RESEARCH REPORT

The Housing Construction Industry: Challenges & Opportunities for the 21st Century

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THE HOUSING CONSTRUCTION INDUSTRY: CHALLENGES & OPPORTUNITIES FOR THE 21ST CENTURY

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RESEARCH HIGHLIGHTS

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THE HOUSING CONSTRUCTION INDUSTRY: CHALLENGES AND OPPORTUNITIES FOR THE 21ST CENTURY

Introduction

This study examines the evolution of the new house building and renovation construction industry in Canada during the 1990s, the industry's current and future challenges in the period to 2010 and the opportunities for the industry to respond to those challenges. Within this context it looks at the structure of the industry and the influences of a variety of external factors.

The focus is the private sector. Public sector activity, namely federal, provincial/territorial and municipal government involvement in social housing construction and delivery, is not covered in the paper.

Topics discussed include:

- the structure of the industry: understanding how the industry is organized and how it functions is a major element in comprehending how external factors affect the industry and how the industry will meet future challenges; and,
- external factors that have both short- and long-term effects on the industry: identifying the major trends in areas such as demographics, the economy, regulation, technology; these are important when considering what the future may be like for the industry.

The final section of the paper assesses the challenges and opportunities the industry will face over the next decade.

Objectives and Methodology

The study approach included a literature review, data gathering and analysis, and a consultation process involving housing industry stakeholders. Where studies were available on particular issues, these have been summarized and referenced. However, where studies were not available, only the views of informants have been discussed.

The consultation process—a significant component of the project—was designed to obtain stakeholder's reaction and comment on a series of views on recent and future trends in the residential construction industry. The countrywide sample of respondents included a cross-section of industry interests. A total of 60 interviews were completed between the end of January and mid-March 2001. Of these, 47 were lengthy personal interviews and sometimes involved a small group of up to four people at the suggestion of the industry stakeholder. The remaining interviews were in-depth phone interviews.

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Findings

Structure of the Industry

Highlights of trends in the 1990s include:

- The residential construction industry in Canada contributes over five per cent to Canada's Gross National Product and provides almost one million person-years of employment, directly and indirectly every year.
- The industry comprises almost 75,000 firms of which single family builders account for almost half (34,900 firms), land developers and renovators for about one-quarter each (19,300 and 17,500 firms respectively), and apartment builders for the rest (2,700 firms). About two-thirds of all firms are unincorporated.
- In 1997, the proportion of profitable firms in the residential construction industry was generally higher than that in the economy as a whole, although the absence of comprehensive data means that such comparisons must be interpreted cautiously.
- In terms of employment levels, most firms are small, with an average of fewer than two paid employees per firm. Almost 40 per cent of total employment is attributable to one province—Ontario.

Emerging trends in the 2000s

The structure of the industry is unlikely to change much in the first decade of the 2000s.

The industry is so large, complex and locally-focused that changes will of necessity be incremental and evolutionary, not radical or revolutionary. That being said, the industry is facing many significant challenges such as labour force shortages, increased regulation, environmental concerns and pressures on profit margins.

Demographic Factors

Highlights of trends in the 1990s include:

- While household sizes declined steadily, the average size of new homes did not decrease, due possibly to increasing income levels for some Canadians and consumer expectations.
- There was a steady decline in the home ownership (non-condominium) rate for household maintainers under the age of 30 years, and an increasing interest in rental and condominium ownership housing options by younger households.
- The impact of immigration trends on housing markets has been considerable, particularly in the three largest CMAs where most immigrants settle—Toronto (42 per cent), Montréal (15 per cent), or Vancouver (16 per cent). The development of new intergenerational housing options such as "bi-family" or "2 plex" housing was a trend that emerged in the larger cities.

Emerging trends in the 2000s

The decline in household formation will be gradual over the next 10 years, and the origin of new households is expected to be more dependent on immigrants than on natural increase.

Baby boomers will continue to be the dominant demographic group in the population. The first of the baby boomers turn 65 in 2012 (after the time horizon for this project). The peak years of the baby boom were between 1955 and 1964 and people born then do not turn 65 until 2020 at the earliest.

For the housing industry, the baby boom echo (the children of the boomers) is an important group over the next 10 years as they form households and become first-time buyers.

Immigration is becoming an increasingly important component of population growth and this trend will continue over the next 10 years. The demographic profile of new immigrants will greatly influence the type of housing required. Immigrant households will continue to look for more flexibility in housing design and planning to take into account diverse household types, including extended families and intergenerational living arrangements.

The demand for affordable housing will increase, including growing demand for rental accommodation. Reasons for this include the economic insecurity of the workplace for some groups and increasing student debt loads experienced by the "bust" generation. The increasing pressure on the rental market—especially the low end of the market, is creating demand for accessory apartments, co-residency housing and other forms of affordable rental housing.

The indications are that over the next decade, Canadians of all generations are going to be looking for a range of housing choices involving design, financing and tenure options, including alternative tenure arrangements. While the largest segment of the market will be geared to the varied housing needs of aging Canadians, there

will be challenges in meeting the housing needs of younger and diverse population groups which are likely to involve digressing from traditional housing types and tenure patterns.

Economic Factors

Highlights of trends in the 1990s include:

- The number of housing starts was extremely volatile over the period, ranging from a low of 110,933 in 1995 to a high of 181,630 in 1990.
- Fluctuations in full-time employment levels contributed to this volatility. The number of full-time jobs in Canada plunged during the recession of the early 1990s and did not begin to recover until 1993. Healthy job growth in the latter stages of the decade resulted in stronger housing markets in most of the country.
- One of the links between job growth and housing markets is the impact of employment patterns on income. Real per capita disposable income fell for much of the decade and only began to recover in 1997. Sluggish income growth may have been the single most important factor behind the weakness in housing starts in the 1990s.

Emerging trends in the 2000s

Overall, the 1990s were not that positive a decade for the nation's housing markets—there were significant contractions in many parts of the country. In many respects, the 2000s appear to be more promising—interest rates are relatively low and may remain that way, productivity levels continue to improve, immigration is expected to be robust, and income growth is likely to be stronger in the 2000s than in the 1990s.

Regulatory Factors

Building Regulation

Highlights of trends in the 1990s include:

- Builder licensing was introduced in Quebec and British Columbia (Ontario has had a de facto licensing structure for years because all builders must be registered with the Ontario New Home Warranty Program).
- Mandatory home warranties in Ontario were joined by similar programs in Quebec and British Columbia.
- Concerns about liability grew over the decade, caused in part by court decisions increasing the potential liabilities faced by new home builders and renovators. The courts have also found municipal inspectors liable for negligence in plan examination or building inspections.
- The groundwork has begun for a big change to building codes with the creation and use of more flexible objective-based codes intended to encourage innovative approaches to construction. The first edition of an objective-based code is expected in 2003.

Emerging trends in the 2000s

The role of regulation in the residential construction industry is a highly complex matter. There is a demand among builders for regulatory reform which recognizes, supports and rewards varying degrees of professionalism in the industry. Builder occupational licensing and mandatory warranties are expected to become more important throughout the country in the future.

The industry has expressed interest in Australian style reforms (mandatory licensing and warranties, privatization of building approvals and limitations on liability) as an appropriate direction for the Canadian industry to follow. As well, Ontario's Building Regulatory Reform Advisory Group (BRRAG) has suggested many reforms to Ontario's building regulatory environment which were enacted in June 2002 and will take effect in 2004.

Land Use Regulation Issues:

Highlights of trends in the 1990s include:

Concerns about sustainability and economic factors related to the escalating cost of infrastructure influenced housing markets in the 1990s. The move to more sustainable urban development generated opportunities for creative design for infill and higher density housing, and was supported by increasing use of innovative regulatory tools.

Emerging trends in the 2000s

In the 2000s, as population growth continues, it is anticipated that smart growth (sustainable development) practices will become increasingly common and increasingly expected.

Environmental Regulations:

Highlights of trends in the 1990s include:

In the 1990s, concern for the environment grew and federal and provincial/territorial governments introduced a number of regulatory measures focused on environmental protection of land, air and water.

Emerging trends in the 2000s

During the 2000s, conservation and environmental protection will continue to be of critical concern, with environmental regulations becoming increasingly important.

There is a concern within the industry that the existing land contamination standards are impractical and obstruct the clean up of contaminated lands and brownfield sites. The availability of best practices material on decommissioning contaminated sites and modifications to regulations have the potential to open up intensification opportunities for innovative development in existing urban areas. Brownfield development (the revitalization of idle industrial sites) is becoming increasingly key to urban redevelopment.

Mortgage Financing

Highlights of trends in the 1990s include:

- Over the last decade mortgage lending has evolved considerably: mortgages were made more flexible and more competitive; new instruments were increasingly being used to respond to new market demands such as the reverse mortgage.
- Financial institutions increasingly regenerated their mortgage funds on the secondary mortgage markets, while CMHC's Canada Mortgage Bonds opened up new investment opportunities for investors and expanded the pool of capital available to fund mortgages, keeping interest rates lower than otherwise would be the case.
- A new intermediary appeared on the market in the early nineties: the mortgage broker.
- During the last decade chartered banks increased their market share to 59 per cent of all mortgage credit in 1999 from 52 per cent in 1995, while trusts and mortgage loan companies' and life insurance companies' share fell.
- Bad credit experiences during the early 1990s made lenders more selective. The impact of credit tightening on the construction industry resulted in increased difficulty in obtaining construction loans to build homes on speculation.
- In 1992, tax policy changes enabled first-time homebuyers to withdraw money accumulated in their RRSP in order to help in the purchase of a home. The plan has facilitated an estimated 527,000 home purchases, about 75,000 of which occurred in the year 2000.
- Since 1996, faster mortgage approvals and lower costs became possible with the introduction of CMHC's **emili**, an automated risk and mortgage assessment system.
- Mortgage interest rates fell almost without interruption during the 1990s. Home ownership became increasingly affordable and helped to increase the level both of new construction activity as well as home renovation, causing lenders to look for new ways to offer their services.
- More knowledgeable and better educated consumers tend to be more demanding in their selection of finance products and options offered by builders and lenders, encouraging increased competition and more shopping before committing to purchasing a financing product.

- Internet use by financial institutions to promote their services and mortgage products was a trend started in the 1990s. Consumers also started using the Internet to shop for rates, although actual transactions were still being done in a face-to-face situation.

Emerging trends in the 2000s

In the 2000s, continuing changes in the financing system will likely be associated with wider choice, fiercer competition and greater use of electronic media and the Internet in mortgage financing. Borrowers will benefit from a wider range of options available to repay the mortgage to suit their individual needs.

Consultation with survey respondents confirmed that the trends initiated in mortgage financing in the early nineties will continue. Nearly 84 per cent of those consulted were of the view that, over the next 10 years, there will be further innovations in the residential mortgage industry.

Mortgage brokers will become increasingly important over the next few years.

As Internet transactions will become more prevalent and more secure, it is possible that a larger portion of the mortgage approval process will be completed over the Internet.

The construction industry is likely to benefit from generally lower rates resulting from increased competition among lenders, the advent of mortgage brokers, and lenders taking advantage of the opportunity to obtain low-cost financing through the sale of mortgages in their portfolios on the secondary mortgage market.

Trade and Labour Mobility

Highlights of trends in the 1990s include:

- In Canada, barriers among provinces started to slowly disappear in the 1990s with the reduction or elimination of many trade restrictions among provinces. The Agreement on Internal Trade (AIT), which came into effect in 1995, is directed at making it easier for people, goods and services to move across Canada. In addition, an agreement was signed in 1996 between the governments of Quebec and Ontario aiming to encourage construction labour mobility between the provinces.
- An encouraging sign by the end of the 1990s was that contractors and suppliers could quote on government calls for tenders from outside their province of residence. This had been unthinkable previously.
- In spite of the North American Free Trade Agreement's (NAFTA) objectives of encouraging free trade and greater work force mobility among countries, both Canada and the U.S. employ policies which do not allow construction workers from outside their jurisdictions to work in each other's country without long, complicated and often unsuccessful applications.
- Trade barriers that existed at the beginning of the 1990s were being dismantled by the end of the decade. However, some U.S. restrictive policies still remain, such as those affecting softwood lumber.

Emerging trends in the 2000s

In spite of governments' collaboration in removing barriers to worker mobility among provinces, the implementation of full mobility, especially with Quebec, is far from complete and remains a challenge for the coming decade. The next 10 years will undoubtedly see the continuation of the movement to remove obstacles to labour mobility among provinces and countries.

The construction industry will continue to make representations to improve mobility among provinces. Eventually mobility may come to be seen as part of the solution in order to fill shortages of skilled people in specialized construction trades. Factors in favour of improved mobility will be the increasing shortage of skilled people in the construction industry and the increased free trade among countries in the Americas. The factors constraining change will still be protectionist measures by governments and unions.

The elimination of labour mobility barriers in most provinces has been positive for the industry, opening up opportunities for construction trades to move between jurisdictions. For an industry facing skilled labour shortages, greater labour mobility and reliance on immigration to increase the number of skilled workers offer a partial solution to the problem.

Development Cost Charges, Taxes, Fees and Construction Costs

Highlights of trends in the 1990s include:

- Over the last decade provincial governments have offloaded many responsibilities to local governments, including greater responsibility for infrastructure provision.
- Faced with the need for revenue, and wanting to constrain increases in the property taxes of existing residents, the trend in the 1990s was for local governments to opt for a user pay policy which increased development cost charges (DCCs) or levies on new residential development to cover servicing costs.
- In Ontario, charges were relatively stable through the 1990s. In contrast, charges in municipalities in the Lower Mainland of British Columbia increased from a range of $500 - $900 for a new single family home in the late 1980s to generally over $15,000 by the late 1990s; an increase many times the rate of inflation.

Emerging trends in the 2000s

The trend will likely be for provincial governments to continue to offload responsibilities to the local level. Municipalities, however, have expressed the concern over their financial capacity to take on these new responsibilities under existing revenue-generating mechanisms.

A number of municipalities and urban planners are starting to re-assess the application of DCCs, not only from the perspective of their impact on urban form and relationship to smart growth policies, but also as a revenue generator. Whether DCCs continue to play the role they did in the last decade, or whether alternate sources or means of funding infrastructure will emerge, it will have implications for the housing industry in its ability to produce homes priced for consumers in their respective markets.

Technology

Application of Innovative Technology and Practices:

Highlights of trends in the 1990s include:

- The residential construction industry witnessed a number of innovations that improved the production process for housing in the 1990s. Areas of innovation included: energy-efficiency measures, foundation systems, roofing and the building envelope.

Emerging trends in the 2000s

Over the next decade, the move to objective-based codes has significant potential implications for encouraging innovation in the new house building and renovation construction industry in Canada.

Application of E-Commerce Technology:

Highlights of trends in the 1990s include:

- The biggest technological change of the last 10 years has been the rapid development of the Internet and the way it has changed business strategy and investment, as well as consumer access to information.

Emerging trends in the 2000s

In the 2000s the Internet will play an increasingly significant role in delivering information and services to the new house building and renovation construction industry. Decreasing hardware costs will alleviate the cost concerns for smaller firms.

Challenges and Opportunities

Having identified a number of issues that will affect the housing industry in Canada over the next decade and beyond, it is expected some established trends will continue to develop and new trends will emerge that will require the housing industry in Canada to adapt. The concluding section of the report highlights the challenges and opportunities these trends present for the housing industry.

Areas discussed relate to:

Data Availability: The inadequacy of available data sources, and lack of thorough analyses for profitability for unincorporated firms, which are very common in the industry, all make it challenging to identify and address problems.

Demographic Factors: An aging population with an increasing propensity to remain as homeowners, younger generations facing less job security and looking for flexibility and diversity in housing, tenure and financing options, and an increasing trend to multi-generational households and related housing needs will present the industry with challenges to respond with diversity, flexibility and affordability in design, construction, renovation, financing and tenure options.

Economic Factors: There is indication that some components of the housing industry may be less profitable than the average Canadian business, but because of data availability problems, it is difficult to know what the situation is with regard to industry profitability and whether or not profitability trends are worsening or improving. In addition, the growing shortage of skilled labour in the Canadian housing industry if not addressed will continue to impair the ability of firms to respond to demand, and the cost of housing could increase in the future because of this.

Regulatory Factors: Builders and other stakeholders in the housing industry are becoming increasingly concerned about the nature and extent of the liabilities they face as a result of building or renovating houses. The regulatory framework governing the Canadian housing industry is evolving rapidly. Some aspects are welcomed by the industry and some are viewed with extreme concern.

Mortgage Financing: Home financing arrangements are becoming more varied, flexible and innovative. Lenders are introducing products that respond to a variety of needs and are mutually beneficial to lender and client.

Trade and Labour Mobility: Labour shortages could impair the ability of firms to respond to demand and affect the cost of housing. The industry faces the challenge of attracting more young people into the profession as the existing baby-boom workforce ages. With labour shortages becoming more acute, increasing standardization and supporting trade mobility among provinces becomes important. There is also the challenge of mobility of skilled workers across the U.S./Canada border.

Development Cost Charges: With an increasing variety of levies, user fees and taxes pushing up the cost of new home construction there is pressure to examine alternative revenue generating mechanisms to provide for capital works infrastructure.

Technology: Innovative practices appear poised to emerge in the future; however, there continues to be a number of barriers both within and outside the industry to innovation.

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Research Report: *The Housing Construction Industry: Challenges and Opportunities for the 21st Century*

Research Consultant: Urban Aspects Consulting Group Ltd. and Langlais et associés

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L'INDUSTRIE DE LA CONSTRUCTION RÉSIDENTIELLE : LES DÉFIS ET LES POSSIBILITÉS DU 21E SIÈCLE

Introduction

L'étude examine l'évolution de l'industrie de la construction neuve résidentielle et de la rénovation au Canada au cours des années 1990, les défis courants et futurs de la période jusqu'en 2010 et les possibilités pour l'industrie de relever ces défis. L'étude examine dans ce contexte la structure de l'industrie et les influences d'une gamme de facteurs externes.

L'étude porte sur le secteur privé et ne couvre pas l'activité du secteur public, à savoir la participation des gouvernements fédéral, provinciaux et territoriaux et des administrations municipales à la construction du logement social et à sa prestation.

Les sujets examinés comprennent :

- la structure de l'industrie: l'un des éléments les plus importants pour comprendre comment les facteurs externes influencent l'industrie et comment l'industrie relèvera les défis de l'avenir est la connaissance de l'organisation et du fonctionnement de l'industrie;
- les facteurs externes qui ont des effets à court et à long terme sur l'industrie : parce qu'ils révèlent les grandes tendances des secteurs comme la démographie, l'économie, la réglementation et la technologie, qui sont importantes pour tenter d'envisager l'avenir de l'industrie.

La dernière section du document évalue les défis et les possibilités que l'industrie connaîtra au cours de la prochaine décennie.

Objectifs et méthodologie

L'étude comprenait une analyse documentaire, la collecte et l'analyse de données et un processus de consultation des intervenants de l'industrie de la construction résidentielle. Les études existantes sur des questions particulières ont été résumées et les références ont été établies. Quand il n'en existait pas, seuls les points de vue des répondants ont été examinés.

Le processus de consultation — un des éléments importants du projet — était conçu pour obtenir les réactions et les observations des intervenants à l'égard d'une série de points de vue sur les tendances récentes et futures de l'industrie de la construction résidentielle. L'échantillon de répondants à l'échelle nationale incluait un échantillon représentatif des intérêts de l'industrie. Un total de 60 entrevues ont eu lieu entre la fin de janvier et la mi-mars 2001. Cela incluait 47 longues entrevues personnelles et quelques entrevues avec des petits groupes de quatre personnes au plus à la suggestion des intervenants de l'industrie. Les autres entrevues étaient des entrevues téléphoniques en profondeur.

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Constatations

Structure de l'industrie

Principales tendances des années 1990 :

- L'industrie de la construction résidentielle au Canada contribue plus de 5 % du produit national brut du Canada et offre près d'un million d'années personnes d'emploi direct et indirect chaque année.
- L'industrie est formée de presque 75 000 compagnies, dont presque la moitié sont des constructeurs de maisons individuelles (34 900 compagnies), environ le quart respectivement sont des promoteurs immobiliers et des rénovateurs (19 300 et 17 500 compagnies respectivement), tandis que les autres sont des constructeurs d'immeubles d'habitation (2 700 compagnies). Environ les deux tiers de toutes les compagnies ne sont pas incorporées.
- En 1997, la proportion de compagnies rentables dans l'industrie de la construction résidentielle était généralement plus élevée que celle de l'ensemble de l'économie, même si l'absence de données complètes signifie qu'il faut interpréter de telles comparaisons avec prudence.
- En ce qui concerne les niveaux d'emploi, la plupart des compagnies sont petites et comptent en moyenne moins de deux employés rémunérés. Presque 40 % du nombre total d'emplois sont attribuables à une seule province, l'Ontario.

Nouvelles tendances des années 2000

La structure de l'industrie ne devrait pas changer beaucoup au cours de la première décennie des années 2000.

L'industrie est si grande, si complexe et orientée à l'échelle locale que les changements seront nécessairement progressifs et évolutifs plutôt que radicaux ou révolutionnaires. Cela dit, l'industrie a beaucoup de grands défis à relever, comme les pénuries de la main-d'œuvre, l'augmentation de la réglementation, les préoccupations environnementales et les pressions sur les marges de profit.

Facteurs démographiques

Principales tendances des années 1990 :

- Pendant que la taille des ménages diminuait avec régularité, la dimension moyenne des maisons neuves n'a pas diminué, peut être en raison de l'augmentation des niveaux de revenu de certains Canadiens et des attentes des consommateurs.
- Le taux d'accession à la propriété (autre que la copropriété) a diminué régulièrement chez les soutiens de ménage de moins de 30 ans, et l'intérêt des jeunes ménages envers la location et la copropriété s'est accru.
- L'incidence des tendances d'immigration sur les marchés du logement a été considérable, particulièrement dans les trois plus grandes agglomérations urbaines où la plupart des immigrants s'installent, soit à Toronto (42 %), Montréal (15 %) et Vancouver (16 %). Une nouvelle tendance dans les plus grandes villes a été le développement de nouvelles options de logement intergénérationnel comme la maison « bi-familiale » ou « 2 plex ».

Nouvelles tendances des années 2000

Il y aura déclin graduel de la formation de ménages au cours des 10 prochaines années et l'origine des nouveaux ménages devrait dépendre plus des immigrants que d'une augmentation naturelle.

Les baby boomers continueront d'être le groupe démographique dominant de la population. Les premiers baby boomers auront 65 ans en 2012 (au delà de l'horizon temporel du présent projet). Les années de pointe du baby boom ont été entre 1955 et 1964 et les gens nés à cette époque n'auront pas 65 ans avant 2020 au plus tôt.

Pour l'industrie de la construction résidentielle, les membres de la génération de l'après baby boom sont un groupe important pour les 10 prochaines années puisqu'ils sont en train de former des ménages et de devenir des accédants à la propriété.

L'immigration est en train de devenir une composante de plus en plus importante de l'accroissement de la population, une tendance qui se poursuivra au cours des 10 prochaines années. Le profil démographique des nouveaux immigrants influencera beaucoup le type de construction résidentielle requise. Les ménages

immigrants vont continuer de chercher plus de flexibilité dans la conception et la planification de la construction résidentielle selon les types de ménage, incluant les familles élargies et celles dont le mode de vie est intergénérationnel.

La demande de logement abordable va augmenter, comme la demande de logement locatif. Cela s'explique notamment par l'insécurité économique du milieu de travail pour certains groupes et par l'augmentation de l'endettement étudiant de la génération issue de l'effondrement de la natalité. La pression de plus en plus grande exercée sur le marché locatif — particulièrement le marché bas de gamme, crée de la demande pour les appartements accessoires, les habitations collectives et les autres formes de logement locatif abordable.

Tout indique que la prochaine décennie verra les Canadiens de toutes les générations choisir leurs logements en fonction d'options comme la conception, le financement et le mode d'occupation, y compris les modes alternatifs. Si le plus grand segment du marché sera axé sur les différents besoins de logement des Canadiens plus vieux, il faudra néanmoins relever le défi de répondre aux besoins de logement des groupes plus jeunes et plus diversifiés de la population qui sont susceptibles de choisir autre chose que les types de logement et les modes d'occupation traditionnels.

Facteurs économiques

Regard sur les faits saillants des tendances des années 1990 :

- Le nombre de mises en chantier a été extrêmement volatile au cours de la période, atteignant son niveau le plus bas (110 933) en 1995 et son plus haut (181 630) en 1990.
- Les fluctuations des niveaux d'emploi à temps plein ont contribué à cette volatilité. Le nombre d'emplois à temps plein au Canada a fondu au cours de la récession du début des années 1990 et n'a pas entrepris sa récupération avant 1993. La saine croissance des emplois de la fin de la décennie a renforcé les marchés du logement dans la plus grande partie du pays.
- L'un des liens entre la croissance de l'emploi et les marchés du logement est l'incidence des tendances de l'emploi sur le revenu. Le revenu disponible réel par personne a diminué au cours de la plus grande partie de la décennie et a commencé à récupérer seulement en 1997. La lenteur de la croissance du revenu a peut être été le facteur particulier le plus important pour expliquer la faiblesse des mises en chantier dans les années 1990.

Nouvelles tendances des années 2000

Dans l'ensemble, les années 1990 n'ont pas été une décennie si positive pour les marchés du logement du pays. Les contractions ont été considérables dans de nombreuses parties du pays. Les années 2000 semblent plus prometteuses à bien des égards. Les taux d'intérêt sont relativement bas et pourraient le demeurer, les niveaux de productivité continuent de s'améliorer, on s'attend à ce que l'immigration soit robuste et la croissance du revenu sera probablement plus forte au cours des années 2000 que dans les années 1990.

Facteurs de réglementation

Règlement de construction

Principales tendances des années 1990 :

- Le Québec et la Colombie-Britannique ont décidé d'exiger l'agrément des constructeurs. L'Ontario possédait une structure d'agrément de fait depuis des années puisque tous les constructeurs doivent être inscrits au Programme de garantie des nouvelles résidences de l'Ontario.
- Le Québec et la Colombie-Britannique ont adopté des programmes semblables à celui des garanties obligatoires de l'Ontario.
- Les préoccupations relatives à la responsabilité ont grandi au cours de la décennie, en partie à cause des décisions des tribunaux qui ont élargi les responsabilités possibles des constructeurs résidentiels et des rénovateurs. Les tribunaux ont également établi la négligence d'inspecteurs municipaux dans l'examen des plans ou l'inspection des bâtiments.
- Le travail de base a été entrepris en vue d'un grand changement des codes du bâtiment avec la création et l'utilisation de codes plus flexibles et axés sur les objectifs, destinés à encourager les démarches de construction novatrices. La première édition d'un code axé sur les objectifs est prévue pour 2003.

Nouvelles tendances des années 2000

Le rôle de la réglementation dans l'industrie de la construction résidentielle est une question très complexe. Les constructeurs veulent une réforme de la

réglementation qui reconnaît, soutient et récompense divers degrés de professionnalisme dans l'industrie. Les permis professionnels requis pour les constructeurs et les garanties obligatoires prendront de plus en plus d'importance au pays.

L'industrie a exprimé son intérêt envers le style des réformes australiennes (permis et garanties obligatoires, privatisation des autorisations de construction et limitations de la responsabilité) qui semblerait une orientation convenable pour l'industrie canadienne. En outre, le Groupe consultatif de la réforme des règlements du bâtiment de l'Ontario (GCRRB) a proposé de nombreuses réformes du milieu de la réglementation de la construction qui ont été adoptées en juin 2002 et qui entreront en vigueur en 2004.

Questions de réglementation de l'utilisation des terrains

Principales tendances des années 1990 :

Les préoccupations entourant la durabilité et les facteurs économiques relatifs à l'escalade des coûts de l'infrastructure ont influencé les marchés du logement dans les années 1990. L'aménagement urbain plus durable a favorisé la conception créative dans l'aménagement réalisé sur terrain intercalaire et le logement à forte densité, et a été appuyé par le recours accru à des outils de réglementation novateurs.

Nouvelles tendances des années 2000

Dans les années 2000, l'accroissement démographique se poursuivra et les pratiques de développement durable deviendront de plus en plus communes et souhaitées.

Réglementation de l'environnement :

Principales tendances des années 1990 :

Dans les années 1990, on s'est plus préoccupé de l'environnement et les gouvernements fédéral, provinciaux et territoriaux ont introduit des mesures de réglementation axées sur la protection de l'environnement, des terrains, de l'air et de l'eau.

Nouvelles tendances des années 2000

Au cours des années 2000, la conservation et la protection de l'environnement continueront d'être des questions critiques et la réglementation environnementale deviendra de plus en plus importante. L'industrie trouve que les normes existantes en matière de contamination des terrains ne sont pas pratiques et empêchent le nettoyage des terrains contaminés et des zones désaffectées. La disponibilité du matériel sur les pratiques exemplaires de déclassement des sites contaminés et les modifications de la réglementation pourraient susciter des possibilités d'intensification pour l'aménagement novateur dans les secteurs urbains existants. L'aménagement des zones désaffectées (la revitalisation des sites industriels désaffectés) est en train de devenir un aspect de plus en plus clé du réaménagement urbain.

Financement hypothécaire

Principales tendances des années 1990 :

- Le crédit hypothécaire a évolué considérablement au cours de la dernière décennie. Les hypothèques sont devenues plus flexibles et plus concurrentielles; de nouveaux instruments ont été utilisés de plus en plus pour répondre aux demandes de nouveaux marchés comme celui du prêt hypothécaire inversé.
- Les établissements financiers ont régénéré de plus en plus leurs fonds hypothécaire sur les marchés hypothécaires secondaires, tandis que les Obligations hypothécaires du Canada de la SCHL ont ouvert de nouvelles possibilités d'investissement pour les investisseurs et ont élargi le bassin de capital disponible pour financer les hypothèques, conservant des taux d'intérêt plus bas qu'ils ne l'auraient été autrement.
- Un nouvel intermédiaire est apparu sur le marché au début des années 1990 : le courtier en hypothèques.
- Au cours de la dernière décennie, les banques à charte ont occupé 59 % de tout le marché du crédit hypothécaire en 1999, une hausse par rapport à leur niveau de 52 % en 1995, tandis que la part des compagnies de fiducie et de prêt hypothécaire et des compagnies d'assurance vie a diminué.
- Les mauvaises expériences de crédit du début des années 1990 ont rendu les prêteurs plus sélectifs. L'incidence de l'encadrement du crédit sur l'industrie de la construction a augmenté la difficulté d'obtenir des prêts à la construction pour construire des maisons dans la foulée de la spéculation immobilière.
- En 1992, les changements de la politique fiscale ont permis aux accédants à la propriété de retirer l'argent de leur REER pour acheter une maison. Le plan a facilité un nombre estimé de 527 000 achats de maison, dont environ 75 000 en 2000.

- Depuis 1996, l'accélération du processus d'approbation des hypothèques et la diminution des coûts sont devenues possibles avec l'introduction du système **emili**, une plate-forme d'évaluation et de traitement en ligne des risques mise au point par la SCHL.
- Les taux d'intérêt hypothécaire ont diminué presque sans interruption au cours des années 1990. L'accession à la propriété est devenue de plus en plus abordable et a aidé à augmenter à la fois le niveau d'activité de la construction nouvelle et de la rénovation résidentielle, obligeant les prêteurs à chercher de nouvelles façons d'offrir leurs services.
- Les consommateurs les plus informés et éduqués ont tendance à soupeser plus leurs choix de produits financiers et d'options offerts par les constructeurs et les prêteurs, ce qui favorise la concurrence avant la décision d'acheter un produit financier.
- Le recours à l'Internet par les établissements financiers afin de promouvoir leurs services et leurs produits hypothécaires est une tendance qui a pris naissance dans les années 1990. Les consommateurs ont également commencé à utiliser l'Internet à la recherche de taux avantageux, même si les transactions réelles étaient encore faites en face à face.

Nouvelles tendances des années 2000

Dans les années 2000, les changements continus du système de financement seront probablement associés à un plus grand choix, à une concurrence plus farouche et à une plus grande utilisation des médias électroniques et de l'Internet dans le financement hypothécaire. Les emprunteurs profiteront d'une plus vaste gamme d'options de remboursement de l'hypothèque pour convenir à leurs besoins individuels.

Les répondants aux enquêtes ont confirmé que les tendances apparues au début des années 1990 en matière de financement hypothécaire vont se poursuivre. Près de 84 % des répondants croyaient que les 10 prochaines années verront d'autres innovations dans l'industrie du prêt hypothécaire résidentiel.

Les courtiers en hypothèques vont devenir plus importants au cours des prochaines années.

En devenant plus courantes et plus sûres, il est possible que les transactions par Internet prennent une partie plus importante du processus d'approbation hypothécaire.

L'industrie de la construction profitera probablement de taux généralement moins élevés découlant d'une concurrence accrue entre les prêteurs, de l'apparition des courtiers en hypothèques et du fait que les prêteurs prendront avantage de la possibilité d'obtenir du financement moins cher en vendant leurs portefeuilles hypothécaires sur le marché hypothécaire secondaire.

Commerce et mobilité de la main-d'oeuvre

Principales tendances des années 1990 :

- Au Canada, les barrières entre les provinces ont commencé à disparaître lentement dans les années 1990 avec la réduction ou l'élimination de nombreuses restrictions au commerce entre les provinces. L'Accord sur le commerce intérieur qui est entré en vigueur en 1995 a pour objet de faciliter la circulation des personnes, des biens et des services au Canada. En outre, les gouvernements du Québec et de l'Ontario ont signé une entente destinée à encourager la mobilité de la main-d'œuvre du secteur de la construction entre les provinces en 1996.
- Un signe encourageant à la fin des années 1990 a été le fait que les entrepreneurs et les fournisseurs ont pu soumissionner dans les appels d'offres des gouvernements de l'extérieur de leur province de résidence. Cela était impensable auparavant.
- Malgré les objectifs de l'Accord de libre échange nord américain (ALENA) qui consistaient à encourager le libre échange et une plus grande mobilité de la main-d'œuvre entre les pays, le Canada et les États-Unis appliquent des politiques qui ne permettent pas aux travailleurs de la construction de l'un de travailler chez l'autre sans de longs processus de demandes qui sont compliqués et souvent infructueux.
- Les barrières commerciales qui existaient au début des années 1990 ont été éliminées à la fin de la décennie. Toutefois, certaines politiques restrictives des États-Unis demeurent encore, comme celles qui touchent le bois d'œuvre.

Nouvelles tendances des années 2000

Malgré la collaboration des gouvernements pour supprimer les obstacles à la mobilité des travailleurs entre les provinces, la mise en œuvre de la pleine mobilité entre les provinces, particulièrement avec le Québec, est encore loin d'être complète et demeure un défi pour la prochaine décennie. Les 10 prochaines années verront sans doute se poursuivre le mouvement d'élimination des obstacles à la mobilité de la main-d'œuvre entre les provinces et les pays.

L'industrie de la construction continuera de réclamer l'amélioration de la mobilité entre les provinces, que l'on pourrait finir par considérer comme une partie de la solution pour combler les pénuries d'ouvriers compétents des métiers spécialisés de la construction. Les facteurs en faveur de l'amélioration de la mobilité seront la pénurie accrue de personnes qualifiées dans l'industrie de la construction et l'augmentation du libre échange entre les pays des Amériques. Les facteurs restrictifs du changement seront encore les mesures protectionnistes des gouvernements et des syndicats.

La suppression des obstacles à la mobilité de la main-d'œuvre dans la plupart des provinces a été positive pour l'industrie, en créant des possibilités pour les métiers de la construction de se déplacer entre les territoires de compétence. Pour une industrie qui fait face à une pénurie de main-d'œuvre qualifiée, la mobilité accrue de la main-d'œuvre et le recours à l'immigration pour accroître le nombre de travailleurs qualifiés offrent une solution partielle au problème.

Droits d'aménagement, taxes, honoraires et coûts de construction

Principales tendances des années 1990

- Au cours de la dernière décennie, les gouvernements provinciaux se sont délesté de beaucoup de responsabilités que les administrations locales ont dû assumer, y compris une responsabilité accrue de prestation d'infrastructure.
- Face au besoin de revenus et voulant limiter l'augmentation de l'impôt foncier des résidents existants, les administrations locales ont eu tendance au cours des années 1990 à opter pour une politique de l'utilisateur payeur qui a augmenté les droits d'aménagement ou d'impôts sur les logements neufs pour couvrir les frais de service.
- En Ontario, les droits étaient relativement stables au cours des années 1990. Par contraste, les droits dans les municipalités de la vallée du bas Fraser en Colombie-Britannique ont passé de 500 $ à 900 $ pour une maison unifamiliale neuve à la fin des années 1980, à généralement plus de 15 000 $ à la fin des années 1990, une augmentation beaucoup plus élevée que celle du taux d'inflation.

Nouvelles tendances des années 2000

Les gouvernements provinciaux continueront au cours des années 2000 à se délester de responsabilités qui incomberont au palier local. Mais les municipalités s'inquiètent de leur capacité financière pour assumer ces nouvelles responsabilités avec les mécanismes existants qui génèrent des recettes.

Des municipalités et des urbanistes commencent à ré-évaluer les demandes de droits d'aménagement, non seulement du point de vue de leur incidence sur la forme urbaine et de leur rapport avec les politiques de développement durable, mais également comme mécanisme générateur de recettes. Quant à savoir si les droits d'aménagement continueront de jouer le même rôle qu'au cours de la dernière décennie, ou si d'autres outils ou moyens de financer l'infrastructure apparaîtront, il demeure que cela aura une incidence sur la capacité de l'industrie de la construction de produire des maisons aux prix qui conviennent aux consommateurs des différents marchés.

Technologie

Application de la technologie innovatrice

Principales tendances des années 1990 :

- L'industrie de la construction résidentielle a été témoin d'un certain nombre d'innovations qui ont amélioré le processus de production du logement dans les années 1990. Les champs d'innovation incluaient les mesures éconergétiques, les systèmes de fondation, la toiture et les enveloppes de bâtiment.

Nouvelles tendances des années 2000

Au cours de la prochaine décennie, l'apparition des codes axés sur des objectifs pourrait encourager considérablement l'innovation dans l'industrie de la construction neuve résidentielle et de la construction du Canada.

Application de la technologie du commerce électronique

Principales tendances des années 1990 :

- Le plus grand changement technologique des 10 dernières années a été la rapidité du développement de l'Internet et la façon dont cela a changé les stratégies d'affaires et les investissements, en plus de l'accès des consommateurs à l'information.

Nouvelles tendances des années 2000

Dans les années 2000, l'Internet jouera un rôle de plus en plus important dans la prestation d'information et de services à l'industrie de la construction neuve résidentielle et de la rénovation. La diminution des coûts du matériel sera bonne pour les petites entreprises.

Défis et possibilités

Après avoir établi un certain nombre de questions qui auront une incidence sur l'industrie de la construction au Canada au cours de la prochaine décennie et ensuite, il est attendu que certaines tendances établies vont continuer de se développer. En outre, de nouvelles tendances émergeront qui obligeront l'industrie de la construction au Canada à s'adapter. La section de conclusion du présent rapport met en valeur les défis et les possibilités que ces tendances présentent pour l'industrie de la construction résidentielle.

Champs examinés :

Disponibilité des données : Le caractère inadéquat des sources de données disponibles et le manque d'analyses approfondies de rentabilité pour les compagnies non incorporées, qui sont très nombreuses dans l'industrie, sont autant de facteurs qui rendent la détermination et le traitement des problèmes difficiles.

Facteurs démographiques : Une population vieillissante qui tend de plus en plus à demeurer propriétaire; les générations plus jeunes ont moins de sécurité d'emploi et cherchent de la flexibilité et diverses options de logement, de mode d'occupation et de financement; et une tendance accrue aux ménages multi-générationnels et aux besoins de logement connexes mettra l'industrie au défi de répondre avec de la diversité, de la flexibilité et de l'abordabilité dans les options de conception, de construction, de rénovation, de financement et de mode d'occupation.

Facteurs économiques : Il apparaît que certaines composantes de l'industrie de la construction résidentielle sont peut être moins rentables que l'entreprise canadienne moyenne, mais à cause des problèmes de disponibilité des données, il est difficile de savoir ce qu'est la vraie situation en ce qui concerne la rentabilité de l'industrie et d'établir si la situation s'améliore ou empire. En outre, si rien n'est fait quant à la pénurie de plus en plus importante de main-d'œuvre qualifiée dans l'industrie de la construction du Canada, cela continuera de nuire à la capacité des entreprises de répondre à la demande et pourrait faire augmenter les coûts de la construction.

Facteurs de réglementation : Les constructeurs et les autres intervenants de l'industrie de la construction résidentielle s'inquiètent de plus en plus de la nature et de la portée de leurs responsabilités après avoir construit ou rénové des maisons. Le cadre de réglementation de l'industrie canadienne de la construction résidentielle évolue rapidement. Certains aspects plaisent à l'industrie et d'autres l'inquiètent.

Crédits hypothécaires : Les ententes de financement de maison deviennent plus variées, flexibles et innovatrices. Les prêteurs présentent des produits qui répondent à une variété de besoins et qui sont bons pour le prêteur et pour le client.

Commerce et mobilité de la main-d'œuvre : Les pénuries de main-d'œuvre pourraient diminuer la capacité des entreprises de répondre à la demande et affecter le coût du logement. L'industrie a le défi d'attirer plus de jeunes dans la profession pendant que la population active issue du baby boom vieillit. Dans le contexte de pénuries de plus en plus sévères de main-d'œuvre, l'augmentation de la normalisation et le soutien de la main-d'œuvre prennent de plus en plus d'importance. Et il y a le défi de la mobilité des travailleurs qualifiés entre le Canada et les États-Unis.

Droits d'aménagement : Avec de plus en plus d'impôts, de droits d'usager et de taxes qui augmentent les coûts de la construction des maisons neuves, il existe une pression d'examiner d'autres mécanismes générateurs de recettes pour financer les grands travaux d'immobilisations.

Technologie : Les pratiques innovatrices semblent prêtes à éclore. Mais un certain nombre d'obstacles à l'innovation continuent toutefois d'exister dans l'industrie et à l'extérieur de celle-ci.

Directeur de projet : Ian Melzer

Rapport de recherche : *L'industrie de la construction résidentielle : les défis et les possibilités du 21e siècle*

Consultant de recherche : Urban Aspects Consulting Group Ltd. and Langlais et associés

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Chapter One

Introduction

This study examines the evolution of the housing construction and renovation industry in Canada during the nineties, the industry's current and future challenges in the period to 2010 and the opportunities for the industry to respond to those challenges. Within this context it looks at the structure of the industry, and the influences of a variety of external factors.

The focus is the private sector. Public sector activity, namely senior and local government involvement in social housing construction and delivery, is not covered in the paper.

The Canadian housing industry and the environment in which it operates is highly complex. Work on this study has been an evolutionary process, presenting the challenge of staying current with the housing policy initiatives and changes federally and provincially, in the hiatus of issues and concerns facing the industry over the last while. It is not possible within the constraints of this paper to do more than highlight the wide variety of issues and the trends, some of which have critical significance for the industry.

Where studies were available on particular issues, these have been summarized and referenced. However, where studies were not available, only the views of informants are discussed.

Topics discussed include:

- The structure of the industry: understanding how the industry is organized and how it functions is a major element in understanding how external factors impact the industry and how the industry will meet future challenges.
- External factors that have both short and long term effects on the industry: identifying the major trends in areas such as demographics, the economy, regulation, technology; these are important when considering what the future may be like for the industry.

The final section of the paper assesses the challenges and opportunities the industry will face over the next decade.

The study included a literature review, data gathering and analysis, and a consultation with housing industry stakeholders. The consultation was designed to obtain stakeholder reaction and comment on a series of views on recent and future trends in the residential construction industry. A total of 60 interviews were completed between the end of January and mid-March 2001. Of these, 47 were personal

interviews lasting from one to two hours and more in length. The interviews sometimes involved a small group of up to four people at the suggestion of the industry stakeholder. The remaining interviews were phone interviews (ranging from 45 minutes to over an hour and a half).

The countrywide sample of respondents included a cross section of industry interests, as well as national and regional perspectives. The stakeholder perspectives represent a valuable contribution to the overall project. The consultant team is very appreciative of the considerable time respondents gave to the project and their detailed insight and expertise. A copy of the Summary Report on Stakeholder Consultation is attached in Appendix C; it includes a listing of those interviewed.

In addition, the consultant team would like to thank the Advisory Committee, and in particular APCHQ (Association provinciale des constructeurs d'habitations du Quebec) for cooperating with Canada Mortgage and Housing Corporation (CMHC) in this project.

Chapter Two

Structure of the Industry

This chapter examines the structure of the residential construction industry in Canada in terms of number of firms and employment levels. It also provides summary data focused on the financial performance of the industry. Understanding how the industry is organized and how it functions is a major element in understanding how external factors impact the industry and how the industry will meet future challenges.

Throughout the paper, the term "residential construction industry" is used to describe the activities of four major sub-components of the industry:[i]

- Land subdivision and land development
- Single family construction
- Apartment and other multiple housing construction
- Residential renovation

The statistical analysis is based on the major function of firms but the classification is by no means perfect – many firms operate in more than one category. Regardless of the classification system used, the impact of the residential construction industry in Canada is huge. It contributes over 5% to Canada's Gross National Product and provides almost one million jobs every year. [ii]

A Look Back at the 1990s

In this paper, we have used several different indicators to sketch a picture of the housing construction industry over the 1990s: number and type of firms; employment levels; and, profitability.[iii]

2.1 Number of Firms by Type of Activity

According to the December 1999 edition of Canadian Business Patterns[iv], there were a total of 74,355 incorporated and unincorporated firms[v] in the Canadian housing industry in that year, distributed as follows:

Table 1: Geographic Distribution of Firms by Type[vi], 1999

Province	Single Family Homebuilders	Apartment Builders	Renovators	Land Development	Total
British Columbia	7,448	761	2,281	5,348	15,838
Alberta	4,020	310	1,767	1,926	8,023
Saskatchewan	799	60	350	205	1,414
Manitoba	950	63	452	391	1,856
Ontario	11,861	833	6,965	6,888	26,547
Quebec	7,205	567	4,481	3,528	15,781
New Brunswick	829	38	404	295	1,566
Nova Scotia	813	54	410	471	1,748
Prince Edward Island	172	9	75	64	320
Newfoundland	577	24	249	115	965
Yukon	93	5	30	11	139
NWT	65	6	28	14	113
Nunavut	27	1	13	4	45
Canada	34,859	2,731	17,505	19,260	74,355

Source: Statistics Canada – Canadian Business Patterns CD-ROM, December 1999

The largest number of firms were located in the largest provinces, as would be expected. The large number of firms engaged in land development is explained by the broad definition of that industry, which includes companies engaged in the acquisition, assembly, subdivision into lots, and servicing of land for sale to builders. Excluding land development firms, almost two-thirds of firms were engaged in the building of single family homes.

Rapid Growth over the 1990s

Table 2 is based on the 1990 edition of Canadian Business Patterns. Tables 1 and 2 illustrate that growth in the housing industry, at least as defined by the number of firms, was explosive over the nine year period between 1990 and 1999. The total number of firms tripled, which is somewhat anomalous in view of the fact that housing starts were in a state of general decline over much of the nineties. In some provinces (BC, Alberta) the number of firms quadrupled.

Table 2: Geographic Distribution of Firms by Type, 1990

Province	Single Family Homebuilders	Apartment Builders	Renovators	Land Development	Total
British Columbia	2,757	201	708	658	4,324
Alberta	1,386	57	489	218	2,150
Saskatchewan	385	23	142	55	605
Manitoba	415	23	185	88	711
Ontario	5,321	307	2,915	1,222	9,765
Quebec	4,004	244	1,645	348	6,241
New Brunswick	435	13	211	47	706
Nova Scotia	510	23	266	71	870
Prince Edward Island	102	3	34	9	148
Newfoundland	470	19	168	21	678
Yukon	32	2	8	1	43
NWT	41	2	14	1	58
Nunavut	14	0	2	0	16
Canada	15,872	917	6,787	2,739	26,198

Source: Statistics Canada – Canadian Business Patterns CD-ROM, December 1990

Most Firms are Unincorporated

Most firms in the housing industry are unincorporated. The Financial Performance Indicators database, Volume 3, 1999, identifies just over 21,000 incorporated firms in the housing industry compared to the total number of 74,000 firms identified in Canadian Business Patterns, 1999 Edition.

In its Small Business Profiles, Industry Canada publishes more detailed data on incorporation status than either the Financial Performance Indicators database or the Canadian Business Patterns database. The Profiles are based on samples, but they are representative samples. Table 3 illustrates the distribution of firms by incorporation status, based on Industry Canada data. Sub-group definitions are based on SIC codes, as explained in Endnote #6, meaning that definitions used in the tables based on the Small Business Profiles are the same as those used in the tables based on Canadian Business Patterns.[vii]

Table 3: Incorporation Status of Firms, 1997

	# of incorporated firms in sample	# of unincorporated firms in sample	Total # of firms	% unincorporated	% unincorporated, of all firms*
Single Family Builders	730	1,320	2,060	64	77
Apartment Builders	60	70	130	54	77
Renovators	160	1,910	2,060	93	77
Land Developers	380	180	560	32	77

* Note that this column refers to the percent of firms in all industries that are unincorporated, which is why the number is constant throughout the table.

Source: Industry Canada Small Business Profiles, 1997. Available on Strategis web site.

As might be expected, the incidence of incorporation increases as the scope and complexity of operations increases. With the exception of renovators, more firms in the housing industry are incorporated (that is, a smaller percentage are unincorporated) than the average of all businesses in Canada.

2.2 Profitability

There are two sources of information on profitability – Industry Canada's Small Business Profiles, which includes incorporated and unincorporated businesses, and Statistics Canada's Financial Performance Indicators database, which includes incorporated firms only.[viii]

Both data sources indicate that generally, firms in the housing industry are about as profitable but employ somewhat fewer people than the average industrial firm in Canada, although there certainly are exceptions to this observation as the following sections illustrate.

Incorporated and Unincorporated Firms: Industry Canada Data[ix]

Industry Canada's Small Business Profiles provide information on revenue and expenses of incorporated and unincorporated firms based on information from tax returns. Tables 4 to 7 focus on single family builders (Table 4), apartment builders (Table 5), renovators (Table 6), and land developers (Table 7). Tables 8 and 9 compare results in the housing industry to all-industry averages. The tables provide a perspective over a four year period from 1993 to 1997.[x] About two-thirds of the sampled firms were unincorporated.

The numbers in the tables refer to the average results of all the firms included in the sample.

The last row in the tables refers to the percentage of firms that were profitable in each year. The definition of profitability used by Industry Canada for purposes of these tables is: "Profitable businesses are those for which revenue is equal to or exceeds expenses during the reference period." As Table 9 illustrates, more apartment builders and renovators but slightly fewer single family builders are profitable than the overall industrial average. Land development firms are less profitable than other firms in the housing industry.

Table 4: Financial Results for Single Family Home Builders, 1993 and 1997

	Incorporated		Unincorporated		All	
	1993	**1997**	**1993**	**1997**	**1993**	**1997**
Gross revenue	$579,200	$637,500	$145,900	$162,200	$425,500	$490,000
Wages & benefits	$73,800	$61,900	$15,600	$22,900	$53,100	$49,800
Total expenses	$573,000	$630,600	$126,500	$139,100	$414,600	$478,000
Net profit before taxes	$6,100	$7,000	$19,500	$23,500	$10,900	$12,100
Return on total assets	4.4%	2.8%	NA	NA	NA	NA
Average # of paid employees	2.4	2.0	0.5	0.7	1.7	1.6
% of Firms that are Profitable	NA	NA	NA	NA	66	67

Source: Industry Canada Small Business Profiles. Note that the numbers in this table and following tables are extracted directly from the source documents. Numbers have been rounded by Industry Canada.

Table 4 shows that revenues increased for all firms over the four year period from 1993-1997. Gross revenue increased by 10% for incorporated firms over the four year period and by 11% for unincorporated firms, in comparison to a 6% increase in the Consumer Price Index over the same period.[xi]

The average amount spent on wages and benefits by incorporated firms fell in concert with the average number of paid employees, although total expenses increased by 10%. Net profit before taxes increased by 15%, but because that ratio was calculated on the basis of small numbers ($6,100 to $7,000), the 15% figure is somewhat misleading.

The results for unincorporated firms indicate much lower revenues and expenses than those reported for incorporated firms. Net profits on the other hand were more than three times larger for unincorporated than for incorporated firms, but this may be more a function of accounting differences than true profitability. The percentage of firms that were profitable stayed almost the same between the two years.

Table 5 provides the same data for apartment and other multiple builders. As indicated in Table 3, a somewhat higher proportion of apartment builders than single family builders were incorporated in 1997.

Table 5: Financial Results for Apartment Builders, 1993 and 1997

	Incorporated		Unincorporated		All	
	1993	**1997**	**1993**	**1997**	**1993**	**1997**
Gross revenue	$796,600	$518,400	$215,800	$157,600	$468,000	$434,000
Wages & benefits	$92,500	$68,600	$25,200	$15,200	$54,400	$56,100
Total expenses	$787,900	$502,900	$226,700	$138,000	$470,400	$417,500
Net profit	$8,700	$15,500	-$10,800	$19,600	-	$16,500
Return on total assets	4.2%	3.3%	NA	NA	NA	NA
Average # of paid employees	2.9	2.3	0.7	0.5	1.7	1.8
% of Firms that are Profitable	NA	NA	NA	NA	73	81

Source: Industry Canada Small Business Profiles. Note that the data have been extracted directly from the source document. Numbers have been rounded by Industry Canada

Unlike single family builders, apartment and other multiple builders experienced a significant contraction in results (measured in terms of gross revenue) over the four year period between 1993 and 1997, although net profits increased substantially. Like single family builders, the differences between incorporated and unincorporated firms were quite dramatic in terms of the magnitude of gross revenue and total expenses.

The average revenue of incorporated apartment builders dropped by 35% between 1993 and 1997 while net expenses declined by 36%. However, net profits before taxes almost doubled, although as was the case with single family builders, low absolute numbers result in high percentage increases. The average number of paid employees also declined, from 2.9 to 2.3, a decrease of 20%.

The results of unincorporated firms over the 1993-1997 period were somewhat different in terms of magnitude, with revenue dropping 27% but expenses dropping 94%, resulting in a change in net profitability from a loss of almost $11,000 to a profit of almost $20,000. However the average number of paid employees declined from 0.7 to 0.5.

Because of the significant improvement in profitability over the four year period, the number of profitable apartment builders increased from 73% of the total in 1993 to 81% of the total in 1997.

Table 6 focuses on residential renovators, the vast majority of which operate as unincorporated firms.[xii] In terms of gross revenue, firms engaged in residential renovation are substantially smaller than single family or apartment builders. The disparity between incorporated and unincorporated firms is less marked in this sector of the industry, but the fact is that almost all firms are unincorporated (93% in 1997).

Table 6: Financial Results for Residential Renovators, 1993 and 1997

	Incorporated		Unincorporated		All	
	1993	**1997**	**1993**	**1997**	**1993**	**1997**
Gross revenue	$234,600	$267,200	$72,700	$101,500	$155,400	$162,200
Wages & benefits	$55,500	$56,900	$11,700	$10,000	$34,100	$27,100
Total expenses	$237,500	$259,300	$59,800	$82,600	$150,600	$147,300
Net profit	-$3,000	$7,900	$12,900	$18,800	$4,800	$14,800
Return on total assets	-1.2%	6.1%	NA	NA	NA	NA
Average # of paid employees	1.7	1.8	0.4	0.3	1.1	0.9
% of Firms that are Profitable	NA	NA	NA	NA	65	78

Source: Industry Canada Small Business Profiles. Note that the data have been extracted directly from the source document. Numbers have been rounded by Industry Canada

Average gross revenue for renovators increased by 40% between 1993 and 1997, but expenses also increased, by 38%. However, net profit before taxes increased by 46%, from $12,900 to $18,800.

Table 7 contains financial results for land developers, who, as a group, are less profitable than other sectors of the housing industry as indicated earlier in this report.

Table 7: Financial Results for Land Developers, 1993 and 1997

	Incorporated		Unincorporated		All	
	1993	**1997**	**1993**	**1997**	**1993**	**1997**
Gross revenue	$531,900	$486,900	$382,800	$272,500	$509,600	$473,800
Wages & benefits	$30,200	$31,000	$4,000	$11,400	$26,300	$29,800
Total expenses	$524,700	$495,200	$414,500	$236,900	$508,200	$479,300
Net profit	-	-$8,200	-$31,700	$35,700	-	-$5,500
Return on total assets	-	1.6%	NA	NA	NA	NA
Average # of paid employees	0.9	0.8	0.1	0.3	0.8	0.8
% of Firms that are Profitable	NA	NA	NA	NA	61	60

Industry Canada Source: Industry Canada Small Business Profiles. Note that the data have been extracted directly from the source document. Numbers have been rounded by Industry Canada. Dashes (-) indicate results are too unreliable to be reported.

Another difference between land development firms and other sectors in the housing industry is that there were more incorporated firms than unincorporated firms. It is difficult to speculate about why this may be so, although the land development business may be riskier than other segments of the industry, thereby encouraging incorporation.

Comparison of Housing Industry to Industrial Totals

Table 8 compares 1997 financial results for unincorporated firms in the housing industry with all unincorporated firms in all industries. Because there are only a limited number of indicators available for unincorporated firms, Table 9 compares results for all firms, notwithstanding the importance of unincorporated firms in the housing industry.

In terms of unincorporated firms, Table 8 indicates that except for renovators, firms in the housing industry earned significantly larger gross operating revenues than the average for all firms. However, total expenses were also larger (except for renovators). Net profits were larger than average for single family builders and land developers, and smaller than average for apartment builders and renovators. The average number of paid employees was smaller than the industrial average for all sectors of the business industry except for single family builders.

Table 8: Comparative Data, Unincorporated Firms, 1997

Indicator	Single Family	Apartment Builders	Renovators	Land Developers	All Industries
Gross Operating Revenue	$162,200	$157,600	$101,500	$272,500	$121,100
Wages & Benefits	$22,900	$15,200	$10,000	$11,400	$13,900
Total Expenses	$139,100	$138,000	$82,600	$236,900	$99,900
Net Profit	$23,500	$19,600	$18,800	$35,700	$21,200
Average # of Paid Employees	0.7	0.5	0.3	0.3	0.7

Source: Industry Canada Small Business Profiles. Note that the data have been extracted directly from the source document. Numbers have been rounded by Industry Canada.

Table 9 refers to all firms.

Table 9: Comparative Data, All Firms, 1997

Indicator	Single Family	Apartment Builders	Renovators	Land Developers	All Industries
Gross Operating Revenue	$490,000	$434,000	$162,200	$473,800	$368,900
Cost of Goods sold	$310,900	$342,100	$46,800	$366,000	$152,900
Wages & Benefits	$49,800	$56,100	$27,100	$29,800	$85,300
Total Expenses	$478,000	$417,500	$147,300	$479,300	$350,400
Net Profit	$12,100	$16,500	$14,800	-$5,500	$18,500
Net Profit/ gross revenue	2%	4%	9%	-	5%
Average # of Paid Employees	1.6	1.8	0.9	0.8	3.4
% of businesses that are profitable	67	81	78	60	71

Source: Industry Canada Small Business Profiles. Note that the data have been extracted directly from the source document. Numbers have been rounded by Industry Canada.

One of the interesting aspects of Table 9 is the low proportion of gross operating revenue that is accounted for by wages and benefits in the housing industry compared to all other industries. The all industry average is 23%, compared to 6% in the land development sector, 17% in the renovation sector, 13% in the apartment sector, and 10% in the single family sector. As a corollary, employment levels in the housing industry are also lower on average. Net profit compared to gross operating revenue is generally lower in the housing industry than in all industries, except for the renovation industry, which is

significantly more profitable. One of the reasons for this appears to be the fact that the cost of goods sold as a proportion of gross operating revenue is much lower in the renovation sector than in other sectors of the housing industry. In terms of the incidence of profitability, the housing industry was generally more profitable than the all-industry average, at least in 1997. The one exception to this general observation was the land development sector. However, as has been observed many times in this report, data imperfections mean that analyses of profitability within the housing industry and between the housing industry and other industries must be assessed with the data imperfections in mind.

Incorporated Firms: Financial Performance Indicators Database

The Financial Performance Indicators database provides data on a number of indicators not included in Industry Canada's Small Business Profiles. However, the FPI database covers incorporated firms only, for the period from 1994 to1998. Table 10 focuses on the average return on equity[xiii] earned by incorporated firms with revenues under $5 million over the five year period from 1994 to 1998.

Table 10: Average Return on Equity, Incorporated Firms, 1994-1998

Year	Single Family Builders	Apartment Builders	Residential Renovators	Land Developers	Total, Non-Financial Firms
1994	8.2	10.2	12.4	8.8	10.8
1995	7.0	9.1	11.7	5.7	11.1
1996	6.8	9.9	12.5	5.3	11.1
1997	9.4	11.9	15.3	6.6	12.3
1998	11.6	11.9	17.2	7.3	14.5

Source: Statistics Canada, Financial Performance Indicators

As Table 10 indicates, residential renovators are the most profitable segment of the housing industry and more profitable than the average firm in the non-financial sector. However, it must be remembered that there are very few incorporated firms in the residential renovation sector. Land developers, as other tables have also illustrated, perform significantly more poorly than other sectors of the housing industry in terms of returns to owners. Incorporated single family builders and apartment builders earn somewhat lower returns on equity than the average non-financial firm.

Over the five year period covered by Table 10, returns on equity improved for all sectors except land developers.

2.3 Employment

Employment in the housing industry declined sharply from 1990 to 1991, dropped further to 1996, and has never recovered as Table 11 illustrates.[xiv] Some of the analysis in this section may appear somewhat anomalous compared to the tables that precede this section because it was necessary to use a variety of data sources to produce the analysis in this report and these are not necessarily consistent.

Table 11: Employment in the Residential Building and Development Industry

Year	Number of Employees
1990	95,484
1991	74,474
1992	75,359
1993	71,991
1994	68,384
1995	66,275
1996	65,315
1997	68,807
1998	72,219
1999	75,307
2000	79,856

Source: Statistics Canada 72-002 (Survey of Employment, Payroll, and Hours)

Employment has been increasing since 1996 and in 2000 was at the highest level reached in the post 1990 period. This trend reflects, in part, the strengthening of the new home market since 1995.

The provincial distribution of employment in the industry in 2000 appears in Table 12. Almost 40% of the employment in the industry is attributable to one province – Ontario.

Table 12: Employment in the Residential Building and Development Industry by Province and Territories, 2000

Province	Number of Employees
BC	8,935
Alberta	8,589
Saskatchewan	1,769
Manitoba	2,573
Ontario	29,022
Québec	21,616
NB	2,261
NS	2,575
PEI	606
Nfld	1,104
Territories	806
Canada	79,856

Source: Statistics Canada 72-002 (Survey of Employment, Payroll, and Hours)

Not all the provinces have shared the national pattern of a sharp drop-off in employment from 1990 to 1996 with a partial recovery thereafter (see Table 13). Employment in Alberta has remained fairly constant over the period, although employment declined sharply between 1991 and 1995, but employment in BC in 2000 is only 55% of what it was in 1990. Employment in some provinces – Québec, Manitoba, Saskatchewan, and PEI, was higher in 2000 than it was in 1990.

Table 13: Employment Levels in the Residential Building and Development Industry by Province, Selected Years

Province	Employment, 1990	Employment, 1991	Employment, 1995	Employment, 2000
BC	16,105	11,999	11,282	8,935
Alberta	8,532	9,150	6,537	8,589
Saskatchewan	1,707	1,229	1,220	1,769
Manitoba	1,597	1,701	2,199	2,573
Ontario	38,630	28,272	22,306	29,022
Québec	19,148	14,050	15,740	21,616
NB	2,874	2,831	2,119	2,261
NS	2,927	2,518	2,220	2,575
PEI	420	347	456	606
Nfld	3,122	1,909	1,539	1,104
Territories	550	498	600	806
Canada	95,612	74,504	66,218	79,856

Source: Statistics Canada 72-002 (Survey of Employment, Payroll and Hours)

In percentage terms, as Table 14 indicates, provincial shares of employment in the residential building and development industry shifted over the 1990s, particularly in BC, whose share declined from 16.8% of national employment in 1990 to 11.2% in 2000, and in Québec, whose share increased from 20% in 1990 to 27.1% in 2000.

Table 14: Employment Levels in the Residential Building and Development Industry by Province, Selected Years, Percent

Province	Employment, 1990	Employment, 1991	Employment, 1995	Employment, 2000
BC	16.8	16.1	17.0	11.2
Alberta	8.9	12.3	9.9	10.8
Saskatchewan	1.8	1.6	1.8	2.2
Manitoba	1.7	2.3	3.3	3.2
Ontario	40.4	37.9	33.7	36.3
Québec	20.0	18.9	23.8	27.1
NB	3.0	3.8	3.2	2.8
NS	3.1	3.4	3.4	3.2
PEI	0.4	0.5	0.7	0.8
Nfld	3.3	2.6	2.3	1.4
Territories	0.6	0.7	0.9	1.0
Canada	100.0	100.0	100.0	100.0

Source: Statistics Canada 72-002 (Survey of Employment, Payroll and Hours)

Firms by Number of Employees

Although there is not a comprehensive source of information about size of firms as measured by number of employees, inferences can be drawn based on other data sources. Table 1 indicates that there were a total of 74,058 firms in the housing industry in 1999 and Table 13 indicates that there were a total of 79,856 employees in the housing industry in 2000 as measured by Statistics Canada's Survey of Employment, Payroll, and Hours. The resulting average of 1.1 employee per firm is roughly consistent with employee numbers contained in other tables in this section (e.g. Table 9, which would produce a weighted average of about 1.3 employees per firm).

Canadian Business Patterns also includes information on firms by employment size. There are limitations on the usefulness of the data because Statistics Canada derives the data from payroll records and firms that do not maintain an employee payroll are not included in the database. These firms may have a

workforce made up of contracted workers, family members or business owners. If the assumption is made that these firms have fewer than five employees, the distribution of firms by number of employees can be estimated as follows:

- 0-4 employees: 87%
- 5-9 employees: 7%
- 10-19 employees: 4%
- 20-49 employees: 2%
- over 50 employees: less than 1%

Emerging Trends - A Look Ahead at the 2000s: Summary of Key Findings

2.4 The structure of the residential construction industry is not expected to change dramatically over the next decade

Interviewees overwhelmingly supported the view that the industry over the next decade would continue to be characterized by a large number of small firms and a small number of large firms. Although a few informants were of the opinion that firms would have to become larger to survive, this was a minority view.

A number of respondents noted the opportunities for smaller firms to develop niche markets and do well; the larger firms continuing with larger scale operations in larger centres. In renovation, specialization in particular types of renovation skills, e.g. roofing, decks, etc. is expected to keep firms small. A few respondents highlighted the fact that some larger new home builders in Ontario had tried renovation but found it non-viable (perhaps due to competition from the underground economy, or the difficulties of incorporating the two sets of business objectives – new and renovation). Some respondents made reference to the possibility of large corporations such as Sears and Home Depot occupying a larger share of the renovation market in the future.

The general expectation of interviewees is that the industry in 2010 will be very recognizable to present-day participants. People do not believe the industry will remain static over the next 10 years, but neither do they expect profound changes to occur. Many respondents pointed out that the industry is so complex, large, and locally-focused that changes are of necessity incremental and evolutionary, not radical or revolutionary. Most respondents see the industry as being in a continuous state of change and renewal. The major challenges of the coming decade, such as potential labour force shortages, increased regulation, and environmental concerns, will certainly impact on the industry and the way it operates, but there was no expectation that in 2010 the industry will be unrecognizable from the way it looks today. Almost three out of four respondents expressed the view that the industry over the next decade will remain very similar to its current structure, or will change in only a minor way. Only 13% of respondents foresaw more substantial changes occurring over the next decade, such as a movement towards an Australian-type system, described in more detail later in this report.

2.5 The value of renovation spending will continue to exceed the value of spending on new construction

Respondents to the study survey were strongly of the view that spending on renovation will continue to exceed spending on new construction. Some informants expressed surprise that renovators were not

becoming more aggressive in terms of seeking out even more new opportunities – the analogy of new car dealers generating more revenue from repairs than from sales was suggested.[xv]

The aging of the housing stock and the adaptation of homes to meet the changing needs of owners through the lifecycle were seen as supporting this trend.

2.6 The industry will continue to be innovative in adopting new housing construction technologies over the next decade but much innovation will come from sources other than industrial firms

Industry participants are aware of how innovative the industry has been in the past. Over the last 10 years innovation has been particularly notable in the field of energy conservation – high efficiency furnaces, triple glazed windows, and heat recovery ventilators. Over the next decade, industry participants believe that because of changing consumer preferences and new products, as well as the constantly increasing complexity of the industry, firms will have to be innovative or die. Areas likely to be the focus of innovation include energy efficiency measures, foundation systems, and roofing and the building envelope. In the NWT and Yukon emerging technologies are important and there is an on-going requirement for more cost effective construction.

A significant number of informants interviewed during the survey were of the view that greater innovation would arise from associated industries, such as suppliers, than from the construction industry itself. This is partly because of the difficulty that small firms face developing and adopting innovative technologies – they are too small to spend the time necessary to research and develop new technologies and new products. In addition, most innovations cannot be patented and will be immediately copied by competitors. As a result of this, many small firms are accustomed to relying on CMHC, suppliers, and industry associations to do research and explore innovations.

2.7 Labour shortages are expected to be a serious problem

Current and anticipated labour shortages, particularly of skilled workers, are a serious concern of many industry participants. Trade shortages differ from area to area, but as an example, current shortages appear to be particularly acute among bricklayers, carpenters, framers, cement workers and labourers in several Ontario markets. The fundamental issue appears to be the relative lack of appeal of construction work for young people because of its instability of employment, both seasonal and cyclical, its lack of glamour, its exposure to the elements, and its relatively low wages. Survey informants commented that no parent encouraged their children to consider a career in construction. A recent report lists nineteen separate characteristics of the residential construction industry that cause or exacerbate labour force shortages and instability.[xvi] In addition to the four factors pinpointed at the outset of this paragraph, the report includes such factors as:

- Differences between residential and commercial; new homebuilding and renovation; between regions of the country; and between the above-ground and under-ground sectors;
- Increasing reliance of small employers on self-employed independent contractors;
- A perception on the part of small builders that labour is a cost to be minimized rather than an asset to be strategically employed as a competitive advantage;
- Fierce competition with a high rate of bankruptcy;
- Increased competition from the do-it-yourself industry;
- Heavy regulatory requirements of various types.

Furthermore, the immigrant labour force, which has been so important for construction over the last 50 years, appears to be much less important as a source of labour than it was previously. Much of the skilled labour force is 50 or over, and women are not as important a source of labour as they are in many other fields.

To quote a key informant:

> "There are so many disadvantages to construction as a career – it's dirty, it's outside, it's highly cyclical, it's tough on aging workers (you can't do the same stuff you could when you were young, which is much different than most other jobs), there's no job security."

In recognition of the seriousness of the labour situation, the Federal government recently announced the end of a policy introduced in 1996 whereby apprentices were required to wait two weeks before claiming EI benefits for their annual eight week academic training period. Effective April 1, 2002, newly hired apprentices will henceforward have to wait two weeks only once during their apprenticeship rather than every year. That is, a four year apprentice will receive EI benefits for the full eight week academic training period in his or her second, third, and fourth years, and for six weeks in his or her first year, rather than for six weeks only in each year of the apprenticeship.

The few dissenters to the overwhelmingly pessimistic view about the labour force situation pointed to the economics of supply and demand – if the supply of labour remains too low for too long, wages will adjust upwards, thereby attracting more people into the industry. Others suggested that the increasing complexity of the residential construction industry will mean that workers will have to be more skilled than they have ever been, and that this trend will help to professionalize the industry and make it more attractive as a career.

Many agencies and organizations are working on a variety of fronts to address labour shortages. Some homebuilder associations are producing videos that are shown at schools, colleges, career days, parent-teacher meetings, and other similar venues in an effort to persuade more young people to consider construction as a career. Others are working to professionalize the industry, believing that that is the

route to greater appeal. Some organizations focus on teaching entrepreneurial skills as well as construction skills, hoping to broaden the appeal of construction beyond the trade to the "business of construction".

Possible solutions to labour shortages

Over the last several years, various ways of alleviating skill shortages have been suggested, some of which may be more effective than others. During the course of this study, key informants were divided on some of the more commonly suggested solutions such as:

Immigration – although some informants believe that increased immigration has the potential to alleviate shortages, others are not so sure. An earlier report pointed out that:

"Construction trades are generally not included on General Occupations List (the list of occupations in which immigrants can be expected to have a reasonable chance of entering the labour force) – this is partially a reflection of the regional and cyclical nature of construction activity.....[however], the immigration system can be an important mechanism to address skilled labour shortages in particular regions."[xvii]

Increased Professionalization – builder associations across the country are making concerted efforts to increase the professionalization of the industry, through mechanisms such as mandatory continuing education, public relations campaigns to persuade the public of the advantages of dealing with a professional, support for some regulatory initiatives such as licensing, and other related measures. One of the benefits of an increasingly professional industry may be an improvement in the perception of construction as a career for young people.

Reducing the size of the underground economy – underground operators are an important competitive threat to the legitimate industry. One of the consequences of a large underground component is that the instability of the residential construction industry from the perspective of legitimate firms is exacerbated, making the retention of qualified employees more difficult.

Relying to a greater extent on manufactured and modular housing – survey respondents were very divided on the potential of manufactured and modular housing to counter the impact of skill shortages. A view that there is a public perception that factory built housing is a low-end inferior product compared with stick built homes was an integral part of the debate. Those who viewed modular or manufactured housing as a potential solution did so for several reasons:

- It is a more efficiently produced product, not as prone to weather problems and delays in construction, meaning the consumer gets a product in a more predictable timeframe.

- It is a growing option in small communities, where in the absence of home builders it is the least expensive option.
- The quality of the product has improved.
- There is growing consumer understanding of the product.
- There are opportunities for multi-family manufactured housing using the modular construction concept.
- In the north, with the transfer of housing responsibilities to communities, a shift to prefabricated construction is envisaged as prefabricated components allow the communities to use unskilled labour, reducing labour costs as well as shipping costs.
- Manufactured building components are on the cusp of technology; there is more recognition in terms of codes and standards, and on the international front manufactured housing is a growth area.

Those who disagreed with this view did so for a number of reasons, summarized below. Note that the views in the following list are directly attributable to interviewees.

- Manufactured housing, to be a serious threat to stick built, would have to be significantly cheaper and holding design issues constant, it is not. Efficient stick builders can build very efficiently on site (what takes the longest is getting the permits, etc.).
- Stick builders will increasingly use manufactured housing components.
- Manufactured housing does not lend itself to the right economies of scale for Canada - while there are some good quality manufacturers, distribution is a problem because of the large size of the country compared to the small size of the market.
- The housing industry is very cyclical and factories or plants, to be cost-effective, must be able to work year round, every year. The housing industry in Canada does not allow that kind of schedule year-in, year-out.
- Even the use of components, as opposed to ready-to-move houses, has limitations. Bathroom modules are awkward for example because they have to be dropped in through the roof and the timing is wrong – the roof has to go on right away to protect the house from the elements and that is too early for the bathroom module.
- Components must be sized precisely or things will not fit together on site.
- The attitude of the Canadian consumer towards this housing product has not been positive, culturally it is not accepted. The product tends to be more standardized and does not have the ability to respond to a niche market. It needs a great deal of marketing before it can become a viable option.

Higher wage rates – theoretically, labour shortages could be solved via higher wages, but whether wages could be raised to attractive enough levels to reduce labour shortages while still preserving a competitive industry has yet to be explored in a real world setting.

2.8 Low profit margins are a concern

Industry participants are extremely concerned about the impact of a whole range of issues impacting profitability – intense competition, the underground economy, governmental fees and levies, environmental pressures, and increasing regulation. In spite of these concerns, however, industry participants do not, by and large, believe that many firms will be forced out of business as a result of

these pressures. They do see low profit margins leading to some fall-off among the most marginal firms, or perhaps some merging of very small firms to form somewhat larger firms.

Chapter Three

Demographic and Economic Factors

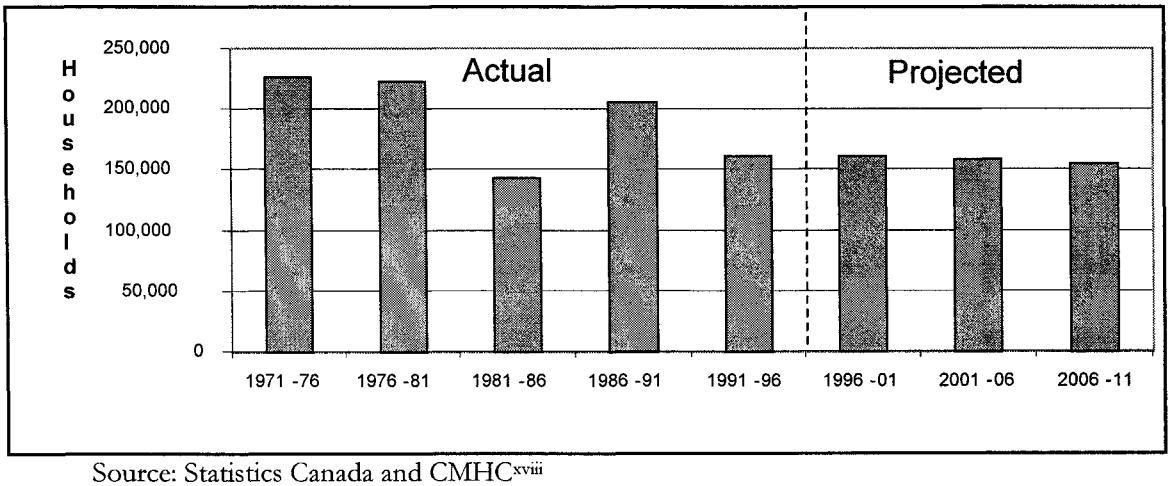
3.1 Demographic Factors

A Look Back at the 1990s

Since 1990 housing starts have averaged about 145,000 units annually. This is a marked reduction from the years between 1968 and 1990 when housing starts in Canada averaged nearly 206,000 units annually, as the baby boomers began forming households and moving out on their own. Part of the decline has been related to economic factors, but it is also due to the aging of the baby boomers and lower household formation. The size of this generation born between 1947 and 1966, its wealth and its housing preferences has been the biggest demographic influence on the Canadian housing market. In 1996, they were between 30 and 49 years of age; the lifecycle period of family formation and child rearing.

As the baby boomers age, indications from the 1990s are they are choosing a greater variety of living arrangements, some are moving from suburban single-family homes to a variety of inner city housing forms or to rural/recreational homes. This adjustment in housing path can start at age 45 years. The literature and discussions with key informants indicates there is certainly no clear consensus of opinion in regard to the housing preferences of the aging boomers, but as they age they will look increasingly for integrated living environments that provide a feeling of security, comfort and supported living.

Figure 1: Average Annual Household Growth



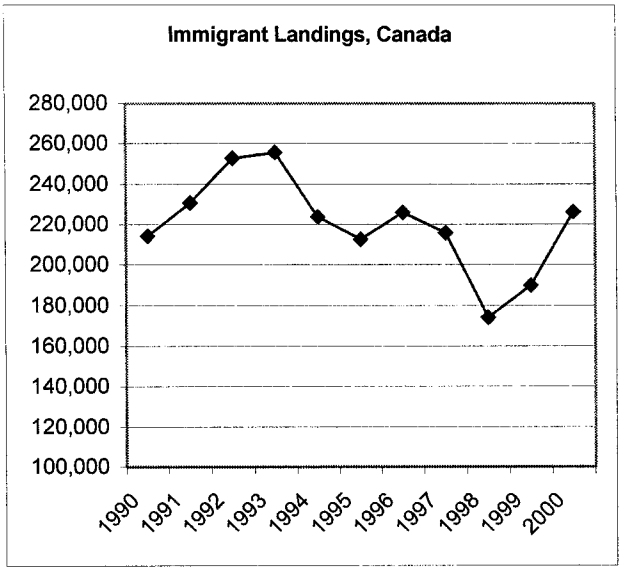
Source: Statistics Canada and CMHC[xviii]

Household sizes (number of persons/household) have been declining steadily in North America. This is due to the following demographic trends: a decrease in family formation rates; a decrease in the fertility rate; an increase in the proportion of separated and divorced people; a decrease in the number of households with dependent children; and, an increase in the proportion of single parents. Despite declining household size, however, the average size of new homes has not decreased, due possibly to increasing income levels for some Canadians and consumer expectations.

Housing tenure trends in the 1990s indicate some shifts in pattern across the generations due to demographic changes. Census data shows a steady decline (from 10.6% (1986) to 5.1% (1996)) in the homeownership (non-condominium) rate for household maintainers under the age of 30 years, and an increasing interest in rental and condominium ownership housing options by younger households. This may be the result of incomes and wages declining slightly on average in the 1990s for people under 40 years of age. Another trend that emerged in the last decade was an increase in the average income for women 29 years and over, while it declined for men, changing slightly the nature of housing requirements, increasing for example the demand for inner city condominiums.

The decreasing fertility rate coupled with an aging population, resulted in the Government of Canada setting immigration targets that have influenced the country's demographic profile. In 1990, the federal government approved a plan for 250,000 immigrants annually - about 2.5 times larger than immigration levels in the US, proportionate to the size of the population. However, in 1994 the annual target was reduced to a range between 190,000 and 215,000. [xix] The actual numbers of immigrants arriving annually in Canada during the 1990s, ranged from a low in 1998 of 174,100 to a high of 255,819 in 1993.

Figure 2: Immigrant Landings in Canada



Source: Citizenship and Immigration Canada

The impact of immigration trends on housing markets has been considerable, particularly in the three largest CMAs where most immigrants settle - Toronto (42%), Montreal (15%), or Vancouver (16%). For example, in Vancouver net international migration averaged 35,500 annually during 1992-1998 and was the greatest contributor to Greater Vancouver's population growth, becoming a significant engine fuelling economic growth and cultural diversity.

The point of origin of immigrants has had an impact on the housing industry from a number of perspectives over the last decade. The immigrant labour force was a vital source of skilled trades people for the housing construction industry, when Europe was the point of origin for nearly 70 percent of immigrants in the 1960s. In the 1990s, these workers started to reach retirement age, creating the skilled labour shortage concerns discussed in Chapter Two. By this time less than twenty percent of the immigrants were from Europe. Housing design and tenure patterns are also affected by immigrant cultural values. For example, some Asian immigrant groups are culturally more accustomed to living in a large, extended family system; a cultural value that led to a demand for large homes in some housing markets. In 1996, immigrants headed 46% of three-generation households, with Asians making up the majority (76%) of these. In the 1990s, census data showed more recent immigrants were more likely to rent, and have higher average shelter cost to income ratios (possibly as a result of larger average immigrant household size) than non-immigrant households. [xx] However, homeownership rates for immigrant households residing in Canada for twenty years (at 77%) exceed those of non-immigrant households (65%).[xxi]

In the 1990s, the development of new intergenerational housing options such as "bi-family" or "2plex" housing was a trend that emerged in the larger cities. This was in part to respond to immigrant cultural values, but also to accommodate an aging population where adult children provide time and support services to allow elderly parents to live independently in their own home. The number of multi-generational households rose markedly from 150,000 in 1986 to 208,000 in 1996, an increase of 39%.[xxii]

Table 15: Immigration by Point of Origin, Selected Periods (Units in Percent)

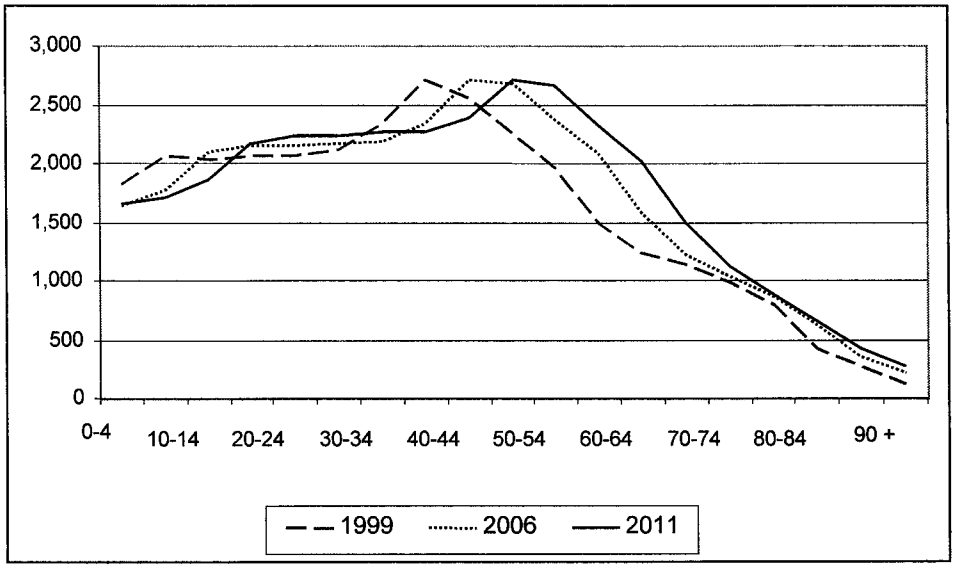
	Asia	Europe	USA	Other	Total
1961-1970	12.3	69.0	6.4	12.3	100
1971-1980	33.0	35.8	7.4	23.8	100
1981-1990	46.9	25.7	4.2	23.2	100
1991-1996	57.0	19.0	2.8	21.2	100
Source: Statistics Canada					

Emerging Trends - A Look Ahead at the 2000s: Summary of Key Findings

The decline in household formation will be gradual over the next ten years and the origin of new households is expected to be more dependent on immigrants than on natural increase. Figure 3 shows the projected age distribution for Canada and the effect of the aging baby boomers can clearly be seen. As the population ages, household growth declines as older age groups have lower rates of new household formation. With an older population the number of births and rate of natural increase declines, as there are fewer women of childbearing age. In terms of population growth and household formation, an older population becomes more dependent on immigration and this is the case in Canada.

The children of the boomers are known as the baby boom echo and their impact on the age distribution can be seen in Figure 3 as the smaller bulge in the younger age groups. For the housing industry the baby boom echo is an important group over the next ten years as they form households and become first-time buyers.

Figure 3: Age Cohort Distribution of the Canadian Population (in 000s)



Source: Statistics Canada

Table 16 shows the proportion of first-time buyers, baby boomers and seniors out of the total population. Baby boomers will continue to be the dominant demographic group in the population. The first of the baby boomers turn 65 in 2012 (after the time horizon for this project). The peak years of the baby boom were between 1955 and 1964 and people born then do not turn 65 until 2020 at the earliest.

This means that, while the proportion of seniors in the population continues to increase over the next ten years, it will be 15 to 20 years before big jumps occur. The baby boom "echo" cohort born between 1980 and 1995 is not large enough to lead to growth in first-time buyers, but it will be enough to keep first-time buyers as a significant portion of the total population.

Table 16: Selected Demographic Characteristics as a Percentage of Total Population

	1999	2006	2011
First-time buyers (25-34)	14.6%	13.5%	13.5%
Baby boom as % of total population	30.1%	30.5%	29.1%
Population aged 65 and over as % of total	12.2%	13.3%	14.5%
Source: Statistics Canada			

Improvements in personal health, prospects of increasing longevity, and improved quality and variety of services for seniors will mean this group of Canadians are likely to enjoy better lifestyles. "People are entering their senior years healthier than in previous eras, living longer...Frailty is being postponed."[xxiii] As a result, senior Canadians are going to be looking for a range of housing and tenure options. The number of options may be expected to increase as the baby boom generation ages, even though the range of choice is already considerable, providing considerable scope and market opportunities for the housing industry. The continuum of housing options will range from independent through supportive living to care communities. The range includes single family detached, semi-detached or clustered, multiple-unit buildings, accessory apartments, bi-family units, garden suites, Abbeyfield Housing, shared housing, co-housing, mobile home retirement communities, non-profit housing, recreational condominiums, seniors apartments, adult lifestyle communities, assisted living, congregate care, co-operative seniors housing, retirement homes, retirement villages, shelter housing, and life-care communities.[xxiv] Tenure options will be traditional housing owned or rented, as well as a variety of alternative tenure arrangements. Some older Canadians will prefer to remain in the family home in a familiar neighbourhood with long-standing friends, renovating their home to adapt to changes in lifestyle. The result is that older Canadians are generating a demand for new construction, as well as renovation, that is expected to increase over the coming decade.

Demographic forecasts have generated debate over the implications for housing demand, in the early part of the 21st century. A recent CMHC study (Fortin and Leclerc) examined whether the reduced population of the "bust" generation would cause a decrease in the overall number of homebuyers, causing the prices of residential real estate to drop, as suggested by David Foot. Their research found a lack of consensus in the literature: "It is not known whether the housing demand increases or decreases

with age beyond 40 years. It is consequently impossible to establish whether the aging of the baby boom generation will cause the housing demand to decrease."[xxv] Based on their own empirical work, they conclude that in most regions of Canada, real housing prices should rise in the period to 2016, driven upward primarily by increases in incomes. The wealth will cause housing demand to continue to grow as people demand higher quality housing.

Housing tenure trends indicate some shifts in pattern across the generations. Census data shows a steady decline (from 10.6% (1986) to 5.1% (1996)) in the homeownership rate for household maintainers under the age of 30 years, and an increasing interest in rental and condominium ownership housing options by younger households. While studies and polls show that Canadians continue to believe in the goal of homeownership, not everyone holds the same set of values. In the Environics research on future housing preferences of Canadians, almost half of renters who said they have no plans to buy a home said they were happy renting.[xxvi] Ekos Research suggests there could be a slight net decrease in the proportion of homeowners because "a desire for greater liquidity coupled with the slow rate of house appreciation may result in a preference for smaller homes or renting and using other investment opportunities, instead of building up capital for retirement or as a means of holding capital during retirement".[xxvii] However, findings also indicate people buy homes for non-financial reasons – namely to enjoy a lifestyle and environment. Also, as an investment, a principal residence attracts no capital gains tax.

As discussed above, immigration is becoming an increasingly important component of population growth and this trend will continue over the next ten years. The demographic profile of new migrants will greatly influence the type of housing required. There is consequently a need for the housing industry to understand the housing needs and choices of immigrant households, particularly with regard to house design and type. Immigrant households will continue to look for more flexibility in designing, planning and regulating housing to take into account diverse household types, and basement space for entertaining and self-employment.[xxviii] The extended family is important in providing support to family members and decreasing the need for community services such as day care and seniors' services. For some ethnocultural groups the housing type will continue to play an important role in facilitating close social bonds. For example, among Southern European households it is anticipated there will continue to be preference for the "plex" units (duplex, triplex and 4plex) and adjacent apartments. Among a small sub-group of Asian immigrants large homes will continue to be favoured. Housing finance options will also be critical to improving immigrant access to ownership, for example building and equity co-operatives, as well as rent-to-own financing.

Immigration and migration is expected to help fill the trough in demand due to the smaller bust generation but will do so to different degrees in different regions. Markets will be highly differentiated

across Canada as some continue growing due to immigrants and migrants while others decline in absolute size.[xxix]

Most industry stakeholders consulted were of the view that lower new household formation will mean housing starts will continue to average around 150,000 to 160,000 units per year, although a small proportion (19%) disagreed. Others expressed the view that niche markets catering to a particular clientele, e.g. inner city housing, will appear that will counter whatever negative demographic trends may exist, that income growth in the first decade of the 21st century will probably be stronger than income growth in the 90s, and that there will be a shift away from homeownership to rental given changing values. Some noted that immigration and immigration policies would be very important for future housing demand. Still others pointed out that the demand for affordable housing will increase, including increasing demand for rental accommodation. Reasons for this include the economic insecurity of the workplace for some groups and increasing student debt loads experienced by the "bust" generation. The increasing pressure on the rental market – especially the low-end of the market, is creating demand for accessory apartments, co-residency housing and other forms of affordable rental housing.

A number of respondents noted an aging population with higher retirement incomes and looking for a variety of housing options will result in more demand for housing units for the senior age group. A movement back to the inner cities of major centres is also occurring, which will create the need for different kinds of housing such as small units/lofts, town homes, residential as part of mixed use developments, involving new construction and renovation opportunities. Some interviewed talked about new types of housing demand as a result of cultural variety and needs, and increasing flexibility to accommodate changes in family formation and co-habitation requirements. A few respondents noted that renovation may become more attractive, given the increasing costs and charges associated with developing land for housing, and expected an increasing tendency for people to upgrade current accommodation rather than move.

Some sample comments from stakeholders consulted that succinctly reflect these views include the following:

> *"The 1990s were really not that great for housing demand. The first decade of the 21st century could be better under the right circumstances – high levels of immigration, better economic growth because of the new economy, high productivity, lower mortgage rates in general (compared to the 90s), better global economies and so on. Demographic trends may not be entirely favourable but they could be outweighed by other factors."*

> *"Not so much less demand as change in product demanded and supplied in the big three cities at least."*

> *"Increases in Development Cost Charges, etc., making existing housing even more attractive relative to new housing" and... "renovation could become more lucrative because the builder is not dealing with land."*

"There is a dichotomy in the North as the demand for new construction is very high – looking at increasing by 30% (conservative estimate) to 100%, but the ability to deliver is very low."

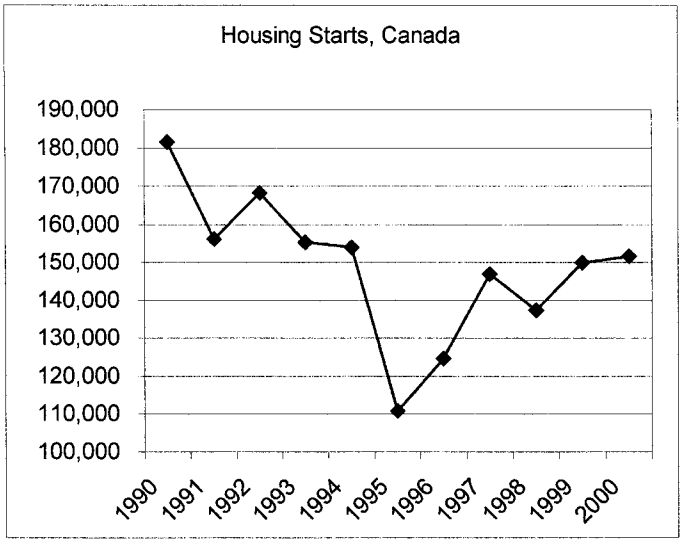
In summary, the indications are that over the next decade Canadians of all generations are going to be looking for a range of housing choices involving design, financing and tenure options, including alternative tenure arrangements. This provides the housing construction industry with considerable potential in both new construction and renovation opportunities. While the largest segment of the market will be geared to the varied housing needs of aging Canadians, there will be challenges in meeting the housing needs of younger and diverse population groups which are likely to involve digressing from traditional housing types and tenure patterns.

3.2 Economic Factors

Looking Back at the 1990s

The following chart illustrates the volatility of housing starts in the 1990s. The trough was reached in 1995, when only 111,000 housing units were started. Since then the annual number of starts has recovered to 154,000, the level reached in 1994.

Figure 4: Housing Starts in Canada



Source: CMHC

The explanation for this pattern lies mostly in economic factors, although as discussed in the preceding section, some demographic trends have affected the number of housing starts as well. A good example

is annual immigration levels, which declined more or less continuously from 1993 to 1999 before reversing direction as illustrated in Figure 2.

During the difficult economic times in the 1990s, some in the construction industry turned to the renovation market as an alternative to new construction

Table 17: Investments in New Construction and Renovation in Canada 1990-2000. (By Type of Investment - in Billions of Dollars ($000,000,000))

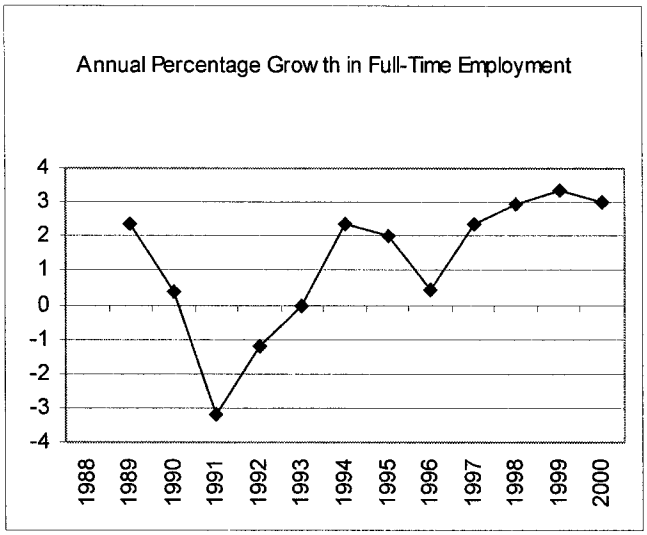
Years	New dwellings(all types)	Renovations	Total New housing and renovation	Renovation as % of total new and renovation
1990	$20.04	$13.02	$33.06	39%
1991	$15.24	$11.84	$27.08	44%
1992	$16.96	$12.51	$29.46	42%
1993	$16.06	$13.18	$29.24	45%
1994	$16.97	$13.62	$30.59	45%
1995	$13.19	$13.00	$26.20	50%
1996	$13.84	$14.22	$28.06	51%
1997	$16.88	$15.01	$31.89	47%
1998	$16.74	$14.91	$31.64	47%
1999	$18.06	$15.66	$33.72	46%
2000	$19.76	$16.41	$36.17	45%
Total 11 years	$183.75	$153.37	$337.12	
Average 11 years	$16.70	$13.94	$30.65	46%
Source:Statistics Canada Cansim II. Table 73504. Building and Renovation permits				

The above table shows the evolution of the value of building permits issued for new housing construction and renovation over an eleven-year period. In 1990, renovation accounted for 39% of the total value of permits of both new housing and renovation. Renovation peaked in 1996 at 51% of the total and over the period it averaged 46% of the total. These statistics do not take into account either all the renovation work that was done without a municipal permit or in the underground economy in renovation.

3.2.1 Employment Growth

One of the critical factors for a healthy housing market is employment growth, especially full-time employment growth. As the following chart indicates, full-time employment in Canada plunged during the recession of the early 1990s and did not begin to recover until 1993.

Figure 5: Annual Percentage Growth in Full-Time Employment



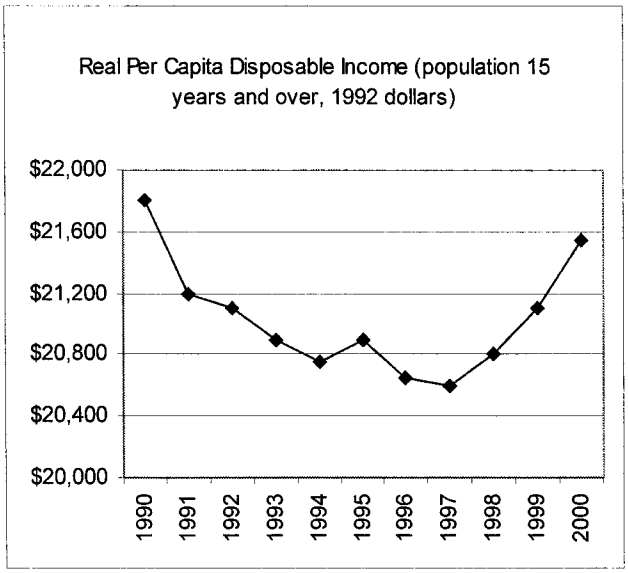
Source: Statistics Canada

Annual growth in full-time employment did not exceed 2% until 1994, at which point the positive trend promptly reversed itself and declined for the next 2 years. It took until 1997 for annual gains in full time employment to get back to pre-recession levels. Growth in the first half of 1998 was very strong, and then slowed somewhat. However, growth in 1999 was again very strong – in fact 1999 witnessed the highest annual growth rate in full-time employment for at least 20 years. Full-time employment growth in 2000 was only slightly less strong than it was in 1999.

Strong Employment Growth has led to Income Growth

One of the major impacts of growth in full-time employment from the perspective of the housing market is the resulting increase in personal disposable income, another critical factor for the housing market. Real (i.e. inflation-adjusted) personal disposable income fell for most of the 1990s and only began to grow in 1997, partly in response to growing full-time employment opportunities and partly in response to federal and provincial tax cuts.

Figure 6: Income Growth in Canada



Source: Statistics Canada

As already noted in this section, income growth is positive for the housing market – increasing incomes tend to result in higher housing starts and increased sales of existing housing. Strong income growth since 1997 is one of the major reasons for increased housing starts in the last few years of the decade. Some observers consider it to be the most important factor, as evidenced by the following excerpt from a Bank of Montreal report:

"The considerable sensitivity of new home construction to income growth suggests that the sluggish growth in earnings has been the single most important factor behind the weakness in housing starts in the 1990s. Had income grown at its perceived sustainable rate equal to labour productivity growth of around 1¼%, housing starts would have averaged roughly 175,000 - at or slightly above their demographic requirement as estimated by the Canadian Housing and Mortgage Corporation."[xxx]

Emerging Trends - A Look Ahead at the 2000s: Summary of Key Findings

Economic issues were explored with key informants involved in the survey conducted as part of this study. Although the overwhelming majority of informants agreed with the notion that employment and income growth would be as important for housing market demand in the next decade as it was in the last, there was less agreement about some of the labour market trends that emerged during part or all of the 1990s.

On the matter of perceived lower levels of job security, some survey respondents believed that the impact of this phenomenon had been fully incorporated into the general public outlook and that it no longer had any discernible effect on the housing market, if it ever did. Others noted that regardless of job security, people had to live somewhere, although they agreed that tenure choices may be different for consumers who are less secure about their employment situation than others – these people may be more inclined to rent. An issue that was believed by some informants to be significant vis-à-vis the housing market was the incidence of debt among post-secondary students. Not only does a higher proportion of young people attend post-secondary institutions than was formerly the case, many of these students graduate with a heavy debt load. The extent to which heavy debt loads may deter home buying among this age group was suggested as possibly significant.

However in general, key informants expressed a positive view about overall economic trends over the 2000s. Some pointed out that the 1990s were really not that good for housing – there were serious ups and downs at different times in different parts of the country. Economic conditions in the 2000s could be better than the 1990s – immigration could be higher, economic conditions could be better because of higher productivity, lower mortgage rates in general (compared to the 90s), better global economies and similar factors. Although demographic trends may not be entirely favorable, they could be outweighed by other factors.

Impact on the Industry of Economic Trends

Insofar as it is possible to speculate about future economic events, the decade of the 2000s could well be a generally positive period for the housing industry. Although employment growth slowed significantly in 2001, job growth in 2002 and subsequent years appears poised to resume the strength exhibited in the

latter part of the 1990s. As a consequence, income growth is likely to continue to improve. Strong job growth and increasing personal incomes are highly positive factors for the housing industry, especially when correlated with other positive factors such as increased immigration and relatively low interest rates.

Chapter Four

Regulatory Factors

4.1 Building Regulation

As is the case with many other components of the Canadian housing industry, the regulatory and legislative framework of the industry is profoundly impacted by the local nature of the industry and by Canada's constitutional division of responsibilities. Outside of the National Housing Act and legislation affecting the mortgage lending activities of the federally chartered banks, the regulatory framework of the industry varies dramatically from one province to the next. In BC, the homebuilding industry is highly regulated – in Alberta and many other provinces it is not. For example, warranties on new houses are mandatory only in British Columbia, Québec and Ontario. Builders must be licensed only in British Columbia and Québec.

In the discussion that follows, some of the more significant changes that have occurred to the regulatory framework of Canada's housing industry over the last 10 years are discussed and some possible directions for the future are suggested.

Looking Back at the Nineties

A number of major events occurred in the 1990's under the general rubric of regulation. This section of the paper discusses four of them: builder licencing, home warranties, liabilities, and changes to codes and standards. The second section of the paper indicates how the key informants involved in the survey component of this study view the events of the 1990's and more particularly what they expect in the way of further changes over the coming decade.

4.1.1 Builder Licencing

Only Québec and British Columbia require builders to be licensed, although all builders in Ontario (including owner builders) must be registered with the New Home Warranty program.

In Québec, builders (except owner builders) must be licensed. In order to be licensed, they must have sufficient knowledge and relevant experience, they must be solvent, and they must be enrolled in a warranty plan.

In Ontario, builders are registered by the New Home Warranty Program. They must meet technical requirements, and provide references, bonding, and financial statements. Builders who try and build without registering with the program are subject to fines of up to $100,000.

In British Columbia, all builders applying for a building permit after July 1, 1999 must be licensed (except for owner builders). They must also provide proof to the municipality issuing the building permit that the unit(s) they propose to build are enrolled with an approved warranty provider. Building envelope repair contractors in BC are also required to be licensed (as of September 30, 2000) and renovators may also shortly require licensing and warranty coverage.

In all other provinces and territories, builders and renovators do not require licences.

Where residential builders are licensed, the rationale generally is to protect consumers from fraudulent or incompetent builders. An ancillary objective is to build confidence in the construction industry. While not guaranteeing ethical or competent practices, a licensing process may require a certain demonstration of competence, set performance standards, and provide a mechanism for enforcement.

4.1.1.1 Owner-Builders Create Special Problems

Some jurisdictions that license builders exempt owner-builders from the requirements to obtain a license and to enroll in a warranty program. Although various restrictions are generally imposed to ensure that only genuine owner-builders can avoid these requirements,[xxxi] the potential saving of licensing and warranty fees has led to frequent abuse of owner-builder exemptions in many jurisdictions.[xxxii] The only completely effective remedy for abuse of the owner-builder exemptions is to eliminate them, but governments are so far reluctant to do so. Instead, they tend to tighten up on owner-builder requirements or to increase the enforcement of existing requirements. BC is pursuing both these routes in light of widespread abuse of the owner-builder provisions in the Homeowner Protection Act.

In Québec, owner-builders are not required to be licensed, nor must the homes they build be registered with a warranty provider. However, under the terms of Quebec's civil code, the original owner-builder is liable forever for construction defects. This tends to cut down on abuse of the owner-builder exemptions.

The end result is that the legitimate builders in the industry across Canada remain very concerned about the issue of owner-builders. In addition, purchasers are unprotected, which could lead to erosion of public confidence in the building industry if problems arise that cannot easily be rectified because of the absence of warranty and licencing protection.

The Impact on the Housing Industry

British Columbia and Québec, the only two provinces that license builders, introduced their regulatory requirements in 1999 and it is too soon to judge what the impact of licensing will be on the industry in those two provinces. The Canadian Home Builders' Association is very supportive of the Australian system of building regulation, which involves mandatory registration of building practitioners based on a demonstration of technical competence, and has called on federal and provincial governments to take a lead role in assessing the Australian reforms and their applicability to Canada.[xxxiii] Because of the requirement that all new home builders (except owner builders) register with the Ontario New Home Warranty Program, Ontario has had a de facto form of licensing for over 20 years, but the impact of this on the industry in Ontario relative to the industry in other provinces has not been analyzed .

There are opposing views in the literature about whether or not licensing helps or harms consumers. As an example of a positive view about licensing, the President of the Alberta Home Builders' Association recently commented that:

"Many municipalities have become frustrated with some of the added hand holding required to deal with the inexperienced builder or owner builder. As professionals, we know that in this day of new technology and building systems a house is not just a house. In Alberta, anyone can decide to become a builder. Often, the unprofessional has limited building knowledge, unaware of the procedure and regulations and does not offer warranty protection. Many places in North America, insist that builders have a basic knowledge of the building industry and require certification before a permit is even issued. Licensing is one aspect of identifying the builder. But certification plays a larger role. Mandatory certification and education provides all practitioners a core level of competency."[xxxiv]

If mandatory licensing is introduced in all parts of Canada and the view of the Alberta Home Builders' Association is correct, the quality of building practitioners will increase, with clear benefits for consumers. There will be costs involved in terms of training, certifying, and enforcing licensing requirements, but the extent of those costs relative to the value created for consumers has not been determined.

4.1.2 Home Warranties

Over the last 15 years, the Ontario New Home Warranty program, the only mandatory home warranty program in Canada for years, was joined by mandatory programs in Québec and in BC. Warranties remain voluntary and at the discretion of the builder in the other provinces and territories. Coverage was voluntary in BC until the 1999 failure of the builder-owned and operated New Home Warranty Program of BC, which was bankrupted by the number of claims made by owners of leaky condos.

The Québec program covers defects and faulty design and construction for single family dwellings, multi-family projects containing from two to five units, low rise condominiums, and non-profit and co-op projects, to a maximum of $30,000 per unit. Poor workmanship is covered for the first year, latent defects for three years, and faulty design and construction for five years. The program also provides a dispute settlement mechanism based on mediation and arbitration. Builders must meet rigorous selection criteria before they can enrol in the plan, which is administered by the Régie du bâtiment du Québec (RBQ). Warranty providers must meet several stringent criteria established by regulation. Currently, there are two competing warranty providers – the Association provinciale des constructeurs d'habitations du Québec (APCHQ) and the Association de la construction du Québec (ACQ).

In BC, warranties are available from four insurance companies approved by the Financial Institutions Commission, which regulates all insurance companies. Warranties are the so-called 2, 5, and 10 type, which means 2 years on labour and materials, 5 years on the building envelope, including water penetration, and 10 years on structural components.

Coverage provided by the Ontario program, introduced in 1976, was enhanced in 1991 to provide up to a seven year warranty – one year for defects in work and materials, two years for various water seepage and penetration defects, and seven years for major structural defects. Total maximum coverage is $100,000 per unit.

In provinces other than BC, Ontario, and Québec, warranty coverage is voluntary. Several provincial home builder associations own and operate warranty programs and a private company, National Home Warranty, operates in the prairie provinces as well as in BC. Coverage varies from one province to another, but typically warranty programs guarantee labour and materials for at least one year after completion. They also cover major structural defects for a minimum of five years, and up to 10 years under extended coverage options in some provinces.

The Impact on the Housing Industry

Warranties exist in the housing industry for the same reason they exist in other industries – to protect consumers from faulty products or services. Given the magnitude of housing expenditures for most consumers, it may seem surprising that in most provinces, warranties on new housing are entirely voluntary – builders may or may not provide them and consumers may or may not be protected from product or service defects. Few consumers would buy a new car without a warranty but the purchase of an asset worth many times more than a car can and does occur without any warranty protection at all.

On the other hand, even with warranty coverage consumers may be no better off. The bankruptcy of the BC New Home Warranty program left consumers worse off than they would have been without coverage because they paid for protection that was not available when they needed it.

Warranty coverage for houses is complicated by the fact that most housing units are built in circumstances very different from those involved in the production of cars or toasters. Most houses are built outside in all kinds of weather by a series of trades working under the supervision of a project manager who may or not be on site continuously. Houses are composed of many different components and are designed in many different ways. How components and design work together – or do not work together – is not always known in advance.

In the face of these circumstances and in light of recent events such as the leaky condo situation in BC, some provinces have made warranty coverage mandatory and others are moving in that direction. Mandatory warranties providing coverage that is imposed by regulation offer consumers stronger protection than voluntary warranties. There are costs associated with mandatory warranty coverage however, in the form of higher premiums as well as cost of the regulatory structure that must be erected to administer a system of mandatory warranties.

Voluntary warranties have their own problems. Because of the need to compete and to provide a product that is as affordable as possible, builders may be subject to the pressure to not provide warranty coverage at all, or to encourage builder owned and operated warranty programs to keep costs low, perhaps too low to ensure a viable or effective program. An assessment of the impact of mandatory warranty coverage on the housing industry compared to the impact of voluntary warranties would be very useful (See Chapter Eight).

4.1.3 Liability

The issue of liability is a growing and serious concern to companies in the housing industry. Recent court decisions have determined that new home builders or renovators who have been found to be negligent can be held liable far into the future for the costs of fixing latent defects.[xxxv] Not only can liability extend far into the future, limitation periods do not start to run until the defect actually appears and furthermore, customers can sue a builder or renovator successfully even if the problem had been caused by someone else. This is a significant expansion of builders' and renovators' potential liabilities and classes them with architects and engineers as professionals whose expertise others ought to be able to rely on. It also raises questions about how to determine what is a defect and what the result of improper maintenance.

The courts have also found municipal inspectors liable for negligence in plan examination or building inspection. Even if only a minor contributory role has been played, municipalities may find themselves paying all or most of damage awards because of the principle of joint and several liability. This principle means that where more than one person or company is found to have created a problem, they are

generally considered to be liable individually and as a group. The plaintiff can collect the full amount of damages from any one defendant, who must then pursue the others for their portions. Often the party with the "deepest pockets" ends up paying all the damages. This may be the municipality in cases involving residential construction disputes, even though the municipality may have played only a minor role in creating the problem. Municipalities have taken steps to protect themselves, whether by requiring additional certification from engineers and others, or by achieving legislated limits to liability.

What impact this will have on the housing industry is difficult to gauge, although it seems fairly reasonable to anticipate higher housing costs. Whatever steps municipalities take to protect themselves are going to be costly to someone and it is likely that increased costs will be passed along to housing consumers.

Whether liability fears stifle innovation is an additional concern of industry practitioners. Here is an example cited by the CHBA:

> "For example, a study prepared for CMHC has documented the regulatory obstacles encountered by designers, builders, and homeowners during the construction of homes incorporating Healthy Housing ™ features. The study found that local code or planning authorities are reluctant to accept innovations with which they are not familiar and for which they lack the training necessary for evaluation. It also cited the length of time, complexity, and greater costs associated with attempting to secure approvals of innovative designs or materials. Fear of liability on the part of building officials was cited by the study as a major problem in securing approvals for anything other than the most literal interpretation of the building code."[xxxvi]

This issue is revisited in subsequent sections of this chapter, particularly with reference to an Objective-based National Building Code.

4.1.4 Building Codes in Canada

The biggest change to codes over the last 15 years has been the move away from prescriptive codes to objective-based codes. Objective-based codes are intended to encourage innovative approaches to construction by identifying the basic objectives behind each code requirement and recasting them as mandatory objectives with one or more acceptable solutions. The move to objective-based codes will offer more flexibility for code users and regulators.

A coordinated approach to the development and implementation of objective-based building, fire, and plumbing codes, was endorsed by all provinces in February 2000. This new code development process will inform all provinces about technical changes on an ongoing basis, rather than facing them with a bulk of technical changes every five years, as is the case with the current code.

Because neither the objective-based codes nor the new code development process have been fully implemented yet, a number of technical and format issues remain to be resolved. There are also numerous technical differences between the National Code documents and some of the provincial codes, for example British Columbia, Ontario, Quebec and Alberta have provincial building codes substantially different from the national model codes from which they were created.

Efforts to create the new generation of codes, further the development process, and resolve technical issues continue. It is anticipated that the first edition of the objective-based codes will be published by the end of 2003. As soon as provinces adopt the building or fire codes by legislation, all municipalities will be obliged to enforce them, although the cities of Montreal and Vancouver, which have their own charters, may or may not join their respective provinces in the move towards objective-based codes.

To date, every line of the National Building Code has been examined to determine its meaning and contemporary relevance, every requirement was analyzed to determine its intent, and every intent was reviewed to define precisely what the objective of the code really was.

In more detail, the process the Canadian Commission on Building and Fire Codes (CCFBC) followed to develop the concept of objective-based codes is summarized below:

- The fundamental **objectives** the codes seek to address (e.g. safely, health, accessibility and protection of buildings) would be stated up front.
- Based on these objectives, a number of more specific **functional requirements** would be identified that apply to building products, materials, and procedures. These would be stated in **qualitative** terms.
- The existing prescriptive or performance requirements of the code would remain available in the codes as **acceptable solutions** that are one acceptable way to meet the objectives and functional requirements.
- When the necessary information is available, **quantitative performance criteria** would be provided for the evaluation of alternatives to the acceptable solutions.
- The **intent** behind every code requirement would be identified, as would its **relationship to the code's objectives.**[xxxvii]

The objective-based code is in the early years of implementation, leaving it unclear as to how it will affect the industry, especially given the concern that unless municipal officials are exempt from liability, they will be inclined to avoid new and innovative approaches for fear of future liability.

Emerging Trends - A Look Ahead at the 2000s: Summary of Key Findings

The issues discussed in the previous section are of great interest to industry practitioners. There appears to be a strong feeling that for many reasons the industry needs to become more professional. In order to achieve that goal, regulatory reform and innovation are called for. Many builders themselves, as well as other industry participants, strongly believe that major reforms are necessary for reasons discussed in the previous section. But views are not unanimous, as the following discussion illustrates.

4.1.5 Regulation: A boon or a burden?

While there is a very strong and widespread feeling that a more professional industry is essential, some survey respondents commented that as licensing and warranties become more widespread, the increased costs will result in some merging of firms of the smallest size, leading to a slight increase in concentration. Views varied on the ability of the small firms to operate successfully with the increased regulation. Some noted that where regulatory regimes have been in place for some time (Quebec, Ontario and British Columbia) the evidence is that this has not happened – there are still successful small firms. No one, in fact, expects the structure of the industry to change significantly over the next decade – changes are expected only at the margin. Notwithstanding additional licensing and warranty requirements in some provinces, it is still a very easy industry to enter. However, some major changes are anticipated in the industry.

4.1.6 Areas of Anticipated Change in the Industry

4.1.6.1 Liability Issues

Three out of four survey respondents believed that profound changes in the housing construction industry would be necessary over the next ten years to deal with liability issues. In fact, liability concerns produced a similar level of consternation and unanimity as the labour force issues discussed earlier in this report. Interviewees offered a number of comments, including:

"There is concern that insurers will control the market place unless a pool of insurance is established to accommodate the risk. The risk pool is a problem when the regulation function is separate from the insurance function."

"The liability limits have to be finite. It is necessary to determine where the balance point is between the public good and the final cost."

In terms of emerging trends in this area, of particular relevance are the reforms to Ontario's building legislation based on recommendations of the Building Regulatory Reform Advisory Group (BRRAG). This advisory panel, which represented a broad spectrum of builders, designers, regulatory officials and consumers, made a sweeping set of recommendations in its July, 2000 report entitled "Knowledge, Accountability and Streamlining: Cornerstones for a New Building Regulatory System in Ontario" [xxxviii]. That report and subsequent consultations laid the foundation for new legislation, *An Act to Improve Public Safety and to Increase Efficiency in Building Code Enforcement*, that was introduced November, 2001 and passed in June 2002. [xxxix]

This legislation, which will take effect in 2004, addresses longstanding concerns with the way in which new construction is reviewed, approved and inspected in Ontario. Many of the issues dealt with have been of increasing concern over the last decade in the housing construction industry across Canada. For example, the absence of limits to liability is regarded as a significant issue, except in places such as Alberta where liability limits have been enforced legislatively. In Ontario, designers, builders and Registered Code Agencies ("RCA"s – these will be private sector alternative service providers approved by a municipality to undertake reviews and responsibilities that have traditionally been carried out by municipal building inspectors) will be required to have insurance, as specified in the Ontario Building Code, for seven years after construction for major structural defects. The model is based on an approach used in Victoria, Australia and France, and requires qualification through exams. The decision to use RCAs will be left to the municipality.

The Ontario legislation is intended to encourage innovation, including new and innovative building designs and materials, where they provide the level of performance required by the Ontario Building Code. This prepares for future adoption of an objective-based Building Code.[xl]

Implementation of the proposed legislation was set for 2004 in order to provide time for finalizing Building Code testing and for developing regulations required to implement streamlining measures aimed at reducing duplication and speeding up the building permit process. The streamlining measures include, for example, allowing municipalities to enter into reciprocal agreements to share reviews of plans for buildings that are substantially similar.[xli]

4.1.6.2 Builder Licencing

A substantial majority of key informants (70%) believed that licencing of both new home builders and renovators will become increasingly common throughout Canada. Although the general view is that this will be beneficial for the industry as well as for consumers, it is certainly not a unanimous view. One informant commented:

> *"Regulation is a sledgehammer solution to problems and usually an expensive one at that. It takes away peoples' ability to choose (and their right to choose). Once health and safety issues have been dealt with, people should be free to make their own decisions."*

Renovator licencing was regarded as less probable than licencing of new home builders, partly because the underground economy is such a strong factor in the renovation industry and there are fears that a licencing regime would further disadvantage legitimate firms relative to underground firms.

4.1.6.3 Warranties

Most respondents (almost 70%) saw Canada moving in the direction of mandatory warranties on new construction from coast to coast, although most also believed that it would likely take a long time to reach this goal. However, several informants suggested that mandatory warranties will probably not be introduced in Alberta for quite some time, if ever.

There was somewhat less agreement about whether or not mandatory warranties would improve new construction quality. Some informants suggested that the experience in Ontario illustrates the lack of a direct linkage between mandatory warranties and construction quality. However, other informants were of the view that the introduction of mandatory warranties would probably improve construction quality because the poorest builders would be weeded out of the industry over time. On the other hand, there is a feeling in BC that some warranty companies enroll builders regardless of their competence or track record. Informants familiar with Australian reforms in this area suggest that a whole package of reforms is necessary to professionalize the industry and improve construction quality – mandatory warranties, or any other single piece of the puzzle, are not sufficient on their own to make an impact.

The introduction of mandatory renovation warranties was believed by most informants to be less likely than the introduction of mandatory warranties on new construction. Many informants are aware of difficulties associated with renovation warranties and as a result, are not expecting major initiatives in this area.

4.1.6.4 Objective-based Codes

In terms of the anticipated impact of an objective-based building code, only one in four survey respondents believed it would result in better built structures. Many informants pointed out that the intent of an objective-based building code is not to improve construction quality or to lower costs, but rather to encourage innovation and to address some of the increasingly difficult problems associated with keeping the current code up to date. There appears to be a degree of uncertainty about exactly how the new code will work, but a majority of informants believe that without liability reforms, municipal resistance will impede innovation in all but the largest municipalities.

A few comments from the stakeholder consultation illustrate very well the views held by many informants about the objective-based code:

- *"The new code doesn't change the environment – it just provides more and better information. Before, people didn't know what the boundaries were and now they do. They understand what the code is doing – what the intents are."*
- *"You can do it this way (the way you have always done it), or, you can go through hell to get it approved doing it the other way." Which would you choose?"*
- *"In the fullness of time, an objective-based code will encourage innovation, although the number of builders who will or can play with objective-based codes will be limited."*
- *"An objective-based code is not better so much – a prescriptive code results in good structures. But an objective-based code will encourage innovation – smart builders will use it to innovate."*
- *"It [an objective-based code] is not all that it's cracked up to be. Homebuilders are brought up to follow rules – they aren't innovators. Maybe the new code will make a difference in the long run."*

In terms of the role of municipal inspectors, three-quarters of survey informants believed that many would be too cautious to approve innovative approaches unless municipal liability concerns are addressed.

4.2 Land Use Regulation Issues

Looking Back at the 1990s

Governments are not only looking to create regulation for consumer protection, as discussed in the previous section, they are also creating other regulations that impact the building industry. Growing concerns about the environment and sustainability, and economic factors related to the escalating cost of infrastructure, have influenced housing markets over the last decade. The application of land use regulatory tools to: preserve green space; create land for schools; encourage densification and comprehensive planning of developments; and, set requirements for infrastructure escalated in the 1990s.

During the 1990s, the trend toward more sustainable development practices resulted in new urbanism (neo-traditional design), also called "smart growth". People were also attracted back to downtown living spurred by rising land and fuel costs, life-style changes (particularly people who have lost partners through death, divorce or separation), rising income among the affluent young, increasing preference for rental housing on the part of younger Canadians[xlii], and an increased appreciation of urban amenities. Niche housing markets, such as lofts and "live-work" accommodations, emerged in response to this trend.

The move to more sustainable urban development generated opportunities for creative design for infill and higher density housing and was supported by increasing use of innovative regulatory tools.

Exactly what is meant by the term "sustainable development" varies from one market observer to the next, but generally the term covers development that meets the needs of the present without endangering the ability of future generations to meet their own needs while minimizing impact on the environment. Suburban development is often criticized as being unsustainable, notwithstanding suburbia's obvious attractions for those who choose to live there. Sustainable development practices include the communities developed under the principles of new urbanism (also known as neo-traditional communities), the increasing acceptance in many centres of small lot subdivisions, the densification of urban areas, and the encouragement of green buildings and green communities.

Changing lifestyles and values have prompted the industry to improve the choices in house design and, in turn, increased the sustainability and design of communities - how they are planned, serviced and regulated. However, infill projects and innovations in house design, such as shared housing, secondary suites/accessory apartments, and granny flats that make efficient use of the existing housing stock are not always welcome by existing neighbourhood residents. The role of NIMBYism (Not In My Back Yard) in the development approval process played an increasing role in the 1990s, adding to construction costs and delays in the approval process for the industry. Despite a trend in the industry to working more collaboratively with local residents through holding community meetings, producing display materials, distributing information and consulting with residents, completing the public hearing process and receiving approval for the project is a major challenge and expense for many in the industry. "Infill housing or the densification of existing areas has been especially contentious...Obstacles relating to

density, neighbourhood character and building appearance are perhaps the least well defined and most driven by public perception. The planning mandate to control neighbourhood character, density and the exterior appearance of buildings is a significant force, especially where well established neighbourhood associations are involved. There may be substantial NIMBY (Not In My Back Yard) response to innovation, to which planning and elected officials must respond, even when the innovative proposal is consistent with long term planning goals."[xliii] The result can be a lengthy and costly process for changing policy or gaining approval that can involve studies, multiple re-design of a project, public and legal review, consultation with residents – including dispute resolution, community meetings, lobbying and public hearings. All this occurs without any guarantee of success for the builder or developer, despite costs incurred.

Although not always the case, civil engineering and development standards, zoning bylaws and other regulatory tools, together with senior and local government policies can generate obstacles to innovative housing design and land development. A recent study with regard to innovative housing concluded with suggestions for regulatory improvements to facilitate the provision of innovative housing, and avoid the need for zoning variances and other costly and time-consuming steps.[xliv]

In conclusion, in the last decade, some of the challenges for new home builders and residential renovators have involved increased regulatory requirements, as well as matters of legal liability.

Emerging Trends - A Look Ahead at the 2000s: Summary Statement of Findings

As population growth continues, it is anticipated that smart growth (sustainable development) practices will become increasingly common and increasingly expected. As the green design field matures, integration of strategies will be key to achieving the desired energy and environmental goals.

Green design and construction practices include:

- aspects of general design strategies such as building size, location, orientation, etc.;
- consideration of the site, including how the site is used and landscaped, which may include, for example, cluster building, use of plants that are adapted to site conditions, less impervious surfaces to reduce storm water run-off, and xeriscaping (water-efficient landscaping in regions with low rainfall);.
- how energy systems, such as lighting and heating, are used to improve energy performance and save money;
- attention to products and materials, such as use of salvaged materials and water saving products, or minimizing use of finish materials; and,

- attention to the job site by recycling construction waste and salvaging usable materials.[xlv]

An example of the emerging "green" trend was noted by one interviewee who spoke of the increasing demand for green products that can demonstrate a "chain of custody", which means that throughout the production process the principles of environmental sustainability had been applied and the product had been produced or manufactured with minimal environmental impact. While this is not necessarily seen as a costly process, it is seen as something consumers will be looking for on products, and that some builders will be seeking out so they can include it in their marketing plans.

There was near unanimity among survey respondents that the adoption of sustainable development practices is an emerging trend, because as one interviewee said, "It is in the public consciousness." In the north in particular where environmental and climatic changes are becoming so visible, energy and water conservation practices affect decisions regarding housing construction.

Impact on the Industry

The industry is already adjusting to new approaches in land use regulations directed towards sustainability. These include housing offering green design and construction practices such as an integrated planning and design process to achieve cost-savings in energy, infrastructure (roads, stormwater and sewer) and landscaping (reducing impervious surface area and xeriscaping). In this regard, there is opportunity within the industry to share best practices to enhance the environmental value of residential projects without adding appreciably to the cost, as well as green business practices for construction companies.

However, in some markets consumer attitudes and resistance impede progress in this area. As noted above, the NIMBY syndrome can be a major opposition force to intensification in traditional neighbourhoods, when trying to accomplish more innovative or sustainable housing development in compliance with land use regulations. "Innovative buildings, which use unconventional technologies and land use strategies, are likely to violate code requirements or zoning regulations".[xlvi] There is an opportunity for the industry to collaborate with related stakeholder organizations (Federation of Canadian Municipalities (FCM), Canadian Institute of Planners, Architectural Institute of Canada, etc.) to raise awareness of the issues, and to educate residents, consumers and those involved in administering the regulatory controls.

In summary, the housing construction industry is likely to see:

- increases in the use of green building materials and information on retailers specializing in green products, in response to the marketing of 'chain of custody' products;

- a closer relationship between sustainability and building codes, and the examination and development of processes to gain approvals for "alternative" projects within the existing regulatory framework; and
- downsizing of houses to improve quality and resource efficiency; further, smaller homes can be more affordable and offer entry level opportunities for young families.

4.3 Environmental Regulations

Looking Back at the 1990s

With concern for the environment growing, senior governments have increasingly introduced regulatory measures focussed on environmental protection of land, air and water over the last decade. The Canadian Council of Ministers of the Environment (CCME), representing federal, provincial and territorial governments, provides a forum for sharing information and for working on developing consistent policies, standards and guidelines. The housing construction industry has become subject to multiple agencies and a variety of environmental regulations, including environmental impact assessments of residential developments, targets for reductions of greenhouse gas emissions and criteria for the rehabilitation and redevelopment of brownfield sites.[xlvii]

Legislation and regulation has also focused on environmental issues associated with contaminated sites in recent years. The issues are complex and wide-ranging, involving as they do questions of assessment of contamination, liability, responsibility and cost to remediate. The ways in which various levels of government and industry have approached issues of liability raise some interesting questions related to residential construction. For example, the Canadian Council of Ministers of the Environment (CCME) set up a task force on contaminated sites' liability in 1992. One of the Task Force's recommendations focused on the apportionment of liabilities and how agreements for remediation could be worked out. Some sort of workable system is essential for dealing effectively with contaminated site issues. The CCME was also "instrumental in working on national model criteria for use by the provinces with respect to the rehabilitation of such sites. The National Round Table on the Environment and the Economy, in partnership with CMHC, has sponsored the development of a series of studies and national multi-stakeholder forums on the issues related to the redevelopment of brownfield sites and improvement of site-specific data on the environmental condition of the land."[xlviii] As a result of the federal, provincial and territorial government discussions in this area, provinces such as British Columbia and Ontario, adopted legislation and regulations pertaining to contaminated site rehabilitation.

In the energy area, there have been a number of joint government-industry initiatives undertaken by NRCan and CMHC directed at improving the energy efficiency of housing built in the last decade or so in Canada. The R2000 Home Program is particularly significant in this regard.

The federal Department of Fisheries and Oceans reviews development plans for new housing in the vicinity of fish bearing rivers and creeks, as well as streams that feed into other water bodies that support fish habitat. The legislative authority is the Fisheries Act, which prohibits the alteration and disruption of fish habitat.[xlix] The environmental impact assessment legislation, federally and provincially, the fisheries legislation, and any respective provincial legislation controlling development along riparian rights of way have become significant forces affecting building and development in some regions of Canada, such as British Columbia.

While environmental regulations focus on the quality of the outdoor environment, public health issues are raising people's awareness of healthy indoor living environments and the impact of biological and chemical contaminants. In recent years there has been increased attention and concern about the health impacts of housing, particularly indoor air quality. This is the result of a number of factors:

- the rise in asthmatic rates among Canadians;
- a new generation of building products used in the housing industry;
- advancements in scientific research which have created greater public awareness; and,
- the broadening over time of the definition of health.[l]

Considerable government research is available on the quality of indoor environments and products which are healthier and minimize impact on the environment through energy and water conservation. Over the last decade, health-related initiatives such as the R-2000, EnviroHome[li] and Healthy Housing™ programs have raised the awareness of those in the industry.[lii]

Emerging Trends - A Look Ahead at the 2000s: Summary Statement of Findings

Conservation and environmental protection will continue to be of critical concern. Survey respondents were in agreement that environmental regulations were going to become increasingly important.

Brownfield development (the revitalization of idle industrial sites) will become increasingly key to urban redevelopment. Some stakeholders consulted expressed concern that the cost of remediating brownfield sites can be prohibitive, resulting in large industrial areas sitting untouched. The result is an inefficient way of developing our cities. Northern respondents noted contamination is not currently an issue in the north, but expressed concern that there is potential for future resource based industry development to create problems.

Stakeholders consulted offered the following views:

> *"Existing land contamination standards are far too severe, however, the control of our waterways must be improved – development, environmental conditions and situations must be respected if we are to continue life as we know it today."*
>
> *"Brownfield development and having to make a site clean is prohibitive...huge areas of our cities are underutilized because we are afraid of contamination."*

Impact on the Industry

How residential development is planned and developed can impact the environmental health of an area. It is expected that industry will gain access to lighter, greener, cheaper engineering standards for infrastructure, mitigating the negative environmental impacts such as heavy water loss from wide streets.

Respondents indicated there is a growing concern within the industry that the existing land contamination standards are too severe, the availability of best practices material on decommissioning contaminated sites and modifications to regulations have the potential to open up intensification opportunities for innovative development in niche housing markets.

In the absence of a clearly defined approach by government or industry for dealing with housing and health and related indoor air quality, some of the challenges for new home builders and renovators involve matters of risk and legal liability. Negligence and product liability is now seen to apply to indoor environments. There is the possibility of a growing number of class action suits by groups seeking redress for health problems caused by indoor air pollution.[liii]

Chapter Five

Mortgage Financing and Trade

5.1 Mortgage Financing

Looking Back at the 1990s

Over the last decade mortgage lending has evolved considerably. New variations on old mortgage products were introduced which allow more flexible repayment. Longer terms became available. Some short-term mortgage rates moved with the prime rate while others tracked Treasury Bills and Government of Canada bond yields.

Options such as prepayment, lump sum payments and doubling up of payments became more popular. Line of credit, re-advanceable loans,[liv] multi-rate/split-term[lv] became common terms among mortgage lenders. Some lenders offered loans for which no mortgage payment was due during the first year or paid a lump sum to the borrower upon signature of the mortgage.

New instruments were introduced, to cater to new markets such as the reverse mortgage aimed at homeowners over sixty-five years of age.

Financial institutions increasingly regenerated their mortgage funds by making available their mortgage portfolios on the secondary mortgage markets, while retaining the administration and servicing of the mortgage.

Competition between lenders has brought all sorts of incentives such as immediate cash payments upon mortgage transfer, forgiveness of application and appraisal fees, and incentive points towards air travel or other premiums. Mortgage loans became easier to transfer between lenders, as lenders eliminated legal and mortgage registration costs related to transfers between institutions, in order to attract new customers.

Borrowers became accustomed to expect a discount from the posted interest rate upon renewal of their mortgage. They became more aware that they could renew their mortgage at another financial institution. Information on rates was readily available on the web sites of most lenders.

A new intermediary appeared on the market in the early nineties: the mortgage broker. Brokers were able to negotiate on behalf of the borrower the best available rates on the market, usually lower than the official rates posted by lending institutions. Brokers were paid commissions by the lenders not the borrowers.

Demographics have also affected mortgage finance trends over the last decade. The secondary mortgage market is responding to the need for investment opportunities for the aging boomers and others looking for security, while creating mortgage financing opportunities for younger generations. Mortgage Backed Securities (MBS) is a tool for generating low-cost funds for housing finance which is attractive to investors seeking a secure investment with a regular source of income. CMHC's Canada Mortgage Bonds open up new investment opportunities for investors and offer greater efficiency in the secondary mortgage market, facilitating access to homeownership financing for the younger generation.

As a result of organizational change, flexible working practices, downsizing and out-sourcing, the number of Canadian workers in non-standard, contractual, self and/or part-time employment arrangements is increasing. In the last decade, the housing finance industry started reviewing its lending and mortgage insurance underwriting criteria to respond to the changing work environment.

Home financing arrangements are thus becoming more varied, flexible and innovative, responding to a variety of needs and resources available to individuals. Increasingly consumers, in both standard and non-standard work situations, are demanding greater flexibility in their financing arrangements. This translates into more flexibility in making payments, in mortgage criteria and in the amount of down payment. Within the North American housing finance industry, an increasing diversity of products is being developed to provide consumers with solutions for a variety of needs across the generations. In Canada, there is increasing flexibility in the product range. The NHA amendments in 1999 recognized the need for the Canadian housing industry to move forward, and to provide CMHC with increased flexibility to function in the loan insurance market place.[lvi]

During the last decade mortgage lending was a growing business (see Table 18)

Table 18: Residential Mortgage Credit in Canada* ($Millions)

	1995	1996	1997	1998	1999
Total	*337,274*	*351,356*	*370,823*	*388,662*	*406,750*
Chartered banks	177,062	191,357	213,531	232,194	240,997
Trust and mortgage loan companies	41,954	39,749	31,538	22,373	19,936
Credit unions and caisses populaires	46,169	48,231	50,768	52,198	53,357
Life insurance companies	21,148	21,719	21,374	20,024	18,030
Pension funds	8,007	7,724	7,997	7,857	7,923
Finance companies and other institutions	24,476	25,060	26,530	26,887	27,754
NHA mortgage-backed securities	17,253	15,734	14,291	17,446	22,799
Special purpose corporations (securitization)	*	423	3,141	8,193	16,119

*Data only available in 1990s for years shown; represents annual outstanding amount loaned out and secured by mortgages.
Figures may not add to totals due to rounding.
Sources: Statistics Canada, Bank of Canada, CANSIM Matrix 2570.

Chartered banks increased their market share to 59% of all mortgage credit in 1999 from 52% in 1995, a growth superior to any other lending group during the period. Over the same period, trusts and mortgage loan companies' share fell to 5% (from 12%), and life insurance companies' share fell by 2 percentage points to 4.4%. Private and institutional investors hold a 6% share of outstanding residential mortgage credit.

The construction industry adapted to the changes in the financing system and will continue to do so. The use of a single source of financing for a development and all its housing units became increasingly a thing of the past. Buyers were finding their own financing and were able to negotiate their own terms and conditions with their lender or use the services of a mortgage broker. This approach became well established with many lenders offering prospective borrowers a "pre-qualification" that allows them to shop for a home with full knowledge of their qualifications for mortgage financing, the price they can afford to pay, the conditions and how much it will cost them, given their own particular financial situation.

In light of the bad credit experiences during the early 1990s with many foreclosures and repossession of housing units, lenders became more selective in their acceptance criteria for projects, requiring that a preset percentage be sold or rented prior to construction starting. In addition, lenders were asking builders to provide personal guarantees. The construction industry thus experienced more difficulty in obtaining financing for construction, or financing was approved for smaller numbers of units per builder,

and sales were more closely monitored. Homebuilders who could not obtain bank financing resorted to the pre-sold formula where the buyer was sent to the lender in order to obtain mortgage financing and upon the buyer receiving approval, the builder would undertake construction of the individual home.

The impact of credit tightening on the construction industry resulted in increased difficulty in companies obtaining mortgage loans to build homes on speculation.

Over the last decade there was an increase in the proportion of owner builders[lvii] who obtained individual loans for their own home that they would build. Once the house was built, the builder subsequently moved in and found a buyer to whom he sold within the year. He then repeated the process. This scheme has accounted for a sizable portion of new home building[lviii] over the decade and was strongly denounced by the construction industry, since such builders were not adhering to the standards of the industry and were not subject to industry regulations.

Another major change to the home financing options was the 1992 change in tax policy enabling homebuyers to withdraw money accumulated in their RRSP in order to help in the purchase of a home. Since its introduction in 1992, nearly 1.1 million plan users have borrowed about $10.4 billion from their RRSPs to enable them to purchase homes. In year 2000 alone, more than 133,000 plan users borrowed more than $1.4 billion.[lix] Assuming two participants to support the purchase of a single home, the plan has facilitated an estimated 527,000 home purchases, about 75,000 of which occurred in the year 2000.

Since 1996, the mortgage loan insurance business has experienced faster approvals and lower costs with the introduction of CMHC's **emili**, an automated risk and mortgage assessment system which provides mortgage loan insurance approval within minutes of submitting an application through any approved broker or financial institution.

Mortgage interest rates fell almost without interruption during the 1990s (see Table 19). The result was home ownership became increasingly affordable and helped increase the level of construction industry activity. Similarly the lower interest rates increased the level of activity in home renovation, making renovation a significant alternative to new construction within the industry. As the renovation market increased, lenders have looked for new ways to offer their services to that market segment, some offer financing on the premises in large renovation stores, as well as mortgage financing or refinancing.

Collectively, the changes described above have paved the way for an increased level of activity in the mortgage-lending sector.

Table 19: Average Interest Rates, 5 Year Mortgages, Canada and Value of Residential Building Permits and Residential Renovation Permits

Year	Average 5 year mortgage rate	Residential Building permits values, (Dollars x 1000)	% change	Residential Renovation Expenditures, (Dollars x 1000)	% change
1990	13.2%	$17 514 537	-	$13 018 000	-
1991	11.2%	$16 636 832	-5%	$11 836 000	-9%
1992	9.5%	$17 160 816	3%	$12 508 000	6%
1993	8.7%	$16 432 521	-4%	$13 180 000	5%
1994	9.3%	$17 590 170	7%	$13 620 921	3%
1995	9.2%	$13 239 167	-25%	$13 003 000	-5%
1996	7.9%	$15 718 244	19%	$14 220 000	9%
1997	7.1%	$18 317 447	17%	$15 009 000	6%
1998	6.9%	$17 945 419	-2%	$14 905 000	-1%
1999	7.4 %	$19 957 075	11%	$15 660 000	5%
2000	8.2%	$20 342 086	2%	$16 411 000	5%

Source: CMHC and Bank of Canada (Average of monthly posted rates) and Statistics Canada CANSIM II, Tables 026-0008 and 026-0013

A number of other socio-demographic factors emerged during the 1990s that have implications for mortgage financing.

According to CMHC Housing Facts, lenders and financing institutions have also witnessed another significant change; namely, between 1977 and 2000 the average age of the first-time homebuyer increased from 32 to over 36 years.[lx] This characteristic became evident in markets across Canada, and was likely influenced by a number of factors, such as increased cost of housing in some regions, reduced job security, extended years of study and larger student loans. The phenomenon does not appear to be directly related to affordability, as the average age is approximately the same for Montréal and Toronto, although the average resale price on the Montréal market ($121,000 in December 1999) is almost half of that in Toronto.

Over the last decade, consumer patterns have changed. For example, consumers are more knowledgeable and better-educated, and as a result tend to be more critical of the finance products offered by builders and lenders. Furthermore, the younger generation is less loyal in its consumer habits. The result has

been increased competition as consumers shop extensively, before committing to purchasing a financing product.

Another significant change to the financing of housing in the late 1990s has been the increasing use of the Internet by financial institutions to promote their services and mortgage products. Consumers are using the Internet to shop for rates, although actual transactions are still being done in a face-to-face situation. Use of the Internet for consumer education is resulting in more sophisticated consumers.

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The changes in the financing system that persist into the 2000s will likely be associated with wider choice, fiercer competition and greater use of electronic media and the Internet. Lenders will place more weight on the financial capability of the borrowers, as mortgage lending will tend toward product standardization and increasingly assume the good quality of the real estate offered as a guarantee or check its value by other means than physical appraisals. This is also linked to offering consistency of product on the secondary mortgage market. Borrowers will benefit from a wider range of possibilities to repay the mortgage to suit their individual preferences. It is also expected that the market will experience an increased dominance of the chartered banks in the mortgage credit sector, as their position in the mortgage lending activity has increased over the last decade and the advent of mortgage brokers further increases the competition among lenders.

It can also be anticipated that mortgage amortization periods will decline, given the later age at which people are purchasing homes for the first time, as they will also want to repay their mortgage before they retire.[lxi]

Our interviews confirm that the trends initiated in the early nineties in mortgage financing will persist. Nearly 84% of the interviewees are of the view that, over the next ten years, there will be further innovations in the residential mortgage industry - chief among them, the reverse equity mortgage adjusted to the needs of the retiring boomers - generating a variety of lending options geared to lifecycle housing needs and that these will have implications for the residential construction industry.

According to nearly three out of four stakeholders interviewed, Reverse Equity Mortgage options will expand in order to cater to the aging population of baby-boomers who own a mortgage-free house, implying that reverse mortgages could be in greater demand in the future. Those disagreeing felt that reverse mortgages could be intrinsically unattractive to many people who have spent their lives getting out of debt, and desire to leave the equity they have built up to their children. There was also the view that many people will not have sufficient equity in their home to allow them to draw much of a pension

from a reverse mortgage. Others suggested a form of reverse mortgage has been practiced for a long time, especially in Atlantic Canada: "Other ways are being practiced here in New Brunswick where owners give their home to children in return for lifetime housing free of charge."

It is anticipated the first decade of the 21st century will see new financing solutions being proposed that will more closely meet the needs of the changing population. Old tools, such as the high ratio loans, will be revisited, improved and adapted. Sixty-eight percent of those interviewed felt that banks would continue to be the main originators of mortgages since many other financial intermediaries have left the business. Credit unions and Caisses populaires may introduce innovations. Mortgage credit has been seen by banks and credit unions as a way to attract and keep a client for a host of other financial services. The role of mortgage brokers will become increasingly important over the next few years, As Internet transactions become more prevalent and more secure, it is possible that a larger portion of the mortgage credit process will be completed over the Internet. This is facilitated by mortgage lending increasingly becoming a matter of qualifying the borrower with less attention being paid to the real estate being offered as guarantee. Some interviewees noted that this was evidenced by the disappearance of requirements for home inspections and appraisals.

Impact on the Industry

The increasing need for choice to meet a diversity of financing needs in the housing market will introduce increasing flexibility in mortgage financing in terms of how lenders respond to those needs. The responses will be tailored to particular circumstances and be mutually beneficial for clients and financial institutions.

The end result will be more product variety as more attention will be paid to specific segments of clientele and products will be developed to cater to their needs, and greater competition within the industry

As the level of activity in the construction industry is very much impacted by the interest rates offered by lenders for mortgages, the activity of the construction industry will benefit from generally lower rates that may result from increased competition among lenders, the advent of mortgage brokers and the possibility that lenders have to sell their mortgage portfolios on the secondary mortgage market, and earn a profitable return both on the sale and on the ensuing mortgage administration.

5.2 Trade and Labour Mobility

Looking Back at the 1990s

While free trade and greater labour mobility are cornerstones of our international commercial relationship with the US and Mexico, barriers still exist between provinces in Canada. These protectionist measures, put in place by labour unions and governments, are slowly disappearing. In the 1991 Speech from the Throne, the federal Government expressed its commitment to work toward the removal of all trade barriers between Provinces. The Fraser Institute estimated in 1994[lxii] that: "An optimistic estimate of the benefits of allowing firms to operate freely across the country is that the average Canadian family income would rise permanently by $3 500 per year (or 6.1% on an average family income for Canada in 1990 of $57 339). This estimate comes from applying to Canada a study on European unification. A more conservative estimate for Canada is a permanent increase in income of 1.5 percent, (or $860 per family on the same basis as above) a figure cited by the MacDonald Commission of the mid-1980s."[lxiii]

Labour Mobility in Canada

The nineties have seen the reduction or the elimination of many trade barriers between provinces. As highlighted in the February 1996 Speech from the Throne, the Government of Canada supports labour mobility and is actively working with the provinces and other partners to reduce or eliminate remaining barriers to labour mobility. The Agreement on Internal Trade (AIT),[lxiv] which came into effect in 1995, is directed at making it easier for people, goods and services to move across Canada. Chapter 7 of the AIT— the Labour Mobility Chapter—says that any worker qualified for an occupation in one province or territory must be granted access to employment opportunities in that occupation in any other province or territory. Since 1996, professional regulatory bodies and other stakeholders have been working to comply with the obligations of Chapter 7 (Labour Mobility) of the Agreement on Internal Trade. "Significant progress has been made already toward the goal of ensuring that workers can have access to employment opportunities in any province or territory without unnecessary barriers. Trade and construction workers, such as electricians and plumbers, are also directly regulated by government and are enjoying improved mobility as a result of more consistent exam and apprenticeship requirements across Canada." An agreement was signed between the governments of Quebec and Ontario with respect to construction labour mobility between provinces in 1996.[lxv] That agreement, "Mutual Recognition of the Qualifications, Skills and Work Experience of Ontario and Quebec Construction Workers", defines a

table of equivalence between construction jobs in each province and provides that workers may work in any location in either Quebec or Ontario in these occupations.

The Canadian Construction Association (CCA) has also expressed its support of the mobility of workers across Canada.[lxvi]

> "The ability of qualified construction workers to seek employment in any region of Canada should not, in any way, be restricted or hampered. CCA promotes worker mobility through:
>
> a) increased standardization of trades training;
>
> b) promotion of the Red Seal Program which is designed to provide interprovincial recognition of apprentices and tradesperson qualifications;
>
> c) improved reciprocal arrangements between union locals respecting transfer of workers; and
>
> d) removal of impediments to mobility resulting from administration of the Employment Insurance Act."

In spite of governments' collaboration in removing barriers to worker mobility between provinces, the implementation of full mobility between provinces, especially with Quebec, is far from complete and remains a challenge for the coming decade.

The Ministry of Labour of Ontario, in March 1999 commented on barriers to mobility between Ontario and Quebec.[lxvii] It claimed that extensive red tape, undue restrictions on Ontario firms and workers, and the high cost of doing business in Quebec make it more difficult to work or do business in the Quebec construction industry than is the case in Ontario. In its view, Ontario's construction sector has less red tape, fewer restrictions and lower costs.

According to Ontario Ministry of Labour estimates, there are at least six times more Quebeckers working in Ontario construction than there are Ontarians working in Quebec construction. According to some estimates, there may be as many as 6,000 Quebec residents involved daily in construction activity in Ontario.

While it is now possible for construction workers from the Atlantic Provinces to work in their trade in any of the western provinces, complete labour mobility between Quebec and the other provinces is still almost non-existent. While construction workers from Quebec may and do work in other provinces, the reverse is not yet true. In large part this is the result of the protectionist attitude of labour unions in the province of Quebec.

For several years, in the absence of collective agreements, the Quebec government has had to prescribe labour conditions, including wages, in the construction industry through Orders In Council. In addition,

specialized trades such as plumbers and electricians have their own requirements for the apprenticeship and certification of their members. Workers in these trades also experience problems of underemployment and, as a group, would not welcome the arrival of more competition from outside the province. Currently, construction workers individually perceive the advantages of being allowed to work outside the province, but labour unions are not yet prepared to push for that collective right and to reciprocate.

An encouraging sign is the fact that now contractors and suppliers can quote on government calls for tenders from outside their province of residence. This was unthinkable a few years ago.

International Labour Mobility

The North American Free Trade Agreement (NAFTA) was adopted with the view to encouraging free trade and greater work force mobility between countries. The US policies are still protectionist and do not allow construction workers from outside the United States to work in the country without long, complicated and often unsuccessful applications. While a number of Canadian construction workers do work illegally in the US, the practice is at great risk to the individual worker who, if caught, is heavily fined and barred from ever entering the US again.

In conclusion, trade barriers that existed at the beginning of the decade are now being dismantled. This movement started more than 15 years ago by the MacDonald Commission has been accelerated in view of the overwhelming success of the NAFTA agreement and its very positive effects on the Canadian economy, as well as the increasing worldwide globalization of trade. This is despite some U.S. protectionist policies, such as those affecting softwood lumber and labour mobility.

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The general perception of the interviewees in the survey (78%) is that remaining barriers to construction worker mobility between provinces should be lifted within a ten-year timeframe. It was also expected Quebec will be the last province to do so. Some expressed the opinion that complete labour mobility, while highly desirable, would not be achieved within the next ten years. Political and union problems would have to be resolved and that would take more than a decade.

Labour mobility is seen as a partial solution to the major labour shortages the construction industry is already facing across Canada because of the retirement of experienced workers that is taking place and is expected to accelerate over the next ten years.

When asked about trade and manpower barriers between Canada and the US, 56% of our respondents agreed that they would be progressively lifted within the next ten years.

However, interviewees noted that the construction industry is a local one. One has to be close to the market in order to know its needs, to learn about new projects. At the other extreme, one respondent noted that with NAFTA, Canadian technical expertise is being called for in the US, especially in the construction of high-rise buildings. General scepticism was summed up by one interviewee who expressed the view that,

> *"The US has been very protectionist and we do not expect the situation to change over the next few years, as the US is also concerned by its immigration situation and is not expected to open its borders to Canada."*

The US Government is constantly applying measures to control the entry of Mexican workers into the country. Technically, the same rules apply to Canada and have made it more difficult for Canadians to work in the United States. Although, the United States wants and needs construction workers from Canada, it is not expected that a different treatment will apply to Canadians. Workers from Canada still need a work permit in order to work in the United States. Obtaining a work permit, especially for a construction worker, is a long, complex and costly process. United States labour unions are closely watching intrusions by construction workers.[lxviii] Construction companies should be even more concerned with immigration than other industries. Construction is the only industry singled out for special restriction in the regulations. This is because of a lawsuit brought by a U.S. labour union."

The next ten years will undoubtedly see the continuation of the movement to remove obstacles to labour mobility between provinces and countries. However the completion of that movement may take more than ten, because of the political complexity of any move in that direction by governments, at both provincial and international levels. The construction industry will continue[lxix] to make representation in order to improve mobility between provinces and eventually, especially with the shortage of qualified manpower, mobility may come to be seen as part of the solution in order to fill shortages in specialized construction skills. "What is needed is an industry-wide human resource development strategy, and a partnership between industry and government to develop and implement the strategy. In particular, the industry needs a training system that meets its specific needs. The CHBA has made strong representations to the federal government for a commitment to the formulation of a human resource development strategy for the residential construction industry. More immediately, the critical shortage of skilled workers in the new housing and residential renovation industry must be addressed. A recent submission from members of the housing industry in the Greater Toronto Area proposes a pilot project to assist the industry in dealing with the critical labour shortages in Canada's largest housing market."[lxx]

The greater Toronto Area even made representations to the House of Commons in February 2002 on the proposed amendments to the Immigration and Refugee Protection Act Proposed regulations. In substance it insisted that there is currently an acute labour shortage within the construction industry, and that immigrants had been traditionally a source of labour for the construction industry. It recommended easing the point system in order to allow more skilled applicants to be accepted as immigrants.[lxxi]

Other actors in different areas of activity have found ways and means to attract workers from other countries, be it only for the harvest of various fresh fruit and produce. It is expected that as the labour shortages increase in the construction industry, mobility issues will find a resolution on both sides of the Canada-US borders and also between provinces. Factors in favour of improved mobility will be the increasing shortage of skilled manpower in the construction industry and the increased application of free trade between countries in the Americas. The factors constraining the movement will still be protectionist measures by governments and unions.

Impact on the Industry

The elimination of labour mobility barriers in most provinces has been positive for the industry, opening up opportunities for construction trades to move between jurisdictions. For an industry facing skilled labour shortages, access to a national pool of trades people offers a partial solution to the problem.

However, protectionist attitudes are expected to continue to constrain labour mobility between Quebec and other provinces and between Canada and the United States. As an issue, this will require the on-going commitment of the housing construction industry to pursue its resolution with governments and union interests.

The increasing scarcity of skilled construction workers throughout Canada will constitute a powerful incentive for increasing worker mobility across provincial jurisdictions. With the increase in construction volume, as has been the case over the last few years, labour unions will increasingly welcome within their ranks new skilled construction workers from other provinces and, as most of their membership will be fully employed, the pressures for local protection of existing jobs will tend to diminish.

Chapter Six

Development Cost Charges, Taxes, Fees and Transaction Costs

Looking Back at the 1990s

Over the last decade provincial governments have downloaded many responsibilities to local governments, including greater responsibility for infrastructure provision. This has not always been accompanied by sufficiently increased transfer payments. Faced with the need for revenue, and wanting to constrain increases in the property taxes of existing residents, local governments often opted for a user pay policy in the form of development cost charges or levies on new residential development to cover servicing costs. Development Cost Charges (DCCs) are seen almost exclusively as a means of raising revenue to finance capital projects related to roads, drainage, sewers, water mains and parks. In the process of developing DCCs, the recently revised "Development Cost Charge Best Practices Guide" in British Columbia suggests, "Local governments have to take into account whether the proposed DCCs will: be excessive in relation to the prevailing standards of service; deter development; or, discourage the development of reasonably priced housing or reasonably priced serviced land."[lxxii]

Charges vary widely by municipality, ranging for a single family home from the order of $2,000 to over $20,000. (See Table 19) In some cases they are set based on guidelines provided by the provincial government, such as the previously mentioned best practices guide in British Columbia. Not all local governments impose a charge or levy. For example, older, built up municipalities or those with little growth may have minimal or no charges, while those experiencing rapid growth, such as Vaughan, Ontario and Surrey, BC, have charges in the order of $20,000.

In Ontario, charges were relatively stable over the 1990s. In contrast, charges in municipalities in the Lower Mainland of British Columbia increased from a range of $500 - $900 for a new single family home in the late 1980s to generally over $15,000 by the late 1990s; an increase many times the rate of inflation.

Some sample charges during the 1990s are included in the following table.

Table 20: Total Local Levies, User Fees, Development Cost Charges on Typical Single Family Detached Houses in the mid-1990s[lxxiii]

Halifax	$ 1,615
Laval	$14,712
Vaughan	$23,355
Mississauga	$19,970
London	$ 9,387
Saskatoon	$10,503
Calgary	$ 5,000
Kelowna	$11,850
Saanich	$12,518
Surrey	$19,870

These costs are in turn substantially passed from the developer to homebuyers in buoyant market conditions, or predominantly absorbed by the developer in a recession or slow market. As noted in a recent Canadian Home Builders' Association report, "The costs associated with levies, fees, charges and taxes are passed on to purchasers through higher prices – thereby negatively affecting housing affordability."[lxxiv] In a slow market, municipalities may reduce DCCs, if they find high cost charges are discouraging housing construction. This has in fact been the situation in several Lower Mainland municipalities in British Columbia, since the late 1990s.

The housing construction industry has conducted studies on DCCs and made representations to governments. The Canadian Home Builders' Association believes that there is a strong case for a sharing of the costs of municipal infrastructure among the three levels of government, and expressed this position in a submission to the Federal/Provincial/Territorial Ministers Responsible for Housing in 2000.[lxxv] Supporting research completed for the association notes, "Given the potential benefits in terms of improved affordability and promotion of economic growth, there appears to be a strong argument for greater sharing of the costs of municipal infrastructure among all three levels of government."[lxxvi] A later study concluded, "There is a strong case for all residents of a community, as well as the federal and provincial governments, to share in financing the infrastructure investments necessary to accommodate growth. The whole community benefits from growth – the whole community should make the investments necessary to facilitate and support growth."[lxxvii]

In addition to the municipal development cost charges, levies and fees, there are provincial and federal sales taxes, transaction costs and other costs paid by builders in producing new homes. Four categories of local municipal charges have been identified, including; infrastructure charges (DCCs, lot levies, hectarage assessments, engineering fees, etc); land dedications; development application processing fees; and, building permit and plumbing fees.[lxxviii] Transaction costs are paid by developers in purchasing land for new housing, as well as in the final sale of the house to the buyer where the developer incurs legal and survey fees. "Land transfer taxes and/or registration fees apply to both the land purchase by the developer and the ultimate purchase of a home by the homebuyer. Although the differences in nomenclature sometimes confuse the issue, this combined category of costs can be significant."[lxxix] Costs vary by province especially registration fees and land transfer taxes.[lxxx]

With the exception of Alberta, provinces have provincial sales tax; in Atlantic Canada it is harmonized with the GST. The Territories, including Nunavut, do not have a sales tax. "A significant factor in the effective rate of provincial sales tax payable on new housing is the price of land. Since land is not subject to provincial sales tax, high land costs tend to reduce the sales tax share of the total house/land package."[lxxxi] British Columbia and Manitoba have the lowest sales tax rates, at 7%, and Newfoundland has the highest sales tax at 12%.

Other less readily quantifiable costs incurred by builders and developers include those related to a lengthy land development and development permit application approval process, or to contentious building and land development requirements (including contaminated lands regulatory requirements), and utility (hydro, gas and phone) costs/fees charged by utilities. The application of electric and gas utility costs varies widely and is dependent on company policy. "Some companies reimburse developers for part of the cost of the installation of services; others require reimbursement of some or all of the utility's costs."[lxxxii] Complying with changes in the rules regarding taxes and regulations may also result in further costs.

The construction industry has also been faced with higher taxes on vacant land, thus making it unprofitable to create large land banks and hold them for long periods of time. "By requiring developers to capitalize the carrying costs of land holdings, rather than treat them as a deductible expense, the tax system raises the cost of land development...the resulting costs must ultimately be passed on to home purchasers through higher prices."[lxxxiii]

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The results of the stakeholder consultations indicate some potential for a change in philosophy on the application of DCCs, so that it looks as though the 2000s could be a period of transition and reassessment of cost charges as a revenue generator, depending on the respective local government's history of involvement with DCCs. Those with experience in the 1990s at the municipal level with cost charges appear to have a different perspective on the trend than those with relatively little experience.

Seventy percent of interviewees were of the opinion that land costs and user fees/development charges would represent an increasingly higher proportion of the cost of new home construction in many areas.

> *"The introduction of development fees is already planned by the Quebec government and will be implemented soon."*
> *"No choice but to adopt principle of user pay. It is taxation repositioned in its proper place."*
> *"These are becoming one of the fastest growing components of cost, and municipalities are increasingly looking for alternate revenue sources."*

But some (19%) of respondents disagreed with the above views. This group, including stakeholders with direct municipal experience, felt that municipalities are getting the message that this is not a good approach as it is penalizing the industry, and reducing municipalities' benefits from growth. There is evidence that municipalities and urban planners are starting to re-assess the application of DCCs, not only from the perspective of their impact on urban form and relationship to smart growth policies, but also as a revenue generator.

> *"Municipalities should look at whole financial equation in its totality, e.g. taxes and costs of urban development."*
> *"I don't think that user fees and costs will become increasingly so – Ontario has hit the wall."*
> *"I think the industry has done a pretty good job of educating government as to the fees and costs of housing production."*

Impact on the Industry

The trend is for provincial governments to continue to download responsibilities to the local level without supporting funds. Under this pressure, local governments will have to assume an increasingly activist role in coming years, looking for revenue generating mechanisms. Whether DCCs continue to play the role they did in the last decade, or whether alternate tools or means of funding infrastructure will emerge, have implications for the housing industry in its ability to produce homes priced for consumers in the respective markets. The combination of high land costs and substantial levies, fees and charges means that the industry is challenged to produce lower cost market housing in regions such as the Lower Mainland and southern Vancouver Island in British Columbia.

This is in contrast with other parts of Canada, such as the Prairies, where members of the housing construction industry have begun to develop innovative methods of lowering new home costs. As one homebuilder expressed it,

"Affordable housing is the single biggest growth opportunity for the homebuilding industry."

Chapter Seven

Technology

Looking Back – at the 1990s

This chapter considers both the use of innovative technology and e-commerce technology within the housing construction industry. The term "innovation" is used in a broad sense and applies to advanced design technology and innovations in business and management practices, as well as information and communications systems. Discussion includes both the creation and adoption of innovations.

7.1. Application of Innovative Technology & Practices

The nature of research on technology in the residential construction industry, and the extent to which it is undertaken, is influenced by the following:

- the heterogeneous nature of the industry, whereby each site and project require individual consideration and approach calling for the "craftsman" skill set, making it more difficult to integrate the process from market analysis through to production and sales than is the case in manufacturing; and
- the widespread variation in size of firms, and a significant number of the firms being small operations.

A research study commissioned by the National Research Council and Statistics Canada analysed data gathered in the Survey on Innovation, Advanced Technologies and Practices in the Construction and Related Industries, 1999.[lxxxiv] The study included all areas of construction, and was not focused solely on residential construction. However, the findings afford some insight into the receptivity and behaviour of the residential construction industry regarding innovation. Recognizing that "innovation" is a loosely used term, for purposes of analysis the researchers assumed that, as well as the use of advanced technologies, the use of advanced practices implies innovation. The survey sought information regarding the use of advanced technologies in areas of communications (e.g. e-mail, digital photography), on-site plant and equipment, materials and systems, systems, design (e.g. Computer Aided Design (CAD) and modelling technologies). With regard to business practices, it sought information on the extent to which computerization, the introduction of quality systems (e.g. ISO 9000 and R2000), organization (namely strategic plans and written documentation), and business contracts and arrangements were used. Results

show that the residential construction industry lags behind other construction and related industries in pursuing innovation measures. Obstacles to innovation identified were:

- the high cost was a major barrier for most respondents;
- the lack of skilled workers – this was especially the case for residential contractors;
- the lack of client interest in innovation; and
- the lack of in-house expertise.

The study also found that suppliers are seen as the major sources of innovation, and that residential contractors use less information and access fewer external sources than those in other areas of construction. In fact for both advanced technologies and business practices, residential contractors lag significantly behind engineering and non-residential contractors.[lxxxv]

Factors driving innovation were identified as rapid technological change and materials obsolescence. The study analysis "showed that firm size matters, the most innovative small and medium firms have strong growth strategies, and the most innovative large firms have product range expansion strategies…and large firms with many suppliers tend to be more innovative, while small firms with many suppliers tend to be less innovative".[lxxxvi] Size did not tend to be a factor in responding well to legal and regulatory restrictions. Other behavioural traits in the more innovative firms in all areas of construction included hiring well-trained new graduates, developing the skills and knowledge of employees, using multi-skilled teams, improving technology practices/capabilities, and developing proprietary technologies. While the analysis showed a weak relationship between innovation and profit, it suggested the more profitable small firms tended to display slightly more innovativeness in technology than the less profitable small firms; the correlation was similar for the more profitable larger firms. In general, the finding was that "construction in Canada does appear to undertake innovative practices in order to support its competitive behaviour but additional longer term evidence is required to confirm these findings".[lxxxvii]

The study also found that "looking at the productivity as an indicator, evidence would suggest that the construction industry is not as innovative as other sectors of the economy and that its propensity to innovate is declining".[lxxxviii] During the period 1992-98, based on surveys conducted by Revay and Associates Ltd., overall expenditure on construction R&D in Canada (in current $) declined by some 15%. Total R&D expenditure as a share of construction GDP is estimated at 0.01% in 1998. No information is available on how much R&D work was related to the building process".[lxxxix]

While the study commissioned by the National Research Council and Statistics Canada provides specific data and insights into the use of innovation in advanced technologies and practices in the construction sector, there are a number of other observations to make relating to design and technology. The

residential construction industry has seen a number of innovations that have improved the production process for housing. For example, technology has also been applied to other areas of the housing industry such as design and manufacturing; this has improved the efficiency of these sectors and in turn benefited the production process.

Computer technology is already being used in so called "smart" houses with automated systems, such as lighting and heating. The Internet provides opportunities to further enhance the "smart" house by reducing costs for services and increasing the range of the specially controlled or monitored services available.

Societal pressures - changing lifestyles and values across and within generations - are increasing the pressure to improve the choices in house design and, in turn, on the sustainability and design of communities - how they are planned, serviced and regulated, including transportation and service networks. Use of innovative technologies helps industry to respond to these pressures. An element of this has been growing interest in the merits of adaptable housing to meet changing lifecycle needs. The work on FlexHousing™, the Grow Home and The Next Home™ recognize the need to respond to socio-demographic, economic, technological and environmental pressures influencing daily life and, in turn, housing needs. However, innovations in house design, such as shared housing, secondary suites/accessory apartments, and granny flats that make efficient use of the existing housing stock, are not always welcome by existing neighbourhood residents.

Respondents noted the considerable innovation over the last ten years particularly in energy conservation – high efficiency furnaces, triple glazed windows, and heat recovery ventilators. Areas of innovation included: energy efficiency measures, foundation systems, roofing and the building envelope, particularly in northern Canada.

> *"The construction industry has always been innovative – it innovates all the time. But it is an incremental process. It cannot be revolutionary, there are too many people and organizations involved – it must always be evolutionary. People who say we build houses like we did 50 years ago are dead wrong."*

A significant number of informants were of the view that the creation of innovative technology and practices would arise from associated industries, such as suppliers, rather than from the construction industry itself. One difficulty is that most innovations cannot be patented and will be immediately copied by competitors, as one respondent stated,

> *"Low profit margins have nothing to do with it. The problem is that you can't patent these things so if you go to the trouble of inventing them and then build them everyone will copy you. So why do it first and get clobbered?"*

Some informants pointed to the difficulty that small firms face in being innovative and adopting advanced technologies and business practices, noting:

- they are too small to afford it; and
- the industry is accustomed to relying on CMHC, suppliers, and industry associations to do research and explore innovations.

> *"The reason firms don't innovate is because they don't make any money doing so."*
> *"Most small builders can only afford to survive, not to do research."*

There was also a feeling expressed that standards and code implications make builders cautious about adopting innovations and new designs without knowing how they will work.

Some informants voiced concern about federal government cutbacks affecting CMHC's ability to undertake research in support of the industry.

In summary, while some consulted felt there had been areas of innovations in the industry in the last decade, others pointed to the obstacles to change that face the industry. Among the reasons firms do not use new and improved products or equipment are: the high costs of innovation and the lack of access to capital; the lack of skilled workers to use the old technologies and even fewer to apply the newer technologies;[xc] the restrictive effects of codes and standards; liability risks associated with innovation - some failed innovations (for example, pine shakes adopted as a tested innovation in Alberta after provincial government approval) have led to costly liabilities; and, for some firms market resistance – most buyers have their eye on the bottom line and are buying a "service commodity", and builders market to consumer preferences.

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A recent study in the United States looked at the opportunities for applying technological innovation to housing construction. Among the study's conclusions regarding the application of technology were the following:

- it generally requires capital investment ;
- it typically enhances the productivity of workers; and,
- it can also reduce the costs of production and increase profit margins.

The recent report released by HUD, "Industrializing the Residential Construction Site"[xci] notes that electronic technology offers much promise for changing current design and construction practices. The

report "suggests organizational strategies to take advantage of these possibilities: information integration, physical integration, performance integration, production integration, and operations integration are each studied as contributors to the systematic development of the home building industry's technological capacity."[xcii] The implications are that "the introduction of industrial methodologies and technologies to the housing industry promises to change the current practices of building construction."[xciii] Advances in technology have included material substitutions. This incremental development involves newer materials and pre-assembled components.

Conclusions are that there is a need to focus the construction industry in the United States on "three thrust areas: enterprise-wide business support systems (IT), process and production management tools, and assembly industrialization techniques."[xciv] In looking at integrated systems for industrializing the residential construction site, it also concluded the housing industry lags behind other industries since the same level of linkage does not exist between the system parts such as marketing needs, product design, purchasing, and production processes. Progress in this area is seen to be moving the industry from a craft-based production system to an industrialized production system that will in turn create efficiencies and make housing more affordable. "The industrialization of residential construction requires major strides forward in information management, production processes, organization of production, and use of new materials and technologies".[xcv]

The home building process is complex and comprises a large number of interconnected steps, which if integrated electronically have the potential to enhance the sustainability of the industry and its growth potential.

The HUD study also anticipates that innovations in design technology to support flexibility in design will become more important as the "boomers" choose to remain in familiar environments that are "senior friendly" and as a larger proportion of young people adapt their housing to suit their changing household work/living arrangements.

While parallels may be drawn between the Canadian and U.S. housing construction industries, some Canadian interviewees offered the view that the geographic dispersion of the industry and markets in Canada offer more limited economies of scale than those which exist in the United States. Some respondents noted this in particular as a potential impediment to the growth of the manufactured housing industry in Canada. Others felt the more limited economies of scale suited the efficiencies of the craft-based production of the small builder in markets outside the larger metropolitan centres.

Impact on the Industry

A recent National Research Council Report concluded that while there is indication that current use of innovative technologies and practices is low it appears poised to grow in the future.[xcvi]

Over the next decade, the move to objective-based codes has significant implications for encouraging innovation in the housing construction industry in Canada, "Objective-based codes are seen as an important factor which may force innovation in order to compete with foreign products and solutions allowed to enter into the Canadian market by the new codes"[xcvii]. The decentralized nature of the industry and the number of small firms suggests that without initiatives to motivate and support innovation, some firms may have difficulty adapting. This could lead to some increase in concentration in the industry. The feeling among our Canadian interviewees was that because of changing consumer preferences and new products, together with the constantly increasing complexity of the industry, firms would have no choice; they would either have to become more innovative, however that is defined, or perish.

One implication for the industry is that "incremental innovation should be as significant as breakthrough innovation for the Canadian construction industry...and that instruments to measure different types of innovation and assess their impact"[xcviii] are needed. The introduction of innovative measures in interim steps would allow firms to adapt gradually, helping to ease the process of innovation.

7.2. Application of E-Commerce Technology

Looking Back – at the 1990s

The biggest technological change of the last ten years has been the rapid development of the Internet and the way it has changed business strategy and investment, as well as consumer access to information. The Internet has created a truly global market place as the rapid growth of business to consumer and business to business sites demonstrates. The housing industry has a significant presence on the Internet, but as of Spring 2001 the vast majority of housing-related sites are research and information or marketing sites. In terms of e-commerce, there are sites to buy house plans, sites that match contractors and consumers for renovation and construction projects, and sites that sell housing-related data and information.

By 1997 over 85% of organizations in the housing industry had Internet access while more than half (55 percent) also had a Web site.[xcix] The Winter 2000/2001 CHBA Pulse Survey indicated that 90% of the respondent builders used computers in their business. The same survey found about one-third had used the Internet to purchase products for their business, and 40% of builders had a company Web site. Use of computer systems and access to the Internet was similar in most regions, except for Quebec, where

the incidence was somewhat lower.[c] Obstacles to greater use of the Internet included lack of capital to invest in equipment and a lack of skills. [ci]

Internet based tendering and procurement started to emerge as a business application with tremendous potential for cost reduction. For the construction industry, BidCom software has automated the entire construction process by putting it on the Internet. This was seen as the most important technological breakthrough since Computer Assisted Design (CAD) was introduced to the building industry.

In the United States, the National Association of Home Builders introduced a mega Web site listing only new homes (www.homebuilder.com). The trend is to larger web sites, and the use of technology for tendering and procurement services – such as BidCom software described above, and sites similar to that provided by Worldbid Corporation (www.worldbid.com), an online international marketplace designed to help small to mid-sized companies do business buying or selling products or services domestically in Canada or internationally.

As the Policy Research Initiative emphasizes, Canada is facing the challenge of competitiveness in the global economy.[cii] Internationally, Canada has the advantage of being highly respected for its housing expertise. Given this, there is a considerable challenge and opportunity for the residential construction industry and its stakeholder organizations in applying Internet technology in the export marketplace; for example, tools on export business planning/training, information on foreign markets, guidance in procedures and regulations, information links, and information on market research opportunities. As with the domestic market, there is also an opportunity at the international level for industry partners to work together to facilitate and support the provision of services for tender and procurement over the Internet. Moreover, on a daily basis, electronic technology is shrinking the world providing tremendous scope for the industry to capitalize on e-commerce for transactions with foreign clients.

There is no doubt that the Internet has started to change the construction industry, the evidence of this is there in the United States and is emerging in Canada. Companies are submitting bids and contracting by e-mail, tracking and procuring supplies and equipment over the Internet, and completing administrative functions, such as invoicing and negotiating prices and delivery terms, electronically. However, the housing construction industry lags behind other industries in the widespread use and adoption of technology, "the pace is slow – construction ranks 87th globally among the industries in adopting technology."[ciii]

The larger building firms are dedicating the most capital and management to being in the forefront of builder e-business. Others are actively assessing the landscape but want to see something of value demonstrated before they invest significantly. The smaller builders are the ones who do not have the resources to venture into the e-business.[civ]

As a number of interviewees observed, the construction industry is not perceived to be well suited to readily adapting to the Internet for a number of reasons:

- In Canada, the residential construction is predominantly stick built and builders see the on-site nature of the industry as being an overriding factor. The industry tends to be localized, is dependent on manual labour and a labour intensive process, and together with its providers is also highly fragmented – with the needs of large builders differing from those of small ones.

  > *"The capacity of the industry is still limited in its ability to adapt, as it is so mechanical in nature and is a land based industry."*

- Traditionally the housing construction industry is conservative, many of the building firms are small and unsophisticated, and increasing concerns about liabilities do not foster ready acceptance of new technology.
- Having access to adequate hardware is crucial to the effectiveness of the systems, since the software required by the construction industry is extremely powerful. For many smaller firms, fully adapting electronically has been cost prohibitive.
- Concerns over security and reliability of the electronic system. There is considerable potential for reliability problems to disrupt the system, for example the susceptibility of project Web sites and extranets to computer viruses and hackers. There is also concern whether proprietary and time sensitive information will reach the intended parties safely and on time.

The use of web based bidding tools is growing. Increasingly companies and governments are posting solicitations and receiving proposals electronically, and in some cases in the United States they are available only electronically.

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Impact on the Industry

Like other industries, the residential construction sector will expand its use of the Internet. Things such as electronic financial transactions, online ordering of materials, and expansion of export markets will all be facilitated using the Internet. In the construction and renovation industry, the general trend is to more complex and sophisticated Web sites and the use of the Internet to tender and procure services. Changing demographics, values and lifestyle, together with electronic technology are causing the housing finance industry to reassess how it does business. Simultaneously, innovations are driving the competitiveness of the mortgage industry and introducing new players. Faced with these challenges, the pressure is to respond to the individual customer's needs and customize the consumer relationship. Speed, agility and flexibility will be key to meeting the rapidly changing needs of the market place.

So what does this mean for the industry over the next decade? It is anticipated that it will be possible to buy a home completely on-line. There will be increasing information available on the Internet regarding housing, structural and design options, financing and market choices. This will allow consumers to research their options and connect electronically with agents to select site visits for the real life experience and the tactile feel of the product. The electronic lead will cause the creation of a personal folder for the buyer and the ability to purchase options from a virtual design centre and track the progress of the construction of the home on-line, as well as complete the mortgage financing and closing electronically (in the U.S. electronic signatures have been adopted legally as binding). The personal folder enables the builder (and others such as realtors) to pursue a "customer for life" strategy. This strategy is based on an on-going relationship between builders and buyers that will "provide a rich avenue for data mining and target marketing by service and product providers. Builders would be in a strong position to charge a gating fee on the marketing and a finder's fee on any commerce generated."[cv] On the construction side, purchase data will feed into an integrated construction management and accounting software system to drive the electronic purchase, scheduling and payment of materials and labour – producing potential savings. The challenge for the industry is how to implement the structure that will put this in place.

It is anticipated the Internet will play a significant information role and a major role in delivering services to the construction and renovation industry. Decreasing hardware costs will alleviate the cost concerns for smaller firms. However, the trend to larger web sites, and the use of technology for tendering and procurement services is going to place many small builders at a disadvantage in the marketplace unless they can acquire the expertise.

Some stakeholders consulted anticipate the following changes:

> *"We are seeing some impact emerging. There is more: marketing and information on products; use of Internet to keep clients informed of renovation products, projects and problems; and, we may see more procurement of services (the respondent made the analogy of reading the Internet like a magazine)."*

Industry associations should explore builders' and renovators' needs, and work to establish standards to support the industry in its use of Internet technology. This may be particularly critical in the tendering and procurement of services over the Internet, and its accessibility by builders.

Potentially the Internet offers a means of combating labour shortages in what is a resource-intensive business. Here again, there may be opportunities for industry associations to explore an industry consortium which would offer members the opportunity to benefit from the Internet without the high cost individual firms would have to bear.

Chapter Eight

Challenges and Opportunities

The discussion in this paper has raised a number of issues that will impact the housing industry in Canada over the next decade and beyond. Some established trends will continue to develop and new trends will emerge that will require the industry to adapt. These trends have been reviewed in some detail above. In summary form, this chapter highlights the challenges and opportunities these trends present for the housing industry.

Trends-Issues/Concern	Challenge	Implications	Opportunities
General Factors			
Data Availability	Conducting a comprehensive analysis of the housing industry in Canada is difficult partly because of the nature of the industry (overwhelming preponderance of very small firms; easy entry and exit) and partly because available data sources are inadequate. For example, there is no reliable estimate of the number of firms in the industry by number of employees or by sub-component (e.g. single family builders, land developers, etc). Nor are thorough analyses of profitability available for unincorporated firms, which are very common in the industry.	An inability to understand the operation of the industry because of data availability problems means that it is very difficult to identify and address problems, from both an industry and a government perspective. Discussions and policies are based on anecdotal evidence, which is less reliable than credible data.	• Identify gaps in the present knowledge base. • Determine how and at what cost data could be acquired on an ongoing basis to monitor the structure, performance, and operational characteristics of the industry on a consistent and regular basis. Firm numbers, firm size, profitability of unincorporated firms, and total employment are among the areas that should be explored from the standpoint of data collection. • Conduct well-focused research to better understand the structure and nature of the industry in Canada.
Demographic Factors			
Changing demographic characteristics and related trends include: an aging population with an increasing propensity to remain as homeowners;	Demographic trends challenge the industry to respond creatively with diversity, flexibility and affordability in design, financing and tenure options. A subset of challenges relate to educating the public about the effective and positive aspects of	The housing industry will be expected to provide an increasingly greater range of housing choice. This will include choices in affordability, design and design flexibility to provide a continuum of living choices. Some members of the housing industry (e.g. builders, lenders) are seeing niche market opportunities in these areas, and there is a	• Adapt house design to provide more flexibility, diversity and affordability. • Assess ways to promote community receptivity to innovations in housing design, including local governments becoming more active in promoting innovative housing, as part of community planning and reviewing land

younger generations facing less job security and looking for flexibility and diversity in housing, tenure and financing options; increasing trend to multi-generational households and related housing needs.	housing design options. Aging baby boomers are considering a number of residential path options, for example remaining in the family home and completing renovations, moving to inner city or rural recreational areas and taking out a new mortgage. As boomers age it is expected they will not tolerate the traditional approach to supportive care, given the control and influence baby boomers have had over their own lives; this opens up a wide range of housing options responding to diverse needs of independent through supportive housing for seniors. Raising awareness of the opportunities within the industry by transferring the knowledge and experiences gained across the country by homebuilders in the areas of design, finance, regulations and partnerships.	feeling that there are industry opportunities to be pursued.	community planning and reviewing land use regulations to provide flexibility and recognize the diversity of the population and multi-cultural needs. • Work with the related relevant stakeholder groups to create alternative tenure options, and educate consumers about the options. • Market research and analysis to determine the nature of new housing that older Canadians want. • Examine the impact of extended periods of retirement for seniors, in terms of housing needs and interaction with the community. • Examine housing choices that are less traditional and suit transitional stages in the lifecycle to meet the housing needs of younger generations; all these impact housing design, housing tenure choices and to some extent housing finance. • Foster creative solutions to housing choice in design and affordability by building on the knowledge base existing within the housing industry. • Transfer the knowledge and experience gained across Canada in the housing construction industry. • Create a 'Best Practices' of resources, ideas and experiences to be shared with the broader set of stakeholder interests.

Trends-Issues/Concern	Challenge	Implications	Opportunities
Economic Factors			
Industry Profitability	Available data indicates that some components of the housing industry may be less profitable than the average Canadian business, although poor data quality means that it is difficult to be precise about the nature, scope, or trend involved in these issues. The Canadian Home Builders' Association believes that firms are leaving the industry because of low profit margins. However, because of data availability problems, it is difficult to know what the true situation is with regard to industry profitability and whether or not profitability trends are worsening or improving. In some areas, the diversity of regulations and sources of regulations can be time consuming to deal with and be costly, impacting on profitability.	If it is true the Canadian housing industry is generally less profitable than other industries, this relative lack of profitability will drive firms from the industry and deter new entrants, eventually leading to capacity shortages and higher house prices. Regulatory compliance costs can be high and can limit opportunities for scale economies.	• As part of the research described above or in addition to it, focus research efforts on profitability patterns. Which components of the industry are the most profitable? What are the main factors impacting on profitability? Is the industry more profitable in some provinces than others? Is the industry less profitable than average and if so why? To what extent is lower than average profitability encouraging firms to leave and/or not enter the housing industry? What are the profitability trends over time? • On the assumption that the extent of the underground economy impacts negatively on the profitability of the legitimate industry, the industry should continue its efforts with government and consumers to try and reduce the magnitude of the underground economy. • Continue to explore more effective regulatory mechanisms with government. • Explore new opportunities, such as the export market.
Labour Shortages	There is a growing shortage of skilled labour in the Canadian	If not addressed, labour shortages may impair the ability of firms to respond to	• Continue efforts to professionalize the

	skilled labour in the Canadian housing industry.	impair the ability of firms to respond to demand and the cost of housing could increase.	industry so more young people are attracted to it. • Support and encourage initiatives aimed at schools and career counsellors. • Explore immigration as a means of addressing shortages. • Work with government, labour and post-secondary organizations to improve apprenticeship systems and training programs. • Employ innovative technologies and products to partially alleviate labour shortages.

Trends-Issues/Concern	Challenge	Implications	Opportunities
Regulatory Factors			
Liability	For a variety of reasons, builders and other stakeholders in the housing industry are becoming increasingly concerned about the nature and extent of the liabilities they face as a result of building or renovating houses.	In other countries, liability concerns have resulted in the cessation of certain types of construction activity. Unlimited liability may encourage builders to leave the industry or to increase the price of the houses they build. Municipalities may become less receptive to innovation as they are often left paying all the damages in legal actions as a result of the joint and several rule.	• Support and encourage governments to put caps on liabilities, as has been done in Alberta. • Work with governments and through industry associations to ensure broad based knowledge about the impact of liability concerns. • Continue to explore and distribute information on alternate mechanisms.
Regulation	The regulatory framework governing the Canadian housing industry is evolving rapidly. Some aspects are welcomed by the industry and some are viewed with concern. With the growing interest in warranties, it would be beneficial to have an assessment of the impact of mandatory warranty coverage on the housing industry compared to the impact of voluntary warranties.	An ineffective and costly regulatory framework will accomplish little for the consumer, but will discourage the growth and development of a professional housing industry in Canada.	• Continue to explore approaches taken in other countries to streamline the regulatory environment. • Work with initiatives such as BRAGG to implement new policies and directions. • Monitor developments and initiatives in provinces where regulatory changes have been made to ensure the changes are effective and efficient from the perspective of the industry. • Because mandatory warranty coverage has existed in Ontario for years, research could be undertaken to answer the following questions:[cvi] - Have mandatory warranties in Ontario resulted in a stronger housing industry than in other provinces?

			- Do housing consumers feel more confident in Ontario than elsewhere? - Is the quality of construction higher in Ontario than elsewhere? - Other things being equal, are house prices higher in Ontario than elsewhere because of warranty costs and/or more rigorous construction standards? - Is the underground economy more significant in Ontario than elsewhere because of efforts to evade mandatory warranties?

Trends-Issues/Concern	Challenge	Implications	Opportunities
Mortgage Financing:			
Home financing arrangements are becoming more varied, flexible and innovative.	The need for a range of housing choices challenges the industry to create products that respond to a variety of needs and resources available to individuals, and are mutually beneficial to lender and client; for example, products for older homeowners wanting to access equity in their home or assisting younger families with modest incomes access homeownership. The pressure is to respond to the individual customer's needs and customize the relationship.	Adaptation of mortgage financing has the potential to create growth opportunities for the house building industry.	There is an opportunity for the housing construction industry to work with lenders to: • Improve the understanding of diverse populations, and use partnerships to expand homeownership opportunities for moderate- and low-income and minority households. • Reflect cost savings from renovation, energy efficiency and green building materials in home financing arrangements.

Trends-Issues/Concern	Challenge	Implications	Opportunities
Trade and Labour Mobility			
Interprovincial barriers for construction workers	With labour shortages becoming more acute as construction workers retire, mobility across provinces becomes important.	Standardisation would help mobility, given the structure of the construction industry differs across provinces, and regulations and qualifications by trade are different. Where applicable, union support and member education would be necessary.	• Develop standards for mobility of construction labour with unions' support and participation. • Develop system where qualifications are recognized as being equivalent across provinces and territories, both in specialized and general construction trades. • Work with governments and through industry associations to ensure broad based knowledge about the advantages of labour mobility among provinces.
International barriers for construction workers mobility	The mobility of skilled workers across the US/Canada border	In the context of NAFTA, greater worker mobility between Canada and the United States is a consequence of free trade between the two countries. Eventually, the same logic would also apply to a continental free trade system.	• Work with governments and through industry associations to ensure enlarged trade agreements will allow and facilitate labour mobility among countries in construction trades.

Trends-Issues/Concern	Challenge	Implications	Opportunities
Development Cost Charges			
Continued downloading of services from senior to local levels of government.	An increasing variety of levies, user fees and taxes is pushing up the cost of new home construction. A major component of the rising cost is the Development Cost Charge (DCC).	The reduction, waiver or elimination of DCCs would facilitate the construction of more affordable housing, especially critical in the more expensive housing markets in Canada.	• The housing construction industry work with Federation of Canadian Municipalities and its provincial affiliates to examine alternative revenue generating mechanisms to provide for capital works infrastructure. • Explore with governments the industry position that the cost of infrastructure in new developments be borne by governments as was the situation previously. This would minimize the burden on purchasers especially if they have to obtain a higher mortgage in order to repay their portion of infrastructure.

Trends-Issues/Concern	Challenge	Implications	Opportunities
Technology			
Current use of innovative practices is low but appears poised to grow in the future. There continues to be a number of barriers within the industry to innovation. (Innovation includes the introduction of innovative technology, design and business practices and processes.)	One challenge is the continuing market resistance to innovation in design technology – traditional single family homes still dominate the market. Consumers like the 'tried and true', with the exception of a few niche markets. Other challenges and deterrents relate to the nature of the industry – the focus on bottom-line cost, the lack of skilled workers for residential contractors, and liability issues.	Without initiatives to motivate and support innovation, some firms may have difficulty adapting and are unlikely to survive. This is likely to be more the case with smaller firms that have difficulty accessing the capital required for innovation which can be costly. Even for those able to finance innovation, there is the issue of liability risk which affects a variety of industry stakeholders including large private and public sector organizations.	• Barriers to innovation should be analysed – market resistance, time, patents, cost of innovation in an industry that is geared to the bottom line with low-bid approaches and traditional procurement practices, lack of skilled workers, liability risks, and restrictive codes. • Develop and promote initiatives to motivate industry firms to support innovation. • Develop instruments to measure different types of innovation and assess their impact; the introduction of innovative measures in interim steps would allow firms to adapt gradually, helping to ease the process of innovation. • Examine options (e.g. products and/or structural) to support and facilitate the adoption of innovative technology by smaller firms. This might include the dissemination of best practices information.

Regardless of the source of change it is clear that the Canadian housing industry will have to continue to adapt to a variety of challenges over the next decade. In meeting each of those challenges an opportunity presents itself to create a new product, service or a new way of doing business. Given that a large proportion of firms in the industry are smaller and unincorporated, it is important that the industry continues to provide a supportive network. Partnerships between industry, the public sector and other stakeholders will continue to be required to facilitate the successful adaptation of the industry to change.

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Appendix B: Endnotes

[i] Because of Canada's switch from the Standard Industrial Classification (SIC) coding of industries to a North American coding standard (NAICS) to accommodate NAFTA, many sub-industrial classifications have disappeared. Under the SIC system, the construction industry was divided into 66 sub-industrial groups. Under NAICS, there are 36. What was formerly three SIC codes (4011 Single Family Builders, 4012 Apartment Builders, and 4013 Renovators) is now one NAICS code – 231210. In order to include the sub-industrial detail in this paper, the SIC classification has been used throughout.

[ii] Canadian Homebuilders' Association, The Canadian Housing Industry – Performance and Trends, August 2000. The CHBA Web site at http://www.chba.ca/news/news.html contains links to a variety of CHBA research and policy documents.

[iii] The analysis is based on four sources of data: **Canadian Business Patterns,** derived from the Canadian Business Register, which is used by Statistics Canada to develop sample frames for business surveys. Both incorporated and unincorporated firms are included in the database; **Financial Performance Indicators Databases:** Statistics Canada publishes data on the number of incorporated firms and their financial performance based on three separate sources of data – the Enterprise Financial Statements database, corporate income tax returns, and the corporate income tax administrative database; **Industry Canada's Small Business Profiles,** generated by Statistics Canada using a sample of Revenue Canada tax returns for unincorporated and incorporated businesses; and **Survey of Employment, Payrolls, and Hours**: This is Statistics Canada's monthly survey of employment levels. It covers employees and owners of incorporated businesses, but excludes owners or partners of unincorporated businesses, the self-employed, and casual workers.

[iv] Canadian Business Patterns is based on the Business Register, a repository of information used by Statistics Canada to coordinate the coverage of business surveys.

[v] Sole proprietorships and partnerships are unincorporated. Generally speaking, incorporated firms tend to be larger than unincorporated firms.

[vi] The definitions of the four industry groups used in Canadian Business Patterns are as follows. Single Family Housing - Establishments primarily engaged in the development and construction of single detached and single attached dwellings.

Apartment and other Multiple Housing – Establishments primarily engaged in the development and construction of buildings containing three or more dwellings. Included in this industry are establishments primarily engaged in the construction of collective dwellings.

Residential Renovation – Establishments primarily engaged in residential additions, major improvements, and repairs, renovation, rehabilitation, retrofitting and conversions involving more than one trade.

Land Subdivision and Land Development – Establishments primarily engaged in the acquisition, assembly, subdivision and servicing of land for subsequent resale to builders. Builder-developers are classified in Major Group 40 – Building, Developing, and General Contracting Industries.

[vii] The same is true of the Tables based on the Financial Performance Indicators database.

[viii] On the basis of existing data sources, it is difficult to conduct a comprehensive and accurate analysis of profitability in the housing industry, for a number of reasons:

- Many of the existing data sources are based on income tax returns, which may understate true profitability levels in the housing industry and in other industries.
- A significant segment of the housing industry operates on a cash basis.
- The role that the buying, selling, and holding of land plays in the profit equation of builders and developers is imperfectly understood and difficult to quantify.
- The local nature of housing markets and the housing industry complicates the analysis of profitability. For example, in the last few years most segments of the industry in Ontario have probably been quite profitable, while most segments of the industry in BC have probably been losing money. The housing industry is highly cyclical, in different places at different times.
- Components of the housing industry are highly variable, unlike many other industries where firms are broadly similar. There are huge differences between the firm that builds five single detached houses a year and the firm that builds 200 unit high rises in the downtown cores of major cities.
- Few firms in the housing industry are public companies, for whom detailed financial data are readily available.

- Special surveys of builders, designed to shed light on the financial performance of the industry, have not been conducted in recent years.

[ix] Note that Industry Canada makes the following disclaimer about its Small Business Profiles: "Trend analysis is not the primary usage for which the data were intended and is complicated by the continuously changing tax programs and data bases that supply the input data.

[x] There were 2,060 firms in the sample analyzed by Industry Canada in 1997 – 1,320 unincorporated firms and 730 incorporated firms, and 3,210 in the 1993 sample, of which 2,240 were unincorporated and 970 incorporated.

[xi] Note that the comparison between revenue growth and the CPI is in no way intended to imply that there is any necessary relationship between the two – the comparison is included only to put the increase in revenue in some sort of context.

[xii] Sample sizes in both years were similar – 2,160 in 1993 and 2,060 in 1997. In 1993, 80% of the sample was composed of unincorporated firms; in 1997 the ratio had increased to 93%.

[xiii] Return on equity measures the level of return to firm owners - it represents their measure of profitability. The earnings figure is the after-tax profits including a deduction for interest expenses. In effect, the ratio indicates how many cents are returned to every dollar invested by the owners.

[xiv] Estimates from Statistics Canada Catalogue #72-002. Includes full-time and part-time employees, and working owners and directors of incorporated firms. Excludes owners or partners of unincorporated businesses, the self-employed, and casual workers.

[xv] Some interviewees suggested than new home builders could perhaps generate more revenue from maintaining and repairing the homes they built than they generated from building them in the first place. Some firms have in fact entered this business.

[xvi] CMHC, Skill Shortages in the Residential Construction Industry, 2001.

[xvii] Lampert, Greg and Steve Pomeroy, Canada's Housing System, September, 1998.

[xviii] The data for 1996-01, 2001-06 and 2006-11 are projections from the CMHC Long Term Housing Outlook using the Western Medium Scenario.

[xix] CMHC, "Immigrants and the Canadian Housing Market: Living Arrangements, Housing Characteristics, and Preferences", Canada Mortgage and Housing Corporation, Ottawa, 1996, p. 4

[xx] CMHC Socio-Economic Research Highlights 55-3, Special Studies on 1996 Census Data: Housing Conditions of Immigrants,

[xxi]Ibid.

[xxii] Janet Che-Alford and Brian Hamm, "Under one roof: Three generations living together", Canadian Social Trends, Summer 1999, p. 6.

[xxiii] Gloria Gutman, "Demographic Trends, Forecasts, Challenges and Needs in Seniors' Housing", Seniors Housing Update, Gerontology Research Centre, Simon Fraser University, August 1999, 5:1, p. 5

[xxiv] CMHC, Housing for Older Canadians, Canada Mortgage and Housing Corporation, Ottawa, 1999, pp. 139-144.

[xxv] CMHC, Demographic Changes and Real Housing Prices in Canada, Canada Mortgage and Housing Corporation, Ottawa, 2000, p. 54.

[xxvi] CMHC, Consumer Housing Preferences in the 1990s: An in-depth study of What Baby Boomers, Empty Nesters, and Generation X Want in Housing - Now and in the Future, Canada Mortgage and Housing Corporation, Ottawa, 1995, p.8.

[xxvii]CMHC, "The Changing Nature of Work and Future Housing Aspirations of Canadians", Canada Mortgage and Housing Corporation", Ottawa, 1998, p. 37

[xxviii] Immigrants and the Canadian Housing Market: Living Arrangements, Housing Characteristics and Preferences, CMHC, 1996, and The Housing Choices of Immigrants, 1986, CMHC Research and Development Highlights, Socio-Economic Series, Issue 13.

[xxix] CMHC, Demographic Changes and Real Housing Prices in Canada, Canada Mortgage and Housing Corporation, Ottawa, 2000.

[xxx] Bank of Montreal, Economic Research and Analysis Special Report, July 1998.

[xxxi] For example, owner-builders may be restricted to the building of one home every five years.

[xxxii] That is, builders will claim to be owner-builders, avoid the licensing and warranty fees, and then sell the house. Buyers of these houses are protected not by standard warranties, but under the statutory warranty provisions of the legislation which require the buyer to take the builder to court in order to try and remedy defects. Legitimate builders are required to pay warranty and licensing fees and thus are at a competitive price disadvantage with fraudulent owner-builders.

[xxxiii] CHBA, Housing Policy Issues and Recommendations, August, 2000. Note that the Australians reforms involve a package of initiatives. In addition to mandatory registration of building practitioners, the reforms include privatization of building approvals and inspections, compulsory insurance for building practitioners, limitations on liability for building practitioners, dispute resolution mechanism, and restrictions on non-genuine owner-builders.
[xxxiv] Alberta Home Builders' Association President's Message, August 2000.
[xxxv] Bird vs. Winnipeg Condominium Corporation
[xxxvi] CHBA, Housing Policy Issues and Recommendations: Submission to the F/T/P Ministers Responsible for Housing, August, 2000, page 19. Note that
[xxxvii] CCBFC, Objective Based Codes, November, 2000.
[xxxviii] Ontario Ministry of Municipal Affairs and Housing, Knowledge, Accountability and Streamlining: Cornerstones for a New Building Regulatory System in Ontario, A Report to the Minister of Municipal Affairs and Housing from the Chair and Vice-Chairs of the Building Regulatory Reform Advisory Group (BRRAG), July 2000.
[xxxix] Ontario Ministry of Municipal Affairs and Housing, News Release: "Building Reform Legislation would Improve Public Safety and Streamline Construction Approvals", November 1, 2001.
[xl] Ontario Ministry of Municipal Affairs and Housing, Backgrounder, "An Act to Improve Public Safety and to Increase Efficiency in Building Code Enforcement", November 1, 2001.
[xli] Ontario Ministry of Municipal Affairs and Housing, News Releases: "Building Reform Legislation would Improve Public Safety and Streamline Construction Approvals", November 1, 2001 and "Legislature Approves Building Code Act Reforms", June 20, 2002. Also: "An Act to improve public safety and to increase efficiency in building code enforcement", assented to June 27, 2002.
[xlii] 1997 Angus Reid/Royal Bank Housing Study
[xliii] "Regulatory Obstacles to Innovative Housing", CMHC, 1998, p. 6
[xliv] Ibid., p. v
[xlv] Environmental Building News, Volume 8, No. 5, May 1999
[xlvi] "Regulatory Obstacles to Innovative Housing", CMHC, 1998, p. 4
[xlvii] Greg Lampert, The Federal Role in Canada's Housing System: A Snapshot", prepared for Canadian Home Builders' Association, January 2001, p. 11
[xlviii] Ibid., p. 12
[xlix] Ibid., p. 12.
[l] David Redmond and Associates, "Current Issues and Research on Health and Housing", prepared for CHBA, November 2000
[li] EnviroHome 1998in Kentville Nova Scotia was the winner in the Concept and Design Category of CMHC's 200 Housing Awards Program. The EnviroHome is an example of designing a house as a "system" that addresses occupant health and accessibility issues, sustainability concerns and energy efficiency innovations. (CMHC Annual Report 2000, p.5)
[lii] Information on these programs is available on CMHC's web site http://www.cmhc-schl.gc.ca/, and for R2000 on CHBA's web site http://r2000.chba.ca/indexe.html
[liii] David Redmond and Associates, "Current Issues and Research on Health and Housing", prepared for CHBA, November 2000
[liv] Readvanceable loans allow the borrower to increase the mortgage loan through additional advances over time, as the equity builds up.
[lv] Multi-rate/split term loans allow the borrower to finance part of the mortgage on an open loan, short term rate basis while another part remains at a fixed rate for a longer term.
[lvi] In the press release issued by the Minister responsible for CMHC, June 21, 1999, for the Royal Assent to the NHA amendments, stated : "...Changes to the National Housing Act (NHA) (...) will allow Canada Mortgage and Housing Corporation (CMHC) to offer new products quickly and operate on a more commercial basis..." http://www.cmhc-schl.gc.ca/en/News/nere/1999/1999-06-21-0900.cfm
[lvii] See http://onconsec.org/Q300/frameset.html Ontario Construction Secretariat for a study on the extent of self employment in the construction industry in Ontario and in Canada.
[lviii] We have found no data on so-called "black market construction" in Canada. However, it is worth mentioning that the Quebec government would have recuperated $440 millions over four years by adding additional inspectors in the construction industry. See http://www.revenu.gouv.qc.ca/travailaunoir/francais/fra/frameresultat.htm. The situation is also perceived as important in the Atlantic provinces according to key informants who responded to our survey.
[lix] http://crea.ca/english/public/political/homebuyer_2001.pdf

see also http://www.statcan.ca/english/indepth/75-001/archive/1996/pear1996008004s4a02.pdf for an analysis of RRSP withdrawals between 1992 and 1996 for homebuying.

[lx] CMHC Housing Facts, Volume 5, Number 5, May 2000

[lxi] CMHC Housing Facts, May 8, 2000 at http://www.cmhc-schl.gc.ca/en/bureho/homain/foan/loader.cfm=/commonspot/security/getfile.cfm&PageID=4481

[lxii] In "Provincial Trade War; Why the Blockade must End", The Fraser Institute, 1994

[lxiii] The Agreement on Internal Trade (AIT) was signed in 1994 by the federal, provincial and territorial governments and came into effect in July 1995. A section of the AIT, Chapter 7, deals with labour mobility. Its objective is to enable workers qualified for an occupation in one part of Canada to have access to employment opportunities in that occupation in any other province or territory. http://www.hrdc-drhc.gc.ca/stratpol/lmp/mobility/newsrel/9710b.shtml

[lxiv] http://www.hrdc-drhc.gc.ca/stratpol/lmp/mobility/newsrel/9710.shtml

[lxv] http://www.edu.gov.on.ca/eng/training/labmark/ont-queindex.html

[lxvi] http://www.cca-acc.com/overview/policy/part2.html

[lxvii] http://www.gov.on.ca/LAB/ann/99-14bbe.htm

[lxviii] [lxviii] http://www.grasmick.com/contract.htm#U.S.%20IMMIGRATION%20YOUR%20FIRST. This is a website where a US immigration attorney explains how Canadians wishing to work in the United States can obtain a work permit.

[lxix] CHBA "Housing Policy Issues And Recommendations, Submission to Federal/Provincial/Territorial Ministers Responsible for Housing," Canadian Home Builders' Association August 2000, p.24

[lxx] Ibid., pp.23-24.

[lxxi] http://www.newhomes.org/govrel/SubmImmig0202.pdf

[lxxii] BC Ministry of Municipal Affairs, Growth Strategies office, Municipal Financial Services, "Development Cost Charge Best Practices Guide", BC Ministry of Municipal Affairs, Growth Strategies Office, Municipal Financial Services, revised October, 2000, p.8.

[lxxiii] Selected data from "Levies, Fees, Charges, Taxes and Transaction Costs on New Housing", CMHC, Ottawa, 1997. p. 13.

[lxxiv] CHBA, "The Canadian Housing Industry – Performance and Trends", Canadian Home Builders' Association, 2000, p. 14.

[lxxv] CHBA, "Housing Policy Issues And Recommendations, Submission to Federal/Provincial/Territorial Ministers Responsible for Housing", Canadian Home Builders' Association August 2000, p.27

[lxxvi] Greg Lampert, "Restoring the Balance: Financing Municipal Infrastructure Required for New Development", prepared for CHBA, January 2000, p. 14

[lxxvii] Greg Lampert, "The Benefits of Growth", prepared for the CHBA, December 2000, p. 18

[lxxviii] CMHC, "Levies, Fees, Charges, Taxes and Transaction Costs on New Housing", Canada Mortgage and Housing Corporation, Ottawa, 1997.

[lxxix] Ibid., p. 29

[lxxx] Ibid, p.iii

[lxxxi] Ibid, p.ii

[lxxxii] Ibid., p.46

[lxxxiii] CHBA, "Housing Policy Issues and Recommendations: Submission to the F/T/P Ministers Responsible for Housing", Canadian Home Builders' Association, August 2000, p. 16

[lxxxiv] George Seadon, Michael Guolla, Jérôme Doutiaux, and John Nash, "Analysis of the Survey on Innovation, Advanced Technologies and Practices in the Construction and Related Industries, 1999", National Research Council & Statistics Canada (Draft October 2000)

[lxxxv] Ibid., p. 5-6

[lxxxvi] Ibid., p. 6

[lxxxvii] Ibid., p.7

[lxxxviii] Ibid., p. 19

[lxxxix] Ibid., p. 21

[xc] National Research Council of Canada, "Construction Industry Roundtable on Innovation: Synthesis Report", November 1999, p. 16.

[xci] "Industrializing the Residential Construction Site", US Department of Housing and Urban Development, Office of Policy Development and Research, July 2000

[xcii] Ibid, Foreword

[xciii] Ibid, p. 17
[xciv] Ibid., p. 38
[xcv] Ibid., p. 59
[xcvi] NRC, "Analysis of the Survey on Innovation, Advanced Technologies and Practices in the Construction and Related Industries, 1999", National Research Council, Draft October 2000, p. 7
[xcvii] NRC, "Construction Roundtable on Innovation: Synthesis Report", 22 November 1999, p.11
[xcviii] National Research Council of Canada, "Construction Industry Roundtable on Innovation: Synthesis Report", November 1999, p. 2
[xcix] Percentages taken from The Future of the Internet and the Housing Sector a CMHC research report prepared by Syllable Internet Expressions Inc.
[c] CHBA Pulse Survey, Winter 2000/2001, p.14
[ci] The Future of the Internet and the Housing Sector.
[cii] Canada 2005 Global Challenges and Opportunities, Volumes I and II, Draft Interim Report, February 25, 1997, Overview, p.31
[ciii] David B. Rosenbaum and Judy Schriener, "Company Cultures Viewed as Threat to Collaboration", Engineering - News Record, My 15, 2000, p.19
[civ] "e-Builders", Global Equity Research, UBS Warburg, Home Construction, November, 2000
[cv]Ibid, p. 5
[cvi] The Ontario New Home Warranty Program has not done any empirical research into these questions (conversation with Angela Bertalucci, April 3, 2002.

Appendix C: Summary Report on Stakeholder Consultation

(See attached file)