	-	1,118
1999	365	582	158	65	28	6	3	1,207
2000	463	562	147	80	38	7	2	1,299

Source: Business Register, Statistics Canada.

The exhibit shows that there were about 1,300 active residential building and development companies

in Nova Scotia in 2000, up from previous years. In total, 79% of companies had less than 5 employees. Over 43% of the companies employed one to four people while an additional 36% of the companies had no employees. The data suggests the proportion of sole proprietorships in this province is increasing (36% in 2000 versus 30% in 1999).

Very few large firms exist in this sector; only two firms with over 100 employees were active in 2000.

3.2 Number of Trade Contracting Companies

The number of trades contracting companies in Nova Scotia is illustrated Table 3.2. It is important to note that trades contracting companies work in both the residential and non-residential sectors. These companies can also be either general contractors or sub-contractors. The number of firms in 2000 was 10% more than in the previous year (3,502 versus 3,171), an increase of 10%. Similar to Table 3.1, 79% of trades contractors employed less than five employees.

Table 3.2
Trades Contractors, SIC 4200
Number of Firms by Employee Size Range
Nova Scotia

	0	1-4	5-9	10-19	20-49	50-99	100-199	200-499	Total
1998	661	1,785	306	184	108	21	7	1	3,073
1999	864	1,619	345	206	115	16	5	1	3,171
2000	1,162	1,591	359	228	132	23	5	2	3,502

Source: Business Register, Statistics Canada.

3.3 Area Breakdown of Firms in the Business Register

3.3.1 Residential Building Construction

The Business Register provides a geographical break down of the firms in residential building construction in 1999 and 2000. The North American Industry Classification System (NAICS) is used for these data. There were 1,299 firms listed in residential building construction in Nova Scotia as

defined by the NAICS system (NAICS 23121) in 2000. NAICS 23121 includes establishments involved in single family housing, other multiple housing and residential renovation. The regional breakdown of these companies is depicted in Table 3.3.

	1999		2000	
Northern	186	15.4%	194	14.9%
Central	552	45.8%	618	47.6%
Southwest	274	22.7%	288	22.2%
Cape Breton	193	16.0%	199	15.3%
Total	1,205		1,299	

Source: Business Register, Statistics Canada.

Note: Northern (Antigonish, Guysborough, Pictou, Colchester and Cumberland Counties), Central (Halifax and Hants), Southwest (Kings, Lunenburg, Annapolis, Digby, Queens, Shelburne and Yarmouth) and Cape Breton (Inverness, Richmond, Cape Breton and Victoria).

The table shows that employment in the Central area (Halifax and Hants counties) accounted for 48% of the Nova Scotia total. Slightly fewer than one-quarter of residential construction firms were located in the Southwest area while 15% were in Cape Breton and the Northern areas of the province.

3.3.2 Trade Contracting

The number of establishments in Trades Contracting as defined by NAICS in 1999 and 2000 is depicted in Table 3.4.

The table shows that the number of firms in Trades Contracting increased by 10% from 1999 to 2000. The Central area (Halifax and Hants counties) accounted for 48% of the Nova Scotia total. Approximately 25% of the firms in Trades Contracting were in the Southwest area of the province in 2000 while 14% were in the Northern area and another 13% in Cape Breton.



Table 3.4
Number of Firms in Trading Contracting Industries in Nova Scotia
NAICS 232 Codes

	1999		2000	
Northern	360	14.4%	397	14.4%
Central	1,171	47.0%	1,315	47.8%
Southwest	617	24.8%	675	24.5%
Cape Breton	344	13.8%	366	13.3%
Total	2,492		2,753	

Source: Business Register, Statistics Canada.

Some, but not all, of the firms and people employed in the Trades Contracting sub-sector are involved in residential building. Some people work part of the time in residential and non-residential building. Obtaining accurate estimates of these proportions is difficult and one of the greatest challenges for analysts in this field.

Labour Force and Employment

4.0 Labour Force and Employment

4.1 Data Sources and Systems

Chapter 3 presented data on the number of establishments in Nova Scotia in the residential building and development and trade contracting industries. This data was sourced from the Statistics Canada Business Register.

Chapter 4 provides comprehensive information on the labour force and employment by industry and occupation. This data comes from a variety of sources. A brief overview of the sources and classification systems used in this chapter is presented below.

4.1.1 Classification Systems

Data on the labour force and employment are classified in two ways – by industry and by occupation. Industry classifications group companies and enterprises according to the activities in which they are engaged. This report focuses on the residential building and development and trades contracting segments of the construction industry.

Occupational classifications group individuals according to the kind of work they perform regardless of the industry in which they work. There was earlier mention that SIC 4010 is an industry classification that includes the residential building and development sectors while trade contracting is coded as SIC 4200. Land developers (SIC 4491) are not included in SIC 4010.

The Standard Industrial Classification system (SIC) has been used in Canada to group companies and enterprises into industries for many years. The SIC system is being replaced in Canada, as well as in Mexico and the United States, by a new industry classification system called the North American Industry Classification System (NAICS). The NAICS system takes a somewhat different approach to grouping companies and enterprises than did the SIC system. Under the NAICS system, companies and enterprises using similar production processes are grouped together.

The Standard Occupation Classification system (SOC '91) is used in Canada to classify occupations according to the kind of work performed. In the SOC '91, occupation titles are classified on the basis of



the education, training or skill level required to enter the job, as well as the kind of work performed as determined by the tasks, duties and responsibilities of the occupation.

The National Occupational Classification (NOC) system classifies occupations according to a comprehensive index of 25,000 job titles. It describes duties, skills, interests, aptitudes, education requirements and work settings for occupations in the Canadian labour market.

The Government of Canada uses the Standard Occupational Classification (SOC '91) for the Census and the Labour Force Survey, and publishes data for the SOC and NOC systems. The NOC is also used for a wide variety of special surveys. For example, it is used in the study of worker mobility, technological change, administrative data and other indicators of labour market behavior. The NOC system is used by Human Resource Development Canada and is parallel to Statistics Canada's Standard Occupational Classification (SOC '91) system.

The NOC system provides a consistent description of occupational profiles that is part of a foundation for organizing effective labour market information. Governments, companies and educators use the information extensively and in many applications to plan their future needs. This system is not used in any of the information sources included in this report.

4.1.2 Information Sources

Information on the labour force and employment for individuals in Residential Building and Development and Trades Contracting comes from several of sources including:

- ▲ The Business Register
- ▲ The Census
- ▲ The Survey of Employment, Payrolls and Hours (SEPH)
- ▲ The Labour Force Survey (LFS)

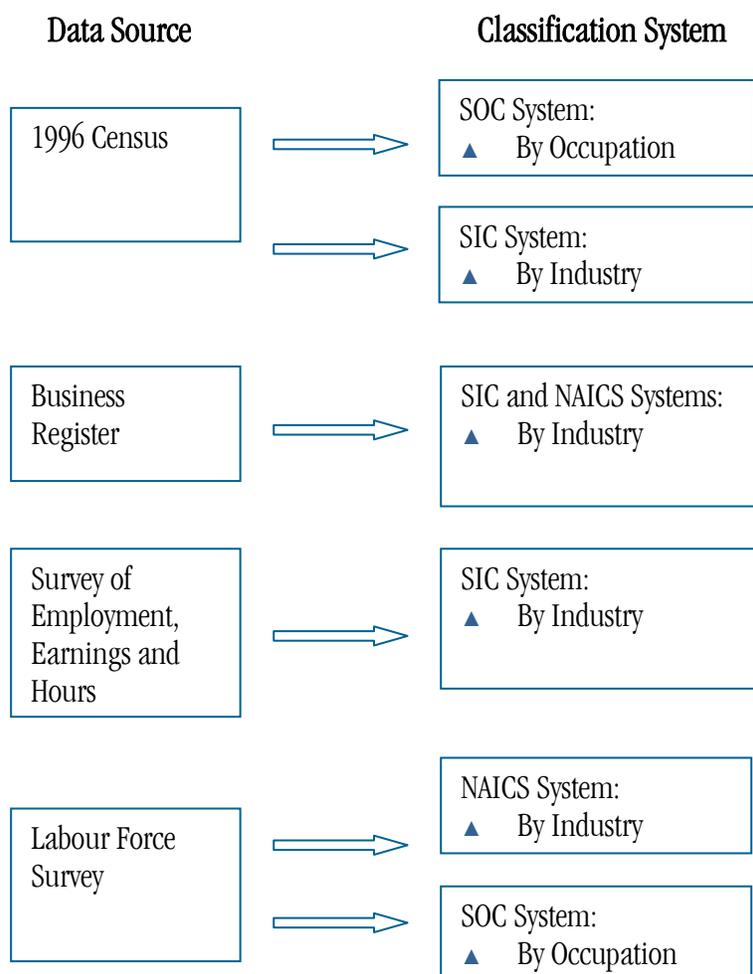
Information on the labour force and employment from these sources is classified either by industry or occupation. The Business Register and SEPH classify data by industry using the SIC and NAICS



classification systems. Eventually the NAICS system will be used exclusively by both data sources.

Data from the 1996 Census is classified by occupation and by industry. The SOC '91 system is used to classify occupational data and the SIC system is used to classify industry data. It is anticipated that the 2001 Census will use the NAICS classification system as it becomes the sole system used to classify labour force and employment data by industry in Canada. Detailed breakdowns of the labour force and employment by industry (SIC) and occupation (SOC '91) can be obtained from the 1996 Census.

A visual depiction of the relationship between data sources and classification systems is presented below.





The relationship between classification systems and data sources is illustrated in the table below. Note that the NAICS system will eventually replace the SIC system for all sources of data.

OVERVIEW OF CLASSIFICATION SYSTEMS AND DATA SOURCES				
Data Source/Classification System	SIC	NAICS	SOC	NOC
Business Register	Y	Y		
Census	Y		Y	
SEPH	Y			
Labour Force Survey		Y	Y	

4.2 The Business Register

Estimates of the number of employees in the Residential Building and Development (SIC 4010) and the Trades Contracting industries (SIC 4200) from 1998 to 2000 is presented in Table 4.1.

Table 4.1 Number of Employees Statistics Canada Business Register in Nova Scotia		
	SIC 4010	SIC 4200
Stats. Can. Bus. Reg., 1998	4,972	16,620
Stats. Can. Bus. Reg., 1999	5,730	16,570
Stats. Can. Bus. Reg., 2000	6,189	19,851

Source: Business Register, Statistics Canada.

Table 4.1 shows that the number of employees in both sectors in 2000 was significantly higher than in 1998, with those in SIC 4010 jumping by 25% and those in SIC 4200 increasing by 19%. The rise in SIC 4010 was spread over 1999 and 2000 while all of the increase in SIC 4200 occurred in 2000.

The breakdown of employees by sub-industry group within the Residential Building and Development industry in 1999 and 2000 is available from the Business Register. This breakdown for 1999 and 2000 is presented in Table 4.2.



Table 4.2
Number of Employees
Statistics Canada Business Register, SIC 4010
Nova Scotia

	1999	2000
Single Family Housing (4011)	4,972	16,620
Apartment & Other Multiple Housing (4012)	5,730	16,570
Residential Renovation (4013)	6,189	19,851
Total Residential Building and Development (4010)	5,730	6,189

Source: Business Register, Statistics Canada.

This table shows that about two-thirds of the employees were in Single Family Housing and about 28% were in Residential Renovation in 2000. Only 5% of employees were in the Apartment and Other Multiple Housing industry.

Section 2 showed that expenditures on “Improvements” (major renovations that require a building permit) are greater than those on new housing. In addition, significant expenditures are made on minor renovations. Although total expenditures on renovations exceed those on new housing, the number of employees in renovation is less than one-half of the number recorded for new housing.

Part of the explanation for this discrepancy is that homeowners supply some of the labour involved in renovations. Another reason, however, is that the underground economy is most significant in the renovations sector of the home building industry. As a result, the number of people working in the home renovations industry is significantly underestimated in the official data. This issue will be discussed in depth later in this report.

The breakdown of employment by size of establishment for Residential Building and Development establishments from 1998 to 2000 is presented in Table 4.3.



Table 4.3
Number of Employees by Employee Size Range
Residential Building and Development, SIC 4010,
Nova Scotia

	0	1-4	5-9	10-19	20-49	50-99	100-199	Total
1998	247	1,603	945	972	759	447	-	4,972
1999	365	1,455	1,106	943	966	447	449	5,730
2000	463	1,405	1,029	1,160	1,311	522	299	6,189

Source: Business Register, Statistics Canada.

The table shows that the 79% of companies with less than five employees (from Table 3.1) accounted for about 30% of the total employment (1,868 out of 6,189 in Table 4.3) in 2000. Nearly 57% of total employment was in companies in the 5-9, 10-19 and 20-49 categories (3,500 out of 6,189). Employment in each of these categories was spread fairly evenly.

It is interesting to note that although there are only a small number of companies with over 50 employees, total employment at these companies significantly exceeded employment of sole proprietors. Almost one-half of the growth in employment from 1998 to 2000 was in companies with 20-49 employees while companies with 100+ employees employed fewer people overall. Sole proprietors and companies with 10-19 employees also contributed significantly to employment growth in 2000.

The number of employees in the Trades Contracting sector in 1998, 1999 and 2000 is presented in Table 4.4.

Table 4.4
Number of Employees by Employee Size Range
Trades Contractors, SIC 4200, Nova Scotia

	0	1-4	5-9	10-19	20-49	50-99	100-199	200-499	Total
1998	661	4,462	2,142	2,668	2,726	1,565	1,047	350	16,620
1999	864	4,048	2,415	2,987	3,968	1,192	748	350	16,570
2000	2,340	3,978	2,513	3,306	4,554	1,714	748	699	19,851

Source: Business Register, Statistics Canada.

Firms with less than five employees accounted for nearly one-third of the employees in 2000 (6,318 of

the 19,851). Growth in sole proprietorships has outpaced employment in all other groups.

4.3 The Census – Labour Force

The labour force by industry division is available from the Census. The latest estimate is from the 1996 Census. Census data on Residential Building and Development (SIC 4010) and Trades Contracting (SIC 4200) in Nova Scotia are presented in Table 4.5.

Table 4.5
Labour Force in Nova Scotia, SIC 4010 & 4200

SIC 4010 (Residential Building and Development)	5,025
SIC 4200 (Trade Contracting Industries)	16,140

Source: 1996 Census.

These data indicate that approximately 5,000 Nova Scotians were in the Residential Building and Development industry labour force in 1996. An additional 16,140 individuals were in the Trades Contracting industry. It is important to note that no information exists on how many individuals in the Trades Contracting industry worked in residential construction or what proportion of their work was in this industry.

A comparison of data from the Business Register and the Census is provided in Table 4.6.

Table 4.6
Comparison of 1996 Census and Statistics Canada Business Register
Labour Force, Nova Scotia

	SIC Code 4010	SIC 4200
1996 Census, L.F. > 15 yr.	5,025	16,140
Business Register, 1998	4,972	16,620
Business Register, 1999	5,730	16,570
Business Register, 2000	6,189	19,851

Source: 1996 Census and the Business Register, Statistics Canada.

The estimates provide a measure of confidence that employment in Residential Building and



Development industry of Nova Scotia (SIC code 4010) was about 5,000 from 1996-1998 while employment in Trades Contracting (SIC code 4200) was in the 16,000 range.

4.4 The Survey of Employment, Payrolls and Hours - Employment

The Survey of Employment, Payrolls and Hours (SEPH) conducted by Statistics Canada provides monthly employment data by industry as defined in the SIC system. Yearly employment levels can be estimated from SEPH data by calculating average monthly employment. Yearly employment in SIC 4010 (Residential Building and Development) was about 2,500 to 2,600 (ranging from 2,498 in 1998 to 2,537 in 1999 and 2,575 in 2000).

There appears to be an inconsistency between employment of about 2,600 estimated from the Survey of Employment, Payrolls and Hours (SEPH) and estimates from the 1996 Census and the Statistics Canada Business Register. The Business Register and the Census both show a labour force of about 5,000 for 1998 while employment in the SEPH is about 2,500.

Part of the discrepancy is explained by differences in the scope of the data. The Business Register includes owners of unincorporated companies and self-employed individuals who record sales subject to the HST. The Census includes all individuals who report that they are part of the labour force of the Residential Building and Development industry (SIC 4010) at the date the Census was completed. Self-employed individuals and owners of unincorporated businesses are included in both the Business Register and the Census but not in the SEPH.

4.5 The Number of Employees by Area

The break down of employment in residential building construction within Nova Scotia in 1999 and 2000 is presented in Table 4.7.



Table 4.7
Employment in Residential Building Construction in Nova Scotia
NAICS 23121

	1999		2000	
Northern	702	12.3%	795	12.8%
Central	2,765	48.3%	3,055	49.4%
Southwest	1,405	24.5%	1,435	23.2%
Cape Breton	856	14.9%	905	14.6%
Total	5,727		6,189	

Source: Statistics Canada Business Register.

The table shows that employment in the Central area (Halifax and Hants counties) was 3,055, accounting for 49% of the Nova Scotia total. Approximately one-quarter of residential construction employment was in the Southwest area of the province, while 15% was in Cape Breton and 13% was in the Northern area. The distribution of employment is consistent with the geographical distribution of firms as defined by NAICS 23121 (from Table 3.3).

The break down of employment in Trades Contracting within Nova Scotia in 1999 and 2000 is depicted in Table 4.8.

Table 4.8
Employment in Trade Contracting Industries in Nova Scotia
NAICS 232

	1999		2000	
Northern	1,416	11.5%	1,583	11.2%
Central	7,106	57.6%	8,397	59.5%
Southwest	2,205	17.9%	2,442	17.3%
Cape Breton	1,607	13.0%	1,693	12.0%
Total	12,334		14,114	

Source: Statistics Canada Business Register.

The table shows that employment in Trades Contracting in the Central area (Halifax and Hants counties) was nearly 8,400, accounting for 59% of the Nova Scotia total. Approximately 17% of employment in Trades Contracting was in the Southwest area of the province in 2000, and another 12%

was in Cape Breton and 11% in the northern area. The distribution of employment in NAICS 232 is more heavily concentrated in the Central and Southwest areas when compared with the distribution of firms (as shown in Table 3.4).

The geographical distribution of employment in 1999 and 2000 by detailed industry division is presented in Table 4.9.

Table 4.8
Employment in the Nova Scotia Construction Industry
NAICS 231210 and 232, 1999 and 2000

	Total NS	Year 2000			
		Cape Breton	Southwest	Central	Northern
231210 – Residential Building Construction	6,189	15%	23%	49%	13%
232210 – Forming Work	341	6%	2%	82%	10%
232220 – Concrete Pouring and Finishing Work	565	21%	15%	49%	15%
232250 – Framing and Rough Carpentry Work	186	10%	25%	44%	21%
232290 – Other Building Structure Work	102	10%	41%	42%	7%
232310 – Masonry Work	945	9%	28%	52%	10%
232320 – Glass and Glazing Work	105	23%	10%	61%	6%
232330 – Roofing and Related Work	641	10%	15%	65%	10%
232340 – Metallic and Other Siding Work	237	41%	10%	34%	15%
232390 – Other Building Exterior Finishing Work	30	0%	8%	88%	3%
232410 – Drywall and Plaster Work	582	9%	14%	70%	7%
232420 – Terrazzo and Tile Work	211	10%	3%	86%	0%
232430 – Carpet and Resilient Flooring Work	362	2%	8%	87%	3%
232440 – Insulation Work	188	7%	8%	80%	6%
232450 – Building Painting and Paperhanging Work	940	12%	16%	65%	8%
232460 – Finish Carpentry and Wood Flooring Work	1,460	16%	33%	39%	11%
232490 – Other Building Interior Finishing Work	33	0%	15%	74%	11%
232510 – Electrical Work	2,999	12%	17%	54%	17%
232520 – Plumbing, Heating and Air-Conditioning Installation	2,927	14%	14%	61%	11%
232530 – Automatic Sprinkler System Installation	130	13%	13%	42%	32%
232550 – Elevator and Escalator Installation	115	2%	0%	96%	2%
232910 – Fencing and Interlocking Stone Contracting	95	8%	9%	75%	7%



232920 – Residential and Commercial Paving Contracting	322	4%	35%	59%	2%
232990 – All Other Special Trade Contracting	627	2%	3%	91%	2%
Year 2000: Totals (231 and 232 series)	20,327	2,597	3,877	11,451	2,378
% of Total		13%	19%	56%	12%
Year 2000: Totals (232 series only)	14,139	1,693	2,442	8,397	1,583
% of Total		12%	17%	59%	11%
Year 1999: Totals (231 and 232 series)	18,081	2,462	3,610	9,871	2,118
Year 1999: Trades Total (232 series only)	12,351	1,607	2,205	7,106	1,416

Note: Small differences occur between the sum of the area totals and the total for Nova Scotia.

Source: Statistics Canada Business Register.

The distribution of trades across the various areas for Series 231 and 232 are very similar. The table also shows that the Central area accounts for 56% of employment and that there are substantial differences in the proportion of individual trades accounted for by each area. For example, the Central area accounts for nearly all of the trades in Elevator and Escalator Installation yet only 34% of Metallic and Other Siding Work trades.

4.6 Employment by Industry and Occupation

4.6.1 Introduction

This section of the report combines data by industry classified by the SIC system and the data by occupation classified by the SOC '91 system. Section 4.6.2 examines the occupational make-up of the Residential Building and Development (SIC 4010) industry segment in 1996. Section 4.6.3 focuses on selected occupations in the Trades, Transport and Equipment group of SOC '91 and documents the number of individuals in each occupation that worked in selected industry segments in 1996.

4.6.2 Occupational Profile of Residential Building and Development (SIC 4010)

The occupational profile of Residential Building and Development (SIC 4010) in 1996 is presented in Table 4.10.



Table 4.10
Occupational Profile of the Residential Building and Development Industry
Major Occupational Group in Nova Scotia
SIC 4010

A	Management occupations	735	13.5%
B	Business, finance and administrative occupations	400	7.3%
C	Natural and applied sciences and related occupations	50	0.9%
E	Occupations in social science, government service, etc.	10	0.2%
G	Sales and service occupations	80	1.5%
H	Trades, transport and equipment operators	4,045	74.2%
I	Occupations unique to primary industry	55	1.0%
J	Occupations unique to processing	75	1.4%
Total		5,450	100.0%

Note: The total in this table is the Census population of individuals in SIC 4010 and is higher than the Census labour force of 5,025.
Source: 1996 Census.

The table shows that three-quarters of the individuals who indicated in the 1996 Census that they worked in the Residential Building and Development industry were in the Trades, Transport and Equipment Operators Occupational Group (Major Occupational Group H of the SOC '91 system). Management occupations accounted for 13.5% of Census respondents, while Business, Finance and Administrative occupations accounted for 7.3%. In total, these three occupational groups accounted for 95% of Census respondents who indicated that they were in the Residential Building and Development labour force. The remaining 5% of respondents were spread fairly evenly among the remaining five major groups.

An overview of each occupation listed in Table 4.10 is presented below and a detailed breakdown of occupations within each group is presented in a Technical Report.

Management Occupations

About 95% of the 735 individuals who identified Management as their broad occupational category were in three sub-groups: Residential Home Builders and Renovators (355), Construction Managers (300) and Senior Managers (50).



Business, Finance and Administrative Occupations

Four sub-groups accounted for about three-quarters of the 400 individuals who identified occupations in business, finance or administration. Bookkeepers (90) and Secretaries (85) had the greatest number of individuals followed by General Office Clerks (70) and Accounting Clerks (60). A variety of other occupations such as Administrative Officers (20), Property Administrators (15), Human Resource officials (10), Clerical Supervisors (15) and a variety of Clerks (40) were also in this group.

Occupations in Applied Sciences, Social Sciences and Education

Approximately 60 individuals were in two major occupational groups - Natural and Applied Sciences and Related Occupations and Occupations in Social Science, Government Service etc. Two sub-groups, Civil Engineers (20) and Civil Engineering Technicians and Construction Estimators (15) accounted for the majority of individuals in these occupations.

Sales and Service Occupations

Individuals in Janitorial and Caretaker sub-groups (50) accounted for the majority of 80 people in Sales and Service occupations.

Trades, Transport and Equipment Operators

Carpenters (2,210) accounted for about 55% of the Major Group Trades, Transport and Equipment Operators. Carpentry Supervisors (225) added another 6%. Construction Trades Helpers and Labourers (825) were the second largest occupation group accounting for about 20% of this group.

An additional 55 individuals in residential building and development (SIC 4010) indicated they were in SOC '91 Major Group I, occupations unique to primary industry, while 70 individuals were in Major Group J, occupations unique to processing and manufacturing. Primary production labourers and welders were the largest occupational groups within these Major Groups.



4.6.3 Industry Participation of Trades, Transport and Equipment Operators

Occupations of particular interest to this study are in broad occupational category Trades, Transport and Equipment Operators and Related Occupations of SOC '91. Individuals in this occupational group work in a wide variety of industries, including Residential Building and Development (SIC 4010). Occupations in this broad occupational category are primarily concerned with contracting, supervising and doing trades work; and supervising and operating transportation equipment and heavy equipment.

Occupations of special interest are:

- ▲ Contractors and Supervisors, Electrical Trades and Telecommunications Occupations, including such occupations as Electrical Contractor and Electrical Foreman / Woman, Construction.
- ▲ Contractors and Supervisors, Pipefitting Trades, including occupations such as Plumbing Contractors.
- ▲ Contractors and Supervisors, Carpentry Trades.
- ▲ Contractors and Supervisors, Other Construction Trades, Installers, Repairers and Servicers, containing occupations primarily concerned with supervising bricklayers and stone masons, roofers, cement finishers, tile setters, lathers, plasterers, drywall installers and finishers, glaziers, heat and frost insulators, painters and decorators, floor covering installers and other installers, repairers and servicers.
- ▲ Construction trades occupations of carpentry, plumbing, pipefitting, masonry, plastering, cement finishing, tile setting, roofing, glazing, painting, insulating and installing floorcovering.
- ▲ Electrical trades including Stationary Engineers, Power Station Operators and Electrical Trades and Telecommunications Occupations.
- ▲ Trades helpers, construction, and transportation labourers and related occupations. This occupational category includes Construction Trades Helpers and Labourers and contains occupations primarily concerned with assisting skilled trades persons and performing manual work at construction sites.

Individuals in Trades, Transport and Equipment Operators occupations work in the Building, Developing and General Contracting and Trade Contracting industries and in a group terms as Other Industries. The industry breakdown for selected occupations within this broad occupational group is presented in Table 4.11.

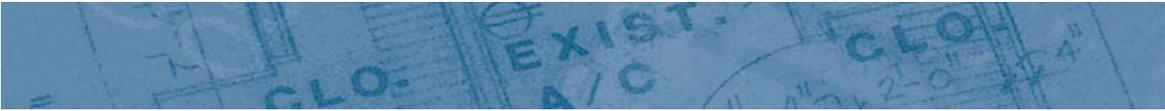
Table 4.11
Industry Participation for Selected Occupations
Occupation Group H, SOC '91
Trades, Transport and Equipment Operators, Nova Scotia, 1996

	Major Group 40 Bldg., Dev. & Gen. Contr.	Major Group 42 Trade Contr.	Other Industries	All industries
H012 Contractors and Supervisors, Electrical	0	210	180	390
H015 Contractors and Supervisors, Carpentry Trades	250	180	160	590
H019 Contractors and supervisors, Other Const. Trades	50	385	110	545
H111 Plumbers	10	655	260	925
H112 Steamfitters, Pipefitters and Sprinkler System Installers	10	125	435	570
H121 Carpenters	2,370	2,230	1,585	6,185
H122 Cabinetmakers	20	125	175	320
H131 Bricklayers	25	365	60	450
H132 Cement Finishers	30	95	60	185
H134 Plasterers, Drywall	40	360	25	425
H141 Roofers and Shinglers	65	385	45	495
H144 Painters and Decorators	80	715	390	1185
H211 Electricians	30	880	300	1210
H413 Refrigeration/ Air Cond.	0	120	160	280
H418 Elevator Mechanics	0	65	5	70
H523 Other Trades	0	10	130	140
H531 Residential and Commercial Installers	75	270	150	495
H623 Water Well Drillers	0	80	0	80
H821 Construction Labourers	935	1425	1865	4225
Totals	4,010	9,240	6,425	19,675

Note: There are some discrepancies in the Census Canada data on the number of individuals by occupation and industry. For this reason, some data in Table 4.11 conflicts with data in Table 4.12 shown later in this section. For example, Table 4.11 reports 2,370 carpenters while 4.12 reports 2,520.

Source: 1996 Census.

Table 4.11 shows that there were almost 20,000 people in the selected occupations recorded in the 1996



Census. Approximately 20% of these individuals indicated that they worked in the Building, Developing and General Contracting industry. The Trades Contracting industry employed 47%, more than twice as many as in the Building, Developing and General Contracting industry. One-third of individuals in Trades Occupations worked in industries other than Building, Developing and General Contracting and Trades Contracting.

Carpenters are the largest occupational group in Trades occupations, accounting for almost one-third of individuals in the occupations profiled in Table 4.11. Carpenters were spread fairly evenly between the Building, Developing and General Contracting industry (38%), Trades Contracting (36%) and Other Industries (26%).

Construction Labourers are the second most numerous Trades occupation, accounting for 21% of individuals in the occupations identified in Table 4.11. Over three-quarters of Construction Labourers worked outside the Building, Developing and General Contracting industry.

Only a minority of the individuals in Other Trades Occupations identified the Building, Developing and General Contracting industry as their main employment base. Focusing on the most important occupations, 2% of Electricians, 7% of Painters and 1% of Plumbers indicated that the Building, Developing and General Contracting industry was their main employment base.

Table 4.12 provides a breakdown by occupation between Residential Building and Development (SIC 4010) and Non-Residential Building and Development (SIC 402) in 1996.



Table 4.12
Participation by Industry Division,
Selected Occupations in Occupation Group H
Trades, Transport and Equipment Operators in Nova Scotia, SIC 40, 1996

	Major Group 40 Bldg, Dev & Gen Contr.	4010 Res Bldg & Dev	402 Non-Res Bldg & Dev
H012 Contractors and Supervisors, Electrical	10	10	0
H015 Contractors and Supervisors, Carpentry Trades	255	225	30
H019 Contractors and supervisors, Other Const. Trades	55	25	25
H111 Plumbers	10	10	0
H112 Steamfitters, Pipefitters and Sprinkler System Installers	15	10	10
H121 Carpenters	2,520	2,210	310
H122 Cabinetmakers	25	15	0
H131 Bricklayers	25	25	0
H132 Cement Finishers	30	15	10
H134 Plasterers, Drywall	50	50	0
H141 Roofers and Shinglers	65	65	0
H144 Painters and Decorators	100	75	20
H211 Electricians	30	30	0
H821 Construction Labourers	1,105	825	280

Note: There are some discrepancies in the Census Canada data on the number of individuals by occupation and industry. For this reason, some data in Table 4.11 conflicts with data in Table 4.12.

Source: 1996 Census.

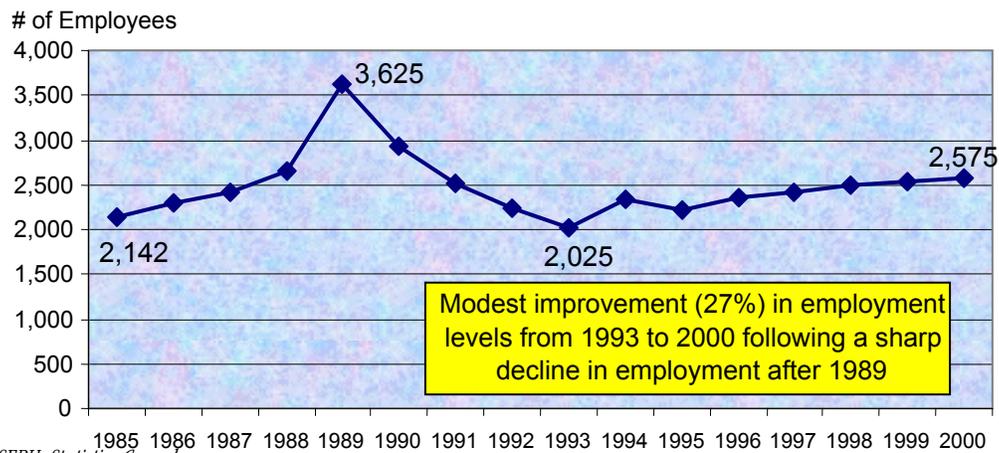
Table 4.12 shows that 84% of selected trades occupations in the Building, Developing and General Contracting industry indicated that Residential Building and Development was their main employment base. The proportion of Carpenters was slightly higher than average at 88% while the proportion of Construction Labourers was somewhat lower at 75%.

4.7 Employment and Unemployment

Data on the number of employees by month in the residential building and development industry are contained in the Survey of Employment, Payrolls and Hours (SEPH, Statistics Canada, CANSIM Matrix 4327).

Yearly employee levels can be estimated from SEPH data by calculating average monthly employment. The average annual number of employees from 1985 to 2000 is presented in Exhibit 4.1.

Exhibit 4.1: Estimated Annual Number of Employees in Residential Building and Development (SIC 4010), Nova Scotia, 1985 - 2000



Source: SEPH, Statistics Canada.

The exhibit shows that average monthly employment declined sharply after 1989 and then recovered slightly to about 2,575 in 2000. These data are consistent with the GDP data that show a decline in the real value of residential construction in the early part of the 1990's with a recovery after 1993.

The annual average labour force, employment and unemployment for Trades, Transport and Equipment Operators, Major Group H of the SOC '91, is available from the Labour Force Survey. This group was chosen because it contains 74% of the Residential Building and Development (SIC 4010) labour force (from Table 4.10).

These averages are presented in Table 4.13.



Table 4.13
Annual Averages for Major Group H
Trades, Transport and Equipment Operators in Nova Scotia

	Labour Force (D989811)	Employment (D989821)	Derived Unemployment	Unemployment Rate
1987	71,400	60,700	10,700	15.0%
1988	71,700	62,100	9,600	13.4%
1989	71,800	62,600	9,200	12.8%
1990	72,500	62,500	10,000	13.8%
1991	70,800	58,900	11,900	16.8%
1992	64,100	53,300	10,800	16.8%
1993	64,600	53,000	11,600	18.0%
1994	65,400	54,100	11,300	17.3%
1995	66,900	56,000	10,900	16.3%
1996	63,500	53,900	9,600	15.1%
1997	67,200	57,300	9,900	14.7%
1998	67,000	58,900	8,100	12.1%
1999	69,000	61,200	7,800	11.3%
2000	69,000	61,200	7,800	11.3%

Note: Unemployment is derived by subtracting employment from the labour force.

Source: Labour Force Survey, CANSIM Matrix 3475, Statistics Canada.

This table shows that the labour force in Trades and Related Occupations declined from 72,500 in 1990 to the 63,000 to 65,000 range in the early 1990's. The unemployment rate increased from about 14% in 1990 to 18% in 1993. The labour force increased to 69,000 in 1999 and 2000 while the unemployment rate fell to 11.3%, the lowest level recorded over the 1987 to 2000 period.

The 1996 Census provides labour market information on the Residential Building and Development industry (SIC 4010). This information is presented in Table 4.14.



Table 4.14
Labour Force Activity
Residential Building and Development industry (SIC 4010)
Nova Scotia, 1996 Census

Total Labour Force	5,020	92.0%
Employed	3,820	70.0%
Unemployed	1,200	22.0%
Not in the Labour Force	435	8.0%
Population Sub-Total	5,455	100.0%

Source: 1996 Census.

The table shows that 8% of respondents who indicated that they were part of the Residential Building and Development industry (SIC 4010) indicated that they were not actively seeking work. The unemployment rate among respondents who indicated that they were not in the labour force was 22%.

The 1996 Census also provides detailed data on labour force activity by occupation. Table 4.15 provides information for selected occupations in Major Group H of the SOC '91 (Trades, Transport and Equipment Operators).



Table 4.15
Labour Force Characteristics for Nova Scotia,
Selected Occupations, Trades, Transport and Equipment Operators (SOC '91), 1996

	Employed	Unemployed	Not in Labour Force	Totals
H012 Contractors & supervisors, electrical trades	355	30	10	385
H015 Contractors & supervisors, carpentry trades	495	90	15	585
H019 Contractors & supervisors, other const. trades	475	70	55	545
H111 Plumbers	755	170	60	925
H112 Pipefitters and sprinkler system installers	440	135	65	575
H121 Carpenters	4,765	1,425	460	6,190
H122 Cabinetmakers	275	45	20	320
H131 Bricklayers	315	135	20	450
H132 Cement finishers	125	55	0	180
H133 Tilesetters	95	20	0	115
H134 Plasterers, drywall installers	320	100	35	420
H141 Roofers and shinglers	345	150	40	495
H142 Glaziers	145	0	0	145
H143 Insulators	180	40	20	220
H144 Painters and decorators	865	315	225	1,180
H145 Floor covering installers	380	65	15	445
H211 Electricians	925	285	85	1,210
H413 Refrigeration & air conditioning mechanics	250	30	20	280
H418 Elevator mechanics	60	0	0	60
H523 Other trades	125	10	0	135
H531 Residential and commercial installers	370	125	45	495
H821 Construction trades labourers	2,690	1,525	560	4,215
Totals	14,750	4,820	1,750	19,570

Source: 1996 Census.

The table shows that the total labour force for the selected occupations was 19,750 with 4,820, or 24.6%, unemployed. Approximately 9% of those in Trades Occupations indicated that they were not in the labour force.

Unemployment rates for selected trades within this overall total are presented in Table 4.16.



Table 4.16
Unemployment Rates in Nova Scotia, Selected Occupations
Trades, Transport and Equipment Operators
Major Group H, SOC '91, 1996 Census

H012 Contractors and supervisors, electrical trades	7.8%
H019 Contractors and supervisors, other const. trades	12.8%
H122 Cabinetmakers	14.1%
H015 Contractors and supervisors, carpentry trades	15.4%
H111 Plumbers	18.4%
H121 Carpenters	23.0%
H211 Electricians	23.6%
H134 Plasterers, drywall installers	23.8%
H144 Painters and decorators	26.7%
H131 Bricklayers	30.0%
H141 Roofers and shinglers	30.3%
H132 Cement finishers	30.6%
H821 Construction trades helpers and labourers	36.2%

Source: 1996 Census.

The table shows that there was considerable variation in unemployment rates. The rates ranged from 7.8% for Electrical Contractors and supervisors to 36.2% for Construction Labourers.

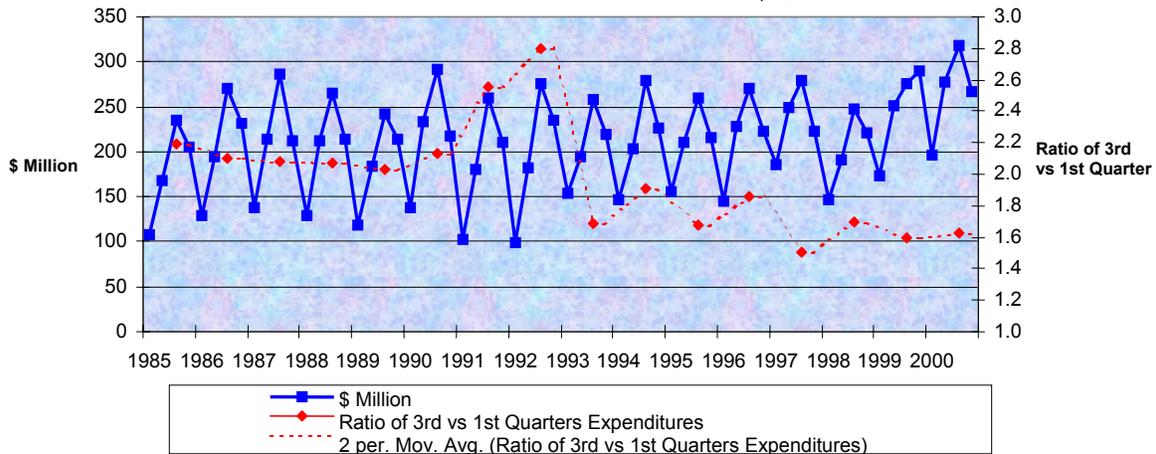
4.8 Seasonality and Attachment to the Labour Force

Exhibit 4.2 illustrates the seasonality in residential construction spending.

The exhibit shows that spending generally peaks in July and then reaches a low point in the first quarter of each year. There was less seasonality after 1993. For example, spending in July 2000 was only 1.6 times higher than in January 2000 compared to 2.1 times higher in 1990.



Exhibit 4.2: Ratio of Quarterly Total Capital Expenditures on Residential Construction in Nova Scotia, 1985-2000

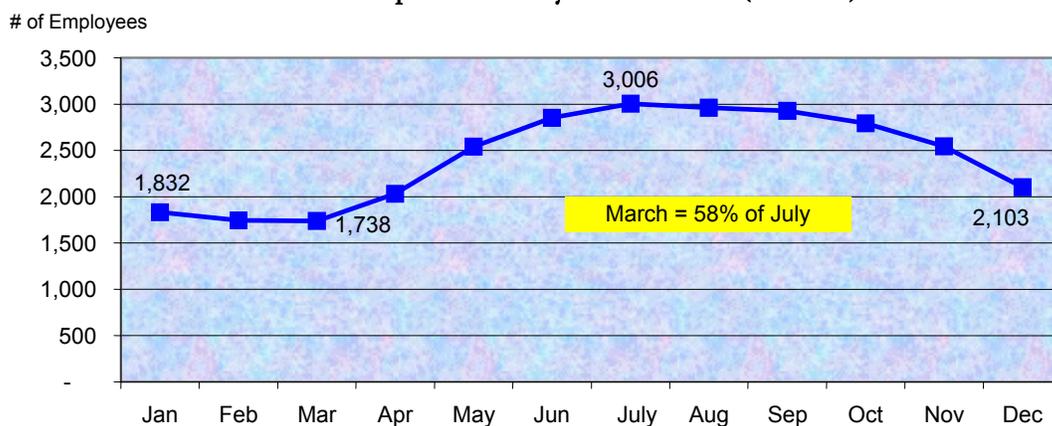


Source: CANSIM Matrix 441-D849343 (Capital Expenditures on Residential Construction), Statistics Canada.

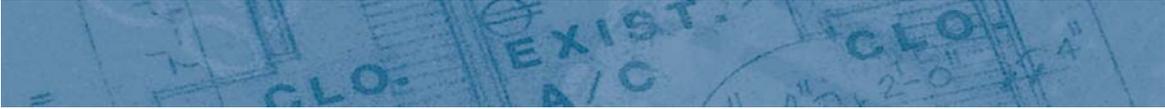
The seasonal variation in employment in the residential building and development industry can be determined from the monthly data contained in the Survey of Employment, Payrolls and Hours.

Seasonality is illustrated in Exhibit 4.3. The exhibit shows average employment by month from 1990 to 2000.

Exhibit 4.3: Average Monthly Employment, Residential Building and Development Industry in Nova Scotia (SIC 4010)



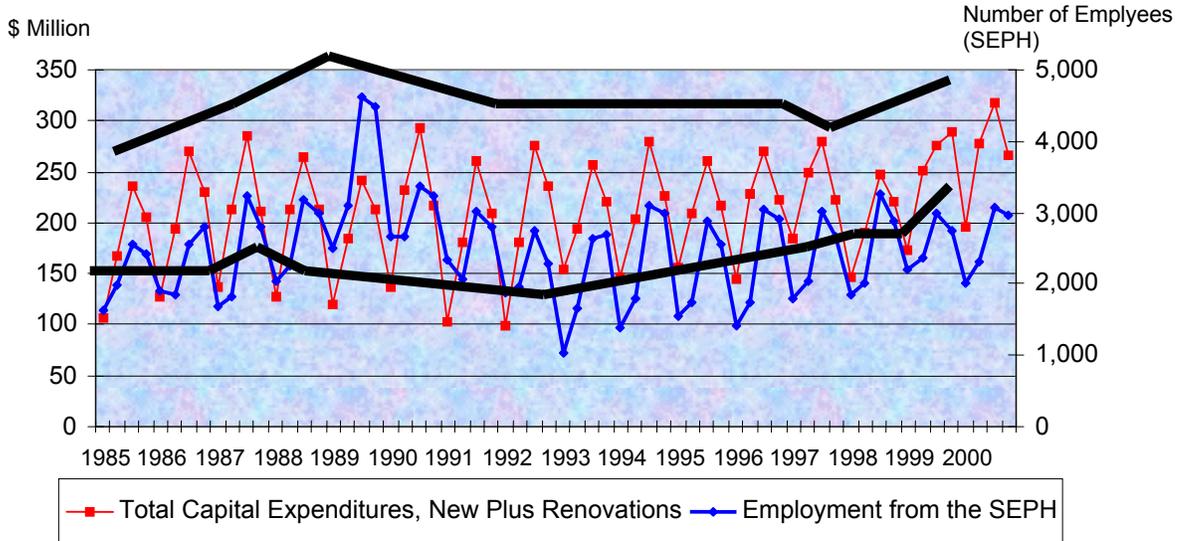
Source: CANSIM Matrix 4327 (Survey of Employment, Payroll and Hours), Statistics Canada.



The exhibit demonstrates that employment in the January to March period was generally in the 1,700 to 1,800 range. Employment then increased to about 2,000 in April and 2,500 in May. Employment jumped to over 3,000 in July and August and declined thereafter to about 2,500 in November and 2,100 in December. The monthly dispersion of employment in 2000 was very similar to the average dispersion experienced over the entire 1990 to 2000 period.

A comparison of seasonality in expenditures in Home Building and Renovations (CANSIM 441-D849343) and employment (SEPH - CANSIM Matrix 4327) is illustrated in Exhibit 4.4. Both data sources show a very similar pattern of seasonality. The dark border lines illustrate a finding presented in Exhibit 4.2. Aside from a slight increase in seasonality during the last quarters of 1999 and the first quarter in 2000, there is generally less seasonality after 1993 as demonstrated by the narrowing of the band in the graph.

Exhibit 4.4: Comparison of the Seasonality in Residential Construction Spending and Employment



Source: *Expenditures in Home Building and Renovations (CANSIM 441-D849343) and employment (SEPH - CANSIM Matrix 4327), Statistics Canada.*

The 1996 Census also provides data on seasonal work activity by occupation for 1995. Table 4.17 provides information for the nine largest occupations in Major Group H of the SOC '91 (Trades, Transport and Equipment Operators).

Table 4.17
Total Work Activity by Detailed Occupation, 1995 (1996 Census)
Top Ten Trades in Nova Scotia

	26 Weeks or Less	>26 Weeks	Av. Weeks Worked
H015 Contractors & supervisors, carpentry trades	145	450	38.1
H019 Contractors & supervisors, other trades	220	330	32.6
H111 Plumbers	235	725	38.8
H112 Pipefitters and sprinkler system installers	180	445	37.5
H121 Carpenters	2,790	3,600	30.9
H141 Roofers and shinglers	285	215	26.4
H144 Painters and decorators	730	620	27.4
H211 Electricians	395	845	36.2
H531 Residential and commercial installers	465	65	33.9
H821 Construction trades labourers	2,570	1,910	26.1

Source: 1996 Census.

Approximately 45% of the individuals in the nine occupations indicated that they worked 26 weeks or less in 1995 while 55% worked more than 26 weeks. There was considerable variation among the occupations in terms of the number of weeks worked per year. For example, 76% of plumbers and carpentry contractors and supervisors worked more than 26 weeks while 57% of construction labourers and 54% of painters worked 26 weeks or less.

On average, individuals in the above occupations worked 33.7 weeks per year in 1995. Some occupations worked close to 40 weeks per year on average while others worked only about one-half of the year.

The 1996 Census also provides data on the number of hours worked by occupation in a reference week. Table 4.18 provides information for selected occupations in Major Group H of the SOC '91 (Trades, Transport and Equipment Operators).

The table shows that the average number of hours worked for individuals in Major Group H of the SOC

'91 (Trades, Transport and Equipment Operators) was 41.3. About 87% of workers worked more than 30 hours per week and would be classified as full-time while 13% worked less than 30 hours and were part-time.

Table 4.18
Hours Worked by Detailed Occupation
Top Ten Trades and Total All Trades in Nova Scotia, 1996 Census

	<30 Hours (Part Time)	30 Hrs or More (Full- Time)	Average Hours Worked
H015 Contractors & supervisors, carpentry trades	10	470	46.4
H019 Contractors & supervisors, other const. trades	70	365	42.1
H111 Plumbers	70	645	39.0
H112 Pipefitters and sprinkler system installers	-	400	43.4
H121 Carpenters	585	3,960	40.6
H141 Roofers and shinglers	90	225	35.0
H144 Painters and decorators	95	700	37.9
H211 Electricians	95	795	39.0
H531 Residential and commercial installers	45	320	40.4
H821 Construction trades helpers and labourers	450	2,075	40.3
Totals	1,805	12,200	41.3

Source: 1996 Census.

Most of the individuals employed in the larger occupations worked about 40 hours per week.

4.9 Employment Status

Table 4.19 provides Census data for selected occupations in Major Group H of the SOC '91 (Trades, Transport and Equipment Operators). Note that individuals in Major Group H of SOC '91 work in a wide variety of industries, including Residential Building and Development (SIC 4010).



Table 4.19
Employment Status by Detailed Occupation (1995),
Major Group H in Nova Scotia

	Employees	Self-Employed (Incorporated)	Self-Employed (Unincorporated)
H012 Contractors, electrical trades	305	25	60
H015 Contractors, carpentry trades	435	30	120
H019 Contractors, other const. trades	360	30	155
H111 Plumbers	740	40	140
H112 Pipefitters and sprinkler system installers	570	0	0
H121 Carpenters	4,835	245	1,080
H122 Cabinetmakers	225	25	70
H131 Bricklayers	345	0	100
H132 Cement finishers	175	0	10
H133 Tilesetters	70	15	30
H134 Plasterers, drywall installers	300	10	115
H141 Roofers and shinglers	430	0	60
H142 Glaziers	125	10	15
H143 Insulators	195	0	20
H144 Painters and decorators	905	35	235
H145 Floor covering installers	255	35	150
H211 Electricians	1,055	30	125
H413 Refrigeration and air conditioning mechanics	260	10	10
H418 Elevator constructors and mechanics	70	0	0
H523 Other trades and related occupations	75	10	50
H531 Residential & Commercial Installers	425	0	75
H821 Construction trades helpers and labourers	3,990	70	140
Totals	16,125	630	2,760

Source: 1996 Census.

The table shows that 83% of individuals in Major Group H of the SOC '91 (Trades, Transport and Equipment Operators) indicated that they were employees while 14% indicated that they were self-employed. About 81% of the self-employed were unincorporated and 19% were incorporated.



Once again, there was considerable variation in the proportion of individuals identified as employees versus self-employed. About 95% of construction labourers were employees compared to 87% of electricians, 78% of carpenters and 76% of painters.

The Census data also show the number of self-employed tradesmen that had paid help. About two-thirds of incorporated self-employed individuals in Major Group H had paid help while about 40% of unincorporated self-employed individuals had paid help.

The 1996 Census also provides data on the employment status for individuals who indicated that they were part of the Residential Building and Development industry (SIC 4010). These data are presented in Table 4.20.

Table 4.20
Employment Status by Detailed Occupation (1995)
Residential Building and Development Industry (SIC 4010)
in Nova Scotia

Employees:	4,200	77.0%
Self-employed (incorporated)	440	8.1%
▲ Without paid help	120	2.2%
▲ With paid help	320	5.9%
Self-Employed (Unincorporated):	790	14.5%
▲ Without paid help	480	8.8%
▲ With paid help	310	5.7%
Unpaid family worker	25	0.5%
Sub-Total	5,455	100.0%

Source: 1996 Census.

The table shows that 77% of individuals in the Residential Building and Development Industry (SIC 4010) indicated that they were employees while 22.6% indicated that they were self-employed. About 64% of the self-employed were unincorporated and 36% were incorporated.

4.10 Incidence of Sub-Contracting

The incidence of sub-contracting by work activity in residential construction in Atlantic Canada is

available from a labour study completed for the Canadian Home Builders Association. This information is provided in Table 4.21.

Table 4.21
Percentage of Individual Work Activities Subcontracted
by Builders and Renovators in Atlantic Canada

Work Activity	% Subcontracted
Excavation	100
Footings	69
Foundation:	
▲ concrete	82
▲ wood	31
▲ foam blocks	36
▲ conc. Blocks	100
Damproofing	46
Weeping tile	40
Concrete floor	89
Framing	19
Roof shingles	43
Doors & windows	14
Siding:	
▲ metal	47
▲ vinyl	10
▲ wood	11
▲ brick	92
▲ stucco	92
Stairs	20
Plumbing	97
Heating	97
Ventilation	91
Electrical	89
Insulation	49
Air/vapour barrier	38
Drywall	75
Drywall finishing	88
Finish carpentry	23
Fireplace	93
Cabinets	74



Wall finish:	
▲ painting	75
▲ ceramic	85
▲ paneling	28
▲ wallpaper	96
Ceiling finish:	
▲ paint	74
▲ stucco	90
Floor finish:	
▲ carpet	100
▲ hardwood	51
▲ sheet goods	86
▲ ceramic	84
▲ tile	87

Source: CHBA Labour Study

The exhibit shows that only 10%-11% of wood and vinyl siding work activities are sub-contracted. Other activities, mostly completed by homebuilders and renovators, include: framing, building stairs and doors, installing windows and finish carpentry. Only 14% to 23% of these work activities are sub-contracted. About three-quarters of work activities associated with building cabinets, painting and drywall are sub-contracted. Most electrical work (89%) is sub-contracted as is plumbing (97%), heating (97%) and excavation.

Characteristics of Human Resources

5.0 Characteristics of Human Resources

The 1996 Census provides data on the characteristics of human resources in residential construction. A number of these characteristics are presented in Section 5 including:

- ▲ Age Profile;
- ▲ Highest Level of Schooling;
- ▲ Major Field of Study;
- ▲ Mobility Status;
- ▲ Employment Income; and
- ▲ Visible Minorities and Gender.

Sections 5.1 and 5.2 of Chapter 5 present data on the Age Profile and Highest Level of Schooling of individuals by industry. Data are provided for individuals in the Residential Building and Development industry as classified by the SIC system.

The remaining sections of Chapter 5 present data on all the factors listed above for selected Trades Occupations (Major Group H) classified by the SOC '91 system.

5.1 Age Profile of the Residential Building and Development Industry

The age profile of individuals in the Residential Building and Development industry (SIC 4010) is presented in Table 5.1.

The table shows that about 40% of the workforce was less than 35 years old, 30% was between 35 and 44 years old and about 30% was over 45 years of age. Almost 10% of workers were 55 years and older.



Table 5.1
Age Profile
Residential Building and Development Industry (SIC 4010), Nova Scotia, 1996 Census

	#	%
15-19 years	295	5.4%
20-24 years	565	10.4%
25-34 years	1,325	24.3%
35-44 years	1,620	29.7%
45-54 years	1,140	20.9%
55-64 years	470	8.6%
65 years and over	40	0.7%
Sub-Total	5,455	100.0%

Source: 1996 Census.

5.2 Highest Level Of Schooling

The highest level of schooling achieved by individuals in the Residential Building and Development industry is presented in Table 5.2.

Table 5.2
Highest Level of Schooling
Residential Building and Development industry (SIC 4010) in Nova Scotia, 1996 Census

	#	%
Less Than Grade 9	425	7.8%
Grades 9-13 Without Secondary School Graduation Certificate	1,460	26.8%
Grades 9-13 With Secondary School Graduation Certificate	515	9.4%
Trades Certificate Or Diploma	275	5.0%
Other Non-University Education Only	2,025	37.1%
University Without Bachelor's Degree Or Higher	450	8.2%
University With Bachelor's Degree Or Higher	305	5.6%
Sub-Total	5,455	100.0%

Source: 1996 Census.

The table shows that about 8% of the individuals indicated that they had less than a grade 9 education and 27% reached between grade 9 and grade 13 but did not graduate from high school. Only five percent of respondents earned a trade certificate while about 37% received non-university education

other than that leading to a trades certificate. About 14% of the individuals attended university and almost 6% held a Bachelor's degree.

The proportion of individuals (35%) that did not complete high school is high by most industry standards, and is usually taken as an indicator of current or potential literacy issues.

5.3 Age Profile for Selected Trades Occupations

The age profile of occupations in Major Group H of SOC '91 is shown in Table 5.3.

Table 5.3
Age Profile, Trades, Transport and Equipment Operators
Major Group H, SOC '91 in Nova Scotia, 1996 Census

	15-19 years	20-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65 years & over	Average Age
H012 Contractors and supervisors, electrical trades	0	15	60	120	160	30	0	43.5
H015 Contractors and supervisors, carpentry trades	0	10	190	220	95	60	10	40.6
H019 Contractors and supervisors, other const. trades	25	75	110	155	125	55	0	38.3
H111 Plumbers	0	85	250	270	240	60	15	39.6
H112 Pipefitters and sprinkler system installers	0	25	100	220	150	75	0	42.0
H121 Carpenters	115	495	1645	2135	1210	560	25	38.8
H122 Cabinetmakers	0	25	120	95	55	20	0	37.1
H131 Bricklayers	10	30	115	160	100	20	10	38.5
H132 Cement finishers	0	20	60	55	30	15	0	36.6
H133 Tilesetters	0	10	30	25	35	15	0	40.9
H134 Plasterers, drywall installers	0	20	125	160	80	25	10	38.9
H141 Roofers and shinglers	30	70	160	100	100	30	0	36.5
H142 Glaziers	0	15	40	40	30	10	0	38.1
H143 Insulators	10	10	65	65	60	10	0	37.3
H144 Painters and decorators	70	145	270	385	195	110	15	37.6
H145 Floor covering installers	15	35	135	175	65	15	0	36.4
H211 Electricians	10	85	370	365	305	70	10	38.5
H413 Refrigeration and air conditioning mechanics	10	15	125	90	45	10	0	35.1
H418 Elevator constructors and mechanics	0	0	25	0	35	0	0	41.1
H523 Other trades and related occupations	10	10	45	40	20	10	10	39.7
H531 Residential and commercial installers	20	80	180	135	70	15	0	34.0
H821 Construction trades helpers and labourers	470	635	1200	995	665	260	0	34.2

Source: 1996 Census.

The average age of individuals varies from a low of 34 for installers and construction labourers to 43.5 for electrical contractors and supervisors. The age profile of construction labourers shows that a high proportion were less than 35. Approximately one-quarter of construction labourers were less than 25 years old, 54% were under 35 and over three quarters were less than 45. By way of contrast, only 4% of electrical contractors and supervisors were under 25 and 19% were less than 35. Almost three-quarters of individuals in this occupation were in the 35 to 54 age groups.

5.4 Highest Level of Schooling for Selected Trades Occupations

The educational profile of occupations in Major Group H of SOC '91 is presented in Table 5.4.

Table 5.4
Highest Level of Schooling
Trades, Transport and Equipment Operators
Major Group H, SOC '91 in Nova Scotia, 1996 Census

	Less Than Grade 9	Grades 9-13 Without Secondary School graduation Certificate	Grades 9-13 with Secondary School Graduation Certificate	Trades Certificate or Diploma Only	Other Non-University Without Certificate or Diploma	Other Non-University With Certificate or Diploma	University without Bachelor's Degree or Higher	University with Bachelor's Degree or Higher	Total
H012 Contractors and supervisors, electrical trades	10	-	-	20	20	275	35	15	375
H015 Contractors and supervisors, carpentry trades	45	75	30	55	20	260	75	25	585
H019 Contractors and supervisors, other const. trades	45	145	50	25	25	165	50	40	545
H111 Plumbers	25	30	15	95	30	700	20	-	915
H112 Pipefitters and sprinkler system installers	35	70	-	90	10	335	25	-	565
H121 Carpenters	600	1,325	465	370	335	2,495	435	160	6,185
H122 Cabinetmakers	35	20	50	15	10	130	35	25	320
H131 Bricklayers	40	70	-	40	20	255	15	-	440
H132 Cement	25	70	-	35	10	30	10	-	180



finishers									
H134 Plasterers, drywall installers	65	160	50	35	35	60	10	10	425
H141 Roofers	75	200	45	40	40	70	-	15	485
H144 Painters and decorators	150	445	165	60	25	175	105	55	1,180
H145 Floor covering installers	55	180	50	25	20	80	30	10	450
H211 Electricians	-	60	50	105	45	845	100	10	1,215
H413 Refrigeration and air conditioning mechanics	-	10	-	45	10	200	25	-	290
H531 Residential and commercial installers	45	160	100	30	10	130	10	10	495
H821 Construction trades helpers and labourers	535	1,630	410	175	260	800	310	100	4,220
Total	1,825	4,840	1,565	1,315	935	7,215	1,350	495	19,540

Source: 1996 Census.

Nine percent of the individuals in occupations profiled in the above table had less than a grade nine education. One-third completed grades 9-13 but three quarters of these individuals did not graduate. Seven percent of individuals held a trade certificate or diploma only. Forty-two percent of individuals received non-university education only, and almost 90% of these individuals received a certificate or diploma. Ten percent of individuals attended university but only 30% of this group earned a Bachelor's degree.

5.5 Major Field Of Study for Selected Trades Occupations

The major fields of study for occupations in Major Group H of SOC '91 are presented in Table 5.5.



Table 5.5
Major Field of Study
Trades, Transport and Equipment Operators
Major Group H, SOC '91
1996 Census, Nova Scotia

	No Post second- dary Qualific.	Post second- dary Qualif.	Fine & Applied Arts	Social Sciences & Related Fields	Commerce Mngt & Business Admin.	Agricultural & Biological Sciences/ Technol.	Engineering & Applied Science & Technol. & Trades	Math and Physical Sciences	Other Post Secondary
H012 Contractors and supervisors, electrical trades	45	345	0	0	10	10	305	0	20
H015 Contractors and supervisors, carpentry trades	195	395	0	0	25	0	335	10	25
H019 Contractors and supervisors, other const. trades	290	260	15	20	25	0	175	0	25
H111 Plumbers	115	810	0	0	0	0	795	0	15
H112 Pipefitters and sprinkler system installers	120	455	0	10	10	0	440	0	0
H121 Carpenters	2,870	3,315	25	70	55	40	2,985	30	110
H122 Cabinetmakers	130	195	10	0	15	10	145	0	15
H131 Bricklayers	145	300	0	0	0	10	290	0	0
H132 Cement finishers	120	65	0	0	0	0	65	0	0
H134 Plasterers, drywall installers	325	100	0	0	0	10	85	0	5
H141 Roofers and shinglers	370	130	10	10	0	0	105	0	5
H144 Painters and decorators	865	315	30	15	30	10	205	10	15
H145 Floor covering installers	320	120	0	10	10	0	105	0	0
H211 Electricians	170	1,040	0	0	0	0	1,020	0	20
H413 Refrigeration and air conditioning mechanics	20	265	0	0	0	0	255	0	10
H531 Residential and commercial installers	320	175	0	0	15	0	150	0	10
H821 Construction trades helpers and labourers	3,090	1,135	15	30	130	35	860	0	65
Total	9,860	9,735	115	175	345	135	8,555	50	360

Source: 1996 Census.

The number of individuals with and without post secondary education was roughly the same. Of those with post secondary education, most studied engineering and applied science technologies and trades. Social sciences and related fields had the second highest number of individuals.

5.6 Mobility Status of Selected Trades Occupations

The mobility status of Major Group H occupations is presented in Table 5.6.

	Non-Movers (Did Not Move)	Non-Migrants (Moved But Remained in Census Division)	Migrants (Moved Out of the Census Division)			Total
			Intraprov'l Migrants (from same Province or Territory)	Interprov'l Migrants (from different Province or Territory)	External Migrants (from outside Canada)	
H012 Contractors and supervisors, electrical trades	275	60	35	15	-	385
H015 Contractors and supervisors, carpentry trades	400	110	45	20	-	575
H019 Contractors and supervisors, other const. Trades	350	120	50	30	-	550
H111 Plumbers	630	225	45	20	-	920
H112 Pipefitters and sprinkler system installers	385	110	40	35	-	570
H121 Carpenters	4,210	1,365	390	200	25	6,190
H122 Cabinetmakers	190	85	20	20	10	325
H131 Bricklayers	295	135	20	-	-	450
H132 Cement finishers	120	50	10	-	-	180
H134 Plasterers, drywall installers	240	145	25	15	-	425
H141 Roofers and shinglers	250	160	35	50	-	495
H144 Painters and decorators	685	350	125	25	-	1,185
H145 Floor covering installers	255	145	40	-	-	440
H211 Electricians	785	320	85	20	-	1,210
H413 Refrigeration and air conditioning mechanics	135	105	30	-	-	270
H418 Elevator constructors and	45	10	15	-	-	70



mechanics						
H531 Residential and commercial installers	240	155	65	40	-	500
H821 Construction trades helpers and labourers	2,670	1,100	320	130	-	4,220
Total	12,600	4,875	1,480	650	45	19,650

Source: 1996 Census.

The table shows that almost two-thirds of the individuals were non-movers. An additional 25% of the individuals were non-migrants. Of the 11% who were migrants, two-thirds moved within the province while 30% of the migrants moved from another province.

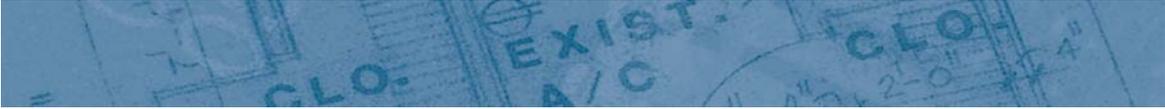
5.7 Employment Income of Selected Trades Occupations

Table 5.7 presents data on employment incomes by occupation.

Table 5.7
Employment Income
Trades, Transport and Equipment Operators
Major Group H, SOC '91 in Nova Scotia

	Average Employment Income
H012 Contractors and Supervisors, Electrical Trades	\$39,987
H015 Contractors and Supervisors, Carpentry Trades	\$31,315
H019 Contractors and Supervisors, Other Construction	\$37,630
H111 Plumbers	\$27,988
H112 Pipefitters and Sprinkler System Installers	\$42,564
H121 Carpenters	\$24,858
H122 Cabinetmakers	\$23,756
H131 Bricklayers	\$26,442
H134 Plasterers, Drywall	\$29,734
H141 Roofers and Shinglers	\$26,768
H144 Painters and Decorators	\$22,959
H145 Floor Covering Installers	\$25,929
H211 Electricians	\$36,037
H413 Refrigeration and Air Conditioning Mechanics	\$36,611
H821 Construction Trades Labourers	\$26,829
Weighted Average	\$27,796

Source: 1996 Census.



The table shows that Pipefitters and Sprinkler System Installers enjoyed the highest average incomes of any occupation followed by Electrical Contractors and Supervisors and Electricians. Carpenters, Cabinetmakers and Painters were among the occupations with the lowest average incomes.

It should be noted that average employment income is derived by multiplying wages by the number of weeks worked. For this reason, wage rates and the number of weeks worked per year both influence average employment incomes.

5.8 Visible Minorities and Gender of Selected Trades Occupations

The 1996 Census showed that only 2% of the individuals in Trades Occupations were from a visible minority. Roughly 80% of visible minorities, or 310 individuals, were Black. Approximately 3% of the total individuals in trades occupations were female. Of the 565 females, just over 50% (295) were construction labourers, 15% (85) were carpenters and 12% (70) were painters and decorators. Forty females worked in electrical occupations with 20 of these individuals being contractors or supervisors.

6.0 Legislative & Regulatory Environment

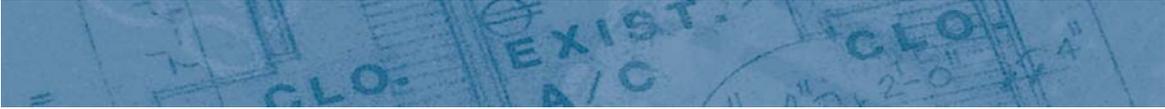
This chapter of the report is based exclusively on an article by Greg Lampert and Steve Pomeroy entitled “Canada’s Housing System: The Public Policy Environment for Housing in Canada”, Greg Lampert and Steve Pomeroy, September, 1998.

6.1 Overview

Greg Lampert and Steve Pomeroy provide an overview of the significance of legislation and regulations to the home building industry in Canada as follows:

“... public policies involve and reflect the legislative decisions and actions of all three levels of government. They include specific housing legislation, such as the National Housing Act (NHA), as well as legislation, regulations and initiatives at the federal, provincial and municipal levels of government which regulate matters such as property rights, financial institutions, consumer protection, health and safety standards, property development and a host of other things. Generally speaking, these public policies fall into two broad categories:

- ▲ *The first relates to the regulation and control of the physical characteristics of property, and improvements. The purpose of this legislation is to ensure that buildings meet certain minimum standards with respect to design, construction standard, occupant and worker health and safety, and the environment. Much of this legislation falls within the provincial domain; however, it is greatly influenced by the actions of both the federal government and inter-government agencies.*
- ▲ *The second relates to, or facilitates, the planning construction, purchase, financing, and management of housing – including assisting those who cannot obtain suitable housing at a cost they can afford. The purpose of this legislation is to provide a framework within which the provision of essential elements of the system can operate effectively – and an environment which promotes competition, efficiency and innovation. At the enabling level, federal legislation is important here, although a body*



of provincial legislation also falls under this category.” (pp. 12-13)

Public sector activities in the process of development, building and transfer of property can be grouped under three headings:

- ▲ planning and land use;
- ▲ the building process; and
- ▲ property transfer.

It is important to point out that the home building sector is affected by legislation other than that targeted specifically at this industry. As pointed out by Lampert and Pomeroy:

“The activity of physical development and building is carried out within an environment of regulations, codes and standards while many of these are specific to residential development, they have been formulated within a more general context to apply to all types of buildings. The National Building Code, for example, encompasses all forms of building construction from industrial buildings, and office towers to individual dwellings.” (p. 63)

6.2 Provincial Responsibilities

Provincial government authority and responsibility for housing are derived from provincial jurisdiction for civil and property rights, including land use regulation and planning.

Three key areas of provincial jurisdiction are planning and land use, building regulation and education and training. Provinces also are responsible for systems to record ownership and land transactions. A key area of provincial responsibility was described as follows in Lampert and Pomeroy:

“New home building and renovation must meet minimum standards specified in the building codes. Constitutional responsibility for building regulation resides with provincial governments...” (p. 75)



The Lampert and Pomeroy article summarized the activities and functions of provincial governments as follows:

Housing policy, including program development:

- ▲ *Overseeing social housing delivery and management;*
 - ▲ *Providing program and legislative responses based on provincial needs and resources;*
 - ▲ *Landlord/tenant legislation and, in many cases, rent regulation;*
 - ▲ *Preservation of existing stock through regulation and standards;*
 - ▲ *Developing policies and programs to facilitate the operation of the housing market.*
- (p. 17)*

Local municipal governance

Building and development standards:

- ▲ *Building safety and accessibility;*
- ▲ *Fire safety;*
- ▲ *Worker safety;*
- ▲ *Consumer protection;*
- ▲ *Municipal infrastructure;*
- ▲ *Community and land use planning;*
- ▲ *Property assessment and appeal system;*
- ▲ *Land information policy and standards; and*
- ▲ *Heritage property.*

Education and training systems

Provinces also regulate others matters of importance to the home building industry such as fire



protection, boilers and pressure vessels, elevators, gas, water and electrical systems.

6.3 Municipal Responsibilities

Provinces delegate authority and responsibility to local governments through provincial enabling legislation. Provincial legislation defines matters that are subject to municipal regulation. Provinces grant taxing and fee collecting powers to municipalities in return for commitments by municipalities to provide specified services.

Municipalities often deliver programs that result from federal and provincial policies and legislation and may cost-share programs with the two senior levels of government. Municipalities are delegated powers to enforce building codes, implement land use planning and regulation, and enforce health and safety standards. There also is a local role in identifying labour force requirements as referenced in federal/provincial labour market development agreements.

Lampert and Pomeroy summed up the importance of municipalities in the areas of housing and land use development as follows:

“The functions involved in the planning and execution of an orderly and rational pattern of development are typically performed by local municipal governments or, in the case of unincorporated municipalities, regional or county level administrative agencies.

Land use planning and development approval at the municipal level is the forum through which many provincial policies that affect cities and housing are interpreted and implemented.” (pp. 64-65)

6.4 Federal Responsibilities

Federal authority and responsibility is derived from its role in setting national standards and its responsibility for macro economic management of the economy.



The federal government has recognized that coordination of provincial policies and legislation is required to ensure uniformity of national standards in all regions of Canada. It has developed national model codes that have assisted in the development of uniform building standards across the country. The Canadian Commission on Building and Fire Codes (CCBFC) is responsible for maintaining national model codes. Provincial input into the CCBFC comes from the Provincial/Territorial Committee on Building Standards.

The CCBFC maintains the following model codes:

- ▲ The National Building Code
- ▲ The National Fire Code
- ▲ The National Plumbing Code

These codes typically are incorporated into provincial legislation and regulation. The CCBFC may adopt a National Energy code in upcoming years. This code could implement energy efficiency requirements and have a significant affect on the home building industry.

The federal government has responsibilities related to labour market mobility as a result of the federal provincial agreement on internal trade. It also is involved in the “Red Seal” program for apprenticeship training. The federal provincial labour market development agreement provides direct funding for apprenticeship.

The Canada Mortgage and Housing Corporation (CMHC) has a broad mandate including housing finance, research and information transfer, assisted housing and international activities. The Lampert and Pomeroy article points out that the CMHC has changed in recent years:

“The Corporation has largely stepped back from directly developing and financing housing. It has given greater priority to the development of an appropriate public policy environment for competition and innovation by the private sector.” (pp. 14-15)

Some federal financial legislation has an important impact on the home building industry. Legislation



that requires federally chartered lenders to restrict residential real estate lending to a maximum of 75% of the value of a property is particularly noteworthy. Mortgage insurance available from CMHC allows lenders to extend financing beyond the 75% limit.

Other important federal legislation relates to the prepayment of mortgages. This legislation allows homeowners to pay off their mortgage after five years with a maximum prepayment penalty of three months' interest.

6.5 Impact of Regulations on Residential Building and Renovation

The Lampert and Pomeroy publication identifies three phases in residential building. Each phase entails a number of work activities requiring specific skills. The phases are: planning, construction and marketing/sales. Laws and regulations significantly influence both the work activities and skills required in each phase.

6.5.1 The Planning Phase

The planning phase entails feasibility analysis, land acquisition, planning, zoning change and design. A variety of occupations are involved in this phase including lawyers, real estate brokers, architects, engineers and surveyors. All of these occupations require a licence and the activities and skills required for these occupations are influenced by regulations and processes governing title registration, borrowing, the environment, zoning, subdivision, land use planning and building codes.

6.5.2 The Construction Phase

The construction phase entails site preparation, construction and financing. A variety of construction trades occupations, including supervisory occupations, contractors and sub-contractors, are involved in the construction phase. Some of these occupations have mandatory licensing requirements. The activities and skills required for these occupations are influenced by public regulations and requirements with respect to building permits, codes and inspections, contract law, material standards, utility regulations, labour codes and health and safety codes.



6.5.3 Marketing and Sales Phase

The marketing and sale of a dwelling could be done by real estate agencies (which require a licence) or by employees of construction and development companies. Occupations involved in this phase are lawyers, real estate brokers and other sales and marketing personnel. Contract and real estate law along with banking regulations and laws are important to this phase.

6.6 The Importance of Immigration Laws and Policies

The Lampert and Pomeroy publication provides an overview of the importance of laws and policies on immigration to the residential building and development industry, demonstrating that immigration influences the industry in two ways:

- ▲ immigrants increase the demand for housing; and
- ▲ immigration contributes to the supply of labour residential building and development occupations.

Citizenship and Immigration Canada (CIC) administers immigration in Canada, except in Quebec. Some aspects of citizenship and immigration are now shared with the provinces. Skilled workers may qualify for immigration to Canada, provided they meet the criteria dictated by the CIC assessment process.

Labour market considerations play an important role in the selection of immigrants as stated in the following quotations from Lampert and Pomeroy:

“The assessment system assigns points to applicants for considerations such as education, occupation, work experience, occupation related training and education, age, language skills, self-employment and arranged employment.

To assist with the evaluation of skilled workers, CIC utilizes HRDC’s General Occupation List which identifies occupations in which immigrants can be expected to have a reasonable chance of entering the labour force. Applicants with occupations that have an active labour market have a better chance of successfully immigrating



to Canada.

Construction trades are generally not included on the General Occupations List – this is partially a reflection of the regional and cyclical nature of construction activity.”
(pp. 40-41)

Although construction trades are not on the General Occupation List, short-term importation of skilled construction workers occurs frequently:

“The most common intervention in the construction labour market undertaken by CIC is the review and processing of temporary work permits for foreign construction workers required to work on individual projects. These situations can arise when builders use new technologies which require skills not available in Canada. These applications are sponsored by builders, and CIC reviews the applications in consultation with HRDC.” (p.41)

Occupations with shortages that must be filled by foreign workers would be high priority areas for training and skill development.

6.7 Legislation and Human Resource Development

Legislation and government policy affect four areas of human resource development:

- ▲ Unemployment Benefits;
- ▲ Education and Training;
- ▲ Labour Mobility; and
- ▲ Labour Standards and Relations.

Unemployment Benefits

Workers in the residential home building rely on Employment Insurance (EI) to supplement incomes



more than most sectors of the economy due to the cyclical and seasonal nature of the industry. Human Resource Development Canada is responsible for the Employment Insurance system. Reforms in EI in the 1990's reduced benefits, decreased the length of claims and made it more difficult to qualify for benefits.

Education and Training

Lampert and Pomeroy summed up the federal and provincial responsibilities and initiatives in the field of education and training as follows:

“Training and education programs are constitutionally the responsibility of the provincial governments. However, the federal government plays an important role in labour market development and training initiatives, through programs funded by EI, and through funding of industry – led human resource programs. Together, the federal and provincial governments have endeavoured to develop national industry occupational standards to facilitate labour mobility. As a result, most skilled trades and many occupations have national and interprovincial trade certification through the Red Seal Program.” (p. 43)

Many trades require mandatory certification under Apprenticeship Programs administered by provincial governments. A number of national organizations and committees have been established to promote inter-provincial consistency in programs and standards and provide a national perspective on apprenticeship programs. The Red Seal Program is one mechanism used to achieve these goals. Another Canada-wide initiative is the Pan Canadian Skill Based Examination for the Red Seal designation that is now being computerized under the Inter-provincial Computerized Examination Management System (ICEMS).

Federal/provincial roles and responsibilities for education and training changed significantly over the 1990s. The federal government, under Labour Market Development Agreements, transferred responsibilities for the design and delivery of a variety of labour market development programs to the provinces. The federal government pays students directly for certain types of training.



Labour Mobility

The Lampert and Pomeroy article points out that labour mobility is critical in the residential construction industry due to wide variations in demand for labour across the country. The article also points out that the Federal/Provincial Agreement on Internal Trade (AIT) that came into effect on July 1, 1995 contains provisions to reduce barriers to labour mobility by:

- ▲ removing residency requirements;
- ▲ improving information on licensing and certification to eliminate the use of these programs as barriers to entry;
- ▲ reconciling differences in provincial occupation training standards to facilitate inter-provincial mobility; and
- ▲ recognizing that the “Red Seal” program meets the requirements for mobility under the AIT.

Labour Standards and Relations

The term “labour standards and relations” relates to the rights and responsibilities of employers and employees and is generally a provincial responsibility. Lampert and Pomeroy describe provincial responsibilities as follows:

“... the provincial department of labour has three core business functions:

- ▲ *establishing and enforcing employment standards;*
- ▲ *promoting and enforcing occupational health and safety standards; and*
- ▲ *labour relations.” (p. 43)*

The Underground Economy

7.0 The Underground Economy

The underground economy consists of economic activities that result in earned income that is not reported. A Statistics Canada publication entitled “The Size of the Underground Economy in Canada” defined the underground economy as follows:

“In the broadest sense, it usually denotes sales of good and services on which indirect taxes have not been paid, giving rise to income on which taxes and mandatory social security contributions have not been paid either. In this broad definition, ‘underground economy’ is virtually synonymous with ‘untaxed transactions’.”¹

The Statistics Canada article focuses on measuring economic activity not included in Canada’s GDP. It is important to understand that such a measurement understates the underground economy. The reason is that some underground transactions are included in the GDP as noted by the Statistics Canada publication.

“... some underground transactions are captured in the official GDP. This is why the domestic market production which goes untaxed is larger than that which goes unmeasured.”²

Estimates of the underground economy made in this section of the report include estimates of activity not included in the GDP and activity included in the GDP but not recorded by the Canada Customs and Revenue Agency.

Conducting activity through the underground economy reduces costs associated with taxes, contributions to social programs and permits and approvals required to conduct business. Avoidance of these costs allows operators to charge lower prices and/or make higher profits. One study estimated that in the Ontario construction industry “... the sort of price differential achieved by undergrounders

1 “The Size of the Underground Economy in Canada”, Statistics Canada, Catalogue 13-603E, No. 2 – Occasional, p.2.

2 IBID, p. 4.



*can range from 10% to 30%.*³ Another Ontario study estimated that underground operators offered customers a price discount of between 12.5% and 25%.⁴

It is widely believed that increases in taxes, particularly the introduction of the GST in Nova Scotia in 1991 and the HST in 1997, expanded the underground economy. The underground economy also is positively correlated with downturns in economic conditions. One study summed up the situation as follows:

“Comparing this study to work done by Statistics Canada suggests that since 1990, the underground economy has increased by 50% to 100%.”⁵

Studies have correlated the underground economy with the following factors:

- ▲ lower skilled occupations;
- ▲ one person operations;
- ▲ small projects;
- ▲ short-term projects; and
- ▲ projects paid by the job, with a unit price or by piece work.⁶

The underground economy is more prevalent in some sectors of the economy than in others. For example, a 1994 study by Statistics Canada focused on the following sectors in attempting to estimate the size of the underground economy:

- ▲ residential construction, particularly alterations and improvement;
- ▲ importation of tobacco and alcohol;

3 “The Underground Economy in Ontario’s Construction Industry, Estimates of its Size and the Revenue Losses to Government and the Workplace Safety Insurance Board (WSIB)”, John O’Grady Consulting Ltd., Greg Lampert Economic Consultant Inc. and the ARA Consulting group Inc., November, 1998, Final Report, Executive Summary, p. 3.

4 “Getting it in Writing”, Canadian Home Builders Association, p. 4.

5 IBID, p. 3.

6 “Strategic Analysis of Underground Employment in the Construction Industry”, KPMG, December 1997.



- ▲ personal services such as domestic services; and
- ▲ certain sectors of the retail and service industry such as bartending/waitressing, taxicabs, motels and guest houses and child care/day care.

The residential construction industry is characterized by all of the factors listed above and the underground economy is a major issue in this industry. The underground economy can take a variety of forms in the residential construction industry. People and firms may operate exclusively in the underground economy and avoid all taxes and contributions to social programs. In some instances, a portion of the economic activity is reported and a portion is unreported.

A growing phenomenon in the construction industry is contracting work to self-employed individuals. In many cases, these self-employed individuals are dependent contractors in that they work for one prime contractor. Dependent contractors have the same relationship with the prime contractor in terms of supervision and control as an employee to an employer. Legally, dependent contractors are subject to the same taxes and deductions as employees.

7.1 Significance

Two issues are linked to the underground economy:

- ▲ The value of the home building sector could be significantly under-estimated. If so, employment in the sector also could be understated.
- ▲ There is a lack of recognition of learned skills in the underground economy leading to problems in recruiting and training workers.

Underestimate of Value Added to GDP

The value of the home building sector is represented by its contribution to GDP. This incremental contribution of the home building sector to GDP is called “value-added”. Statistics Canada estimated the size of the underground economy in the sector in relation to GDP as measured in the National Accounts.



Statistics Canada's estimated GDP the home building sector as follows:

New Housing Starts

GDP is estimated based on the number of housing starts by month and average value of building permits. "Work put in place coefficients" are used to estimate how much of the total value of building houses occurs each quarter after the start of construction. "Work put in place coefficients" measure the volume of work involved in new home construction or renovations completed in each quarter after the beginning of construction.

Housing starts are from the Canada Mortgage and Housing Corporation (CMHC) and are considered reliable. Values for building permits sometimes are understated but Statistics Canada adjusts for this. It is felt that understatement of the value of building permits is minor.

Cottages

Building permit data are poor for cottages. In recognition of this, Statistics Canada adjusts activity and value in this sector upward. Adjustment of the activity data is based partly on data on the number of homeowners who own cottages.

Conversions

Serious under-reporting problems occur for conversions. Estimates of conversions are based on building permit data but few building permits are issued and there is no way of estimating work undertaken without a permit. Upward adjustment of existing data on conversions is used to account for missing transactions.

Mobile Homes

Estimates of GDP for mobile homes are based on manufacturer shipments and should be reliable.

Total Investment in Housing

Statistics Canada estimated investment in the housing sector to be about \$31 billion in 1992. The



Statistics Canada estimates do not appear to include manufactured housing.

The value of activity escaping measurement due to underground activity, that is, activity without building permits, could be as high as \$1.9 billion, or 6%. Each component of the housing sector contributed to the under-statement of value, with Conversions and Cottages contributing proportionately the most.

Alterations and Improvements

Estimated spending on this component of the home building sector is based on the annual Home Repair and Renovation Expenditure Survey (HRRES) and on building permits. It is believed that GDP estimates understate actual GDP by as much as \$1.7 billion, or 20%.

Total Underestimate of GDP in the Home Building Sector

GDP in the home building sector in Canada could be understated by \$3.6 billion.

“If all of the \$3.6 billion that may escape measurement corresponded to value added (that is, consisted solely of wages and profits, a very plausible assumption), unmeasured value added in residential construction would represent 40% of the recorded value added of \$9.0 billion (1.5% of GDP at factor cost in current dollars).”⁷

Total value-added to the GDP in the home building sector in Canada in 1992 could have been as high as \$12.6 billion (\$9.0 billion reported and \$3.6 unreported).

Under-Reporting of Activity Included in GDP

The Statistics Canada article goes on to state that an additional \$2.3 billion is not reported to Canada Customs and Revenue Agency but is included in GDP figures. This unreported economic activity in the home building sector must be included in estimates of the underground economy. The estimate of the underground economy is the sum of activity that is not reported to Canada Customs and

7 Source: The Size of the Underground Economy in Canada, Statistics Canada, Cat. No. 13-603E, No. 2, p. 17.



Revenue Agency and is not included in the GDP figures plus activity that is included in the GDP figures but is not reported to Canada Customs and Revenue Agency.

Estimate of the Underground Economy

In total, \$5.9 billion was not reported to Canada Customs and Revenue Agency in 1992 in the home building sector. This figure serves as the estimate of the underground economy in that year. The estimate was derived as follows:

Underground Economy Equals:

- ▲ Underestimate of GDP (\$3.6 billion), plus . . .
- ▲ value of activity included in GDP but not Reported to the Canada Customs and Revenue Agency (\$2.3 billion).

The Statistics Canada publication indicates that this is an upper limit of the size of the underground economy in this sector.

The total size of the underground economy could account for 47% of the value added to GDP in the home building sector. These estimates indicate that non-reporting in the underground economy is significant in the home building sector and that the reported value of the sector may be seriously understated.

7.2 The Underground Economy in Nova Scotia

A study completed by the Nova Scotia Department of Finance in 1997 came to the following conclusions about the underground economy in Nova Scotia:

“In Nova Scotia underground activity is most profound in the residential construction and renovation industry.

Utilising estimates in previous studies for Canada, underground activity in



residential construction in Nova Scotia was estimated to amount to \$110 million a year representing about 0.73% of Nova Scotia's Gross Domestic Product.

With the introduction of the GST in 1991, a proliferation of underground economic activity resulted as some firms and customers resorted to making cash transactions to avoid paying the GST. Tax harmonisation introduced on April 1, 1997 was expected to increase the price of new residential construction and renovation by about 4.5%, and consequently escalate underground activity in this sector.

In order to maintain price neutrality in residential construction the government, with effect from April 1st, 1997, also introduced a 1.5% rebate on the provincial component of the HST on new residential construction for all home buyers. Besides replacing the \$3,000 PST rebate to first time home buyers which ended on March 31, 1997, this was intended to motivate consumers and businesses to enter transactions on a legitimate basis.”⁸

7.3 Recruitment and Training

The following quotes illustrate the impacts on training resulting from the underground economy.

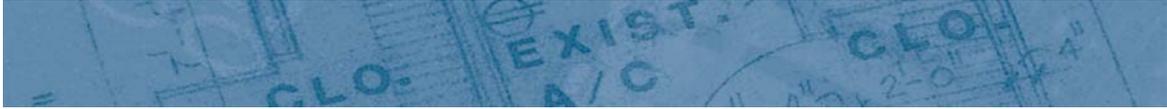
“The growth in the number of individual contractors (in place of employees) would mean that there would be fewer opportunities for on-the-job training by journey persons. Those in the underground were viewed as often being highly skilled in their trade but could not take part in formal apprenticeship training.”⁹

“The four Apprenticeship Directors interviewed all strongly agreed that underground construction employment was having a deleterious effect on training programs, for such reasons as the following:

- ▲ *Unreported work did not reflect apprenticeship needs.*

8 “The Underground Economy in Residential Construction”, Nova Scotia Department of Finance, October, 1997, Executive Summary.

9 “Strategic Analysis of Underground Employment in the Construction Industry”, KPMG, Dec. 1997, p. 5.



- ▲ *Underground activities often involved individual tradespersons and therefore gave no opportunities for job-site training.*
- ▲ *Underground workers had no commitment to transfer technology and unconcerned about their impact on training programs.*¹⁰

“... underground practices reduce the contribution base for benefits plans and weaken apprenticeship training and skills development.”¹¹

One recruitment issue related to the underground economy is that increased enforcement through the mandatory Contract Payment Reporting System has resulted in workers choosing to work either above ground or underground but not both.

¹⁰ IBID, p. 5.

¹¹ “The Underground Economy in Ontario’s Construction Industry”, Op Cit, p. ES9.

Projections of Residential Construction Activity and Employment

8.0 Projections of Residential Construction Activity and Employment

8.1 The CMHC Model

Projections of new home construction are based on a 1997 report produced by the CMHC entitled, “The Long-Term Housing Outlook: Household Growth in Canada and the Provinces, 1991-2016”.

The report projects household growth in Canada and how it will vary given different assumptions about how and where Canadians will house themselves. The approach used to make these projections was summed up as follows in the report:

“Scenarios were developed based on an assessment of major demographic and other trends. The primary factors considered were patterns of net interprovincial migration and rates of household formation. It should be recognized that the projections illustrate a range of possible future outcomes; they are not intended as precise forecasts of future housing activity.

The scenarios were generated using CMHC’s Potential Housing Demand Projection (PHD) Model. Custom population projections produced by Statistics Canada were used as input to the model. These were transformed by the model into projections of household growth, tenure choice and dwelling type choice. Results include national and provincial household projections by age, type of household, tenure and type of dwelling.” (p. 2)

The logic for using household growth as the basis for projecting new home construction is stated as follows in the CMHC report:

“While variation in housing demand from year to year is largely related to cyclical economic factors, demand in the long run can be traced to changes in the size and age structure of the population and the overall tendency to form households.” (p. 1)

The link between household growth and housing starts was described as follows in the CMHC report:

“Starts are linked to household growth via completions, which increase the supply of



housing, thereby enabling growing numbers of households to be housed. At a minimum, enough housing units must be added to the stock to accommodate the increase in households, since households cannot form if there is nowhere for them to live. Even if household growth were zero, however, additional dwellings would have to be created to replace units lost from the existing housing stock. In addition, the expansion of stock should allow for an adequate number of vacant units – enough to ensure a reasonable balance between supply and demand.

In sum, the increase in stock must accommodate the net growth in households, provide for a sufficient supply of vacant units, and make up for units lost from the stock. As noted above, units can be added to the stock through new construction (completions) and conversions. Completions account for the bulk of the increase in the supply of housing.

Assumptions about demolition rates, conversion rates, vacancy rates, and completion rates (the proportion of starts actually completed) can be used to examine potential implications of household-growth scenarios ... for housing starts.” (pp. 42-43)

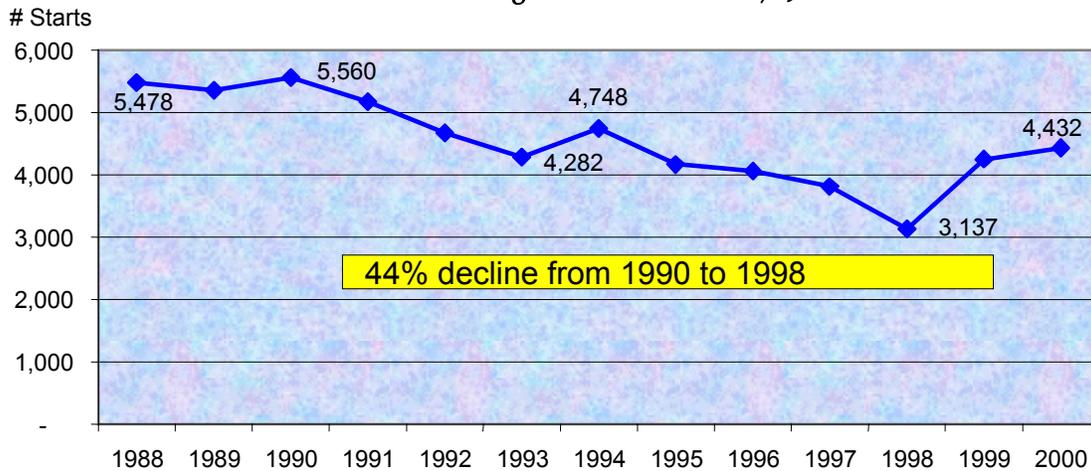
8.2 Projected Housing Starts

Before projecting housing starts in Nova Scotia, it is important to examine historical data on starts. Exhibit 8.1 shows total housing starts in Nova Scotia over the period 1988 to 2000. The exhibit shows that housing starts showed a general downward trend over the period, dropping from a high of 5,560 in 1990 to 3,137 in 1998. Housing starts recovered in 1999 and 2000, reaching 4,432 in 2000.

Over the first six years of the 1988-1999 period, housing starts averaged 5,090 per year in Nova Scotia. The average annual level of starts dropped to just 3,085 per year from 1993 through to 1998. Housing starts averaged just over 4,430 over the 1999 to 2000 period.



Exhibit 8.1: Actual Housing Starts in Nova Scotia, 1988-2000



Source: Canada Mortgage and Housing Corporation Website (<http://www.cmhc-schl.gc.ca/Research/>).

Two important features of projected housing starts made in this report are:

- ▲ A variety of projections of household formation were made in “The Long-Term Housing Outlook: Household Growth in Canada and the Provinces”. The projections depend on assumptions about migration among the provinces and the rate of household formation. Projections were based on three scenarios of household formation – high, medium and low and two assumptions about migration, “central” and “western”. Only one projection of housing starts was made in this document. This projection assumed a “medium” rate of household formation and averaged the two migration scenarios contained in the CMHC report.
- ▲ The projection of housing starts in this report assumed starts would be 4% higher than the level of household formation. This assumption is consistent with the actual relationship between household formation and housing starts over the 1971-1991 period.

Projections of annual average housing starts were made over five year intervals to match the projections of household formation contained in the CMHC report.

The projections are contained in Table 8.1.



Table 8.1
Projected Housing Starts, Nova Scotia

	Single Detached	Apartment	Other Multiple	Moveable	Total
1997-2001	3,224	530	302	114	4,170
2002-2006	2,787	572	291	146	3,796
2007-2011	2,517	572	260	104	3,453
2012-2016	2,070	562	166	83	2,881

Source: CMHC.

The table indicates that housing starts are projected to drop over the period from current levels of roughly 4,000 per annum to about 3,800 over the 2002-2006 period, 3,500 over the 2007-2011 period and 2,900 over the 2012-2016 period. A drop in total housing starts in the order of one third from average levels in the 1992-1996 period to average levels over the 2012-2016 period is projected.

It is important to note that the drop in housing starts is uneven across the various types of housing identified in the table above. Apartments starts are projected to increase by 15% over the 2012-2016 period compared to the 1992-1996 period while other multiple starts are projected to decline by 48% and single detached housing starts are projected to drop by 40%. Housing starts for moveable housing are projected to decline by about 20%.

The reasons for the projected decline in housing starts include:

- ▲ Population growth is expected to decline. On a national basis population growth is expected to decline from 1.3% per annum over the 1991-1996 period to 0.8% in 2011-2016. For Nova Scotia, both the Central and Western migration scenarios assume population growth will be lost to other provinces, although international migration will offset some of the projected inter-provincial loss. (pp. 30 & 62)
- ▲ The Nova Scotia population will age significantly over the period with fewer individuals in the household formation age group and more seniors. The proportion of the population under 25 will fall from 33.2% in 1996 to 26.2% in 2016. The proportion of the population over 65 will rise from 12.9% in 1996 to 18.3% in 2016. (p. 30)
- ▲ For Canada as a whole, the number of non-family households is expected to increase at a faster rate



than for family households. One-person households are projected to increase and the home-ownership rate is projected to decline marginally after the year 2000. These trends may explain the projected increase in apartment construction. (p. 62)

The CMHC publication notes that Nova Scotia will have the fourth highest concentration of seniors in Canada and the second lowest proportion of households with heads under 45 of any province in Canada by 2016.

The CMHC summed up the prospects for housing starts for Canada as a whole as follows:

“The various scenarios presented in earlier chapters project less rapid household formation in the future than in the 1970s and the 1980s and therefore imply lower housing starts as well; moreover, all scenarios indicate a tendency for household growth to decline in the long-run. These findings suggest that the housing stock will, on average, become older because of relatively fewer additions to the growing stock.”
(p. 47)

The CMHC document points out an important factor that will influence residential construction activity:

“The data indicate that the age composition of the housing stock became younger in the 1970s, but that it has been growing older since 1981. This aging process is likely to continue over the projection period.”

“The housing stock will, on average, become older because of relatively fewer additions to the growing stock. An aging stock has implications for the overall quality of housing and the need for repairs and renovation.”(pp. 47 & 63)

Projections made in the CMHC report indicate that the median age of single detached homes in Canada could grow from about 23 years old in 1991 to 38 years old in 2016. A similar scenario is forecast for multiple-unit dwellings.



8.3 Expenditures on Repairs and Maintenance

The discussion of housing investment earlier in this report showed that capital spending on improvements (major renovations, from Exhibit 2.2) increased overall from 1991 to 2000. Spending in this category was significantly higher in 2000 than in earlier years. The earlier discussion also showed that investment in minor repairs and maintenance increased steadily from \$117 million in 1991 to \$207 million in 2000 (from Exhibit 2.4).

Total expenditures on repair and maintenance (CANSIM D846552) rose at an annual average rate of 7.6% over the 1991 to 2000 period. Investment increases in major and minor renovations undoubtedly will increase at an accelerating rate as the housing stock ages. As a result, employment losses resulting from reduced housing starts will be offset by gains resulting from increased expenditure on renovations.

Some idea of the magnitude of this increase can be obtained by projecting a continuation of the 7.6% annual gain in repairs and maintenance expenditures into the future. Note that this rate of increase may be conservative due to anticipated increases in the average age of the housing stock. Annual average expenditures on repair and maintenance (CANSIM D846552) averaged \$164 million over the 1991 to 2000 period. If these expenditures increase at an annual rate of 7.6%, expenditures could reach \$495 million by 2016. This would represent a 201% increase in expenditures over the period from 2001 to 2016.

Projections indicate that increased spending on repairs and maintenance could offset decreases in expenditures on new housing. A significant shift in activity in residential construction away from new housing and toward renovations appears likely over the next 15 to 20 years.

It was demonstrated earlier that total expenditures on renovations significantly exceed those on new housing but the number of employees in renovation is less than one-half of the number recorded for new housing. The fact that homeowners supply some of the labour involved in renovations and the significance of the underground economy in the renovations sector are important factors that explain this phenomenon. Renovations may require less professional labour per dollar of expenditure but it also is true that the number of people working in the home renovations industry is significantly underestimated in the official data.



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