



Peat Marwick Stevenson & Kellogg

Management Consultants

Project Report

HOUSING OPPORTUNITIES

UNDER NAFTA



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Prepared for

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Les perspectives que l'ALÉNA ouvre pour le logement

Sommaire

La demande virtuelle de logements est énorme au Mexique : on chiffre à plus de 6 000 000 les habitations dont ce pays a actuellement besoin. Ce déficit équivaut à bien plus de la moitié du total des ménages qu'on dénombre au Canada. Cette pénurie de logements fait du Mexique un gros marché potentiel pour les biens et services canadiens. Les obstacles à franchir pour exploiter ces débouchés sont grands, mais les espoirs de profits ne le sont pas moins.

B. Le Mexique est un marché attrayant

La croissance économique devrait permettre au Mexique de remédier à sa grave pénurie de logements. La libéralisation du commerce et la réforme économique y ont fait affluer les capitaux. L'Accord de libre-échange nord-américain (ALÉNA) élargit encore les perspectives d'accroissement. L'ALÉNA va en outre faciliter l'accès du marché mexicain aux entreprises canadiennes de diverses façons :

- ✓ en éliminant progressivement presque tous les droits de douane sur les biens importés du Canada;
- ✓ en facilitant l'accès aux fournisseurs de services canadiens, comme les ingénieurs et les architectes;
- ✓ en supprimant les restrictions sur les investissements étrangers;
- ✓ en donnant accès au secteur des services financiers.

Comme le Mexique a grandement besoin de capitaux étrangers pour financer sa croissance économique, les investissements qu'on y fait devraient rapporter gros. Et les occasions d'investir vont souvent créer des possibilités commerciales.

C. Nature des possibilités en matière de logement

Les Mexicains ont besoin de solutions innovantes qui leur permettront de combler rapidement et de façon économique leur déficit résidentiel. Un certain nombre d'entreprises canadiennes sont déjà en train de tirer parti des occasions qui s'offrent pour les procédés de préfabrication de bâtiments. Sur un plan plus général, toute technique originale capable d'accélérer la construction et d'en diminuer les coûts trouvera des marchés avides.

De plus, on s'attend à ce que la classe moyenne mexicaine croisse de façon spectaculaire durant la prochaine décennie. Cela va créer une demande de logements plus variés et de meilleure qualité. En effet, leur revenu augmentant, les consommateurs dépenseront plus pour se loger et demanderont des habitations plus confortables et plus belles. Nombre de maisons mexicaines ne sont actuellement que de simples boîtes en blocs de béton, sans attrait. Il y aura donc une demande pour des éléments de décoration et de

finition (revêtement mural, de sol, couverture), de même que des portes et des fenêtres en bois ou en aluminium de meilleure qualité.

Le Canada conservera probablement un avantage marqué sur le Mexique dans la production de biens requérant d'importants investissements, autrement dit de biens dont la production nécessite un outillage coûteux. La pénurie de capital fait que les taux d'intérêt réels (corrigés de l'inflation) sont élevés au Mexique; le ministère des Finances estime qu'ils sont environ le double des taux canadiens. Les bons du Trésor mexicain à court terme rapportent actuellement plus de 20 % l'an. De forts taux d'intérêt réels signifient des coûts de crédit élevés pour les achats d'outillage de production. L'avantage restera donc au Canada en ce qui concerne la fabrication des matériaux de construction qui exigent beaucoup de capital et non de main-d'oeuvre. Les panneaux à base de bois (contreplaqué, panneaux de particules, panneaux de fibres de densité moyenne) exigent des installations de fabrication plus complexes et moins de main-d'oeuvre que des produits comme les armoires de cuisine et les moulures de bois. Il est donc plus probable que la fabrication de panneaux soit un secteur où le Canada ait l'avantage.

Le Canada aura aussi vraisemblablement du succès avec les biens qui profitent de son savoir-faire technique et de sa main-d'oeuvre qualifiée. Cette dernière fait défaut au Mexique alors que le Canada est indéniablement pourvu de compétences en génie et dans d'autres secteurs techniques. Le Mexique représente donc un marché pour nos connaissances techniques, directement par l'achat de services techniques en tous genres et, indirectement, par l'achat de biens qui sont le fruit de technologies canadiennes, par exemple, les procédés de préfabrication de bâtiments mis au point par les entreprises canadiennes grâce à leurs connaissances techniques.

Le secteur des services financiers pourrait, lui aussi, offrir des possibilités d'investissements. La masse de l'épargne mexicaine ayant toujours été faible, le secteur bancaire est sous-développé. Ce sous-développement est aussi une conséquence de l'époque où les banques mexicaines appartenaient à l'État et où l'appât du gain ne les poussait pas à maximiser leurs revenus ni les possibilités commerciales. Le Canada, par contre, jouit d'un secteur bancaire bien développé et d'un système d'offre de crédit hypothécaire très efficace. L'augmentation des revenus et, par voie de conséquence, de l'épargne devrait faire connaître une croissance rapide au secteur bancaire mexicain. Celui-ci aura besoin de connaissances spécialisées en services bancaires de détail, notamment dans les systèmes informatiques et les programmes de commercialisation. Une grande banque canadienne au moins voit dans le Mexique une très intéressante occasion d'investissement. Entrer les premières dans le marché mexicain pourrait se révéler avantageux pour les établissements canadiens. Les organismes canadiens comme la SCHL peuvent aussi aider les autorités mexicaines à mettre en place de nouveaux produits financiers tels que les titres et l'assurance hypothécaires.

D. Facteurs déterminants de réussite

Les entreprises qui veulent s'implanter dans le marché mexicain doivent connaître les habitudes et les préférences des Mexicains. Ceux-ci ont des attentes très différentes des nôtres en ce qui concerne l'habitation, et les produits qui leur sont offerts doivent y répondre.

De plus, les sociétés qui désirent faire des affaires au Mexique doivent être prêtes à investir dans ce pays. Le Mexique n'est pas qu'un débouché pour les exportations canadiennes, mais il offre aussi des occasions d'investissement liées à l'exportation de services, de technologies et de compétences. Le Mexique doit attirer des capitaux pour développer son économie. Les entreprises qui ont des visées à long terme et des coffres bien garnis y trouveront des possibilités commerciales en abondance.

Comme le Mexique manque de capitaux et de moyens financiers, les exportateurs ont plus de chances de réussir s'ils offrent d'intéressantes conditions de financement. Les facilités de crédit offertes par des organismes publics comme la Société pour l'expansion des exportations peuvent aider puissamment à vendre les biens et services canadiens.

Autres stratégies importantes :

- Trouver un partenaire mexicain. Un partenaire sur place connaîtra bien les besoins du marché local et saura se débrouiller dans l'environnement mexicain. Avec l'aide d'un tel partenaire, l'entreprise a plus de chances de fabriquer des produits correspondant aux exigences mexicaines et d'adopter une stratégie de pénétration du marché appropriée. Trouver un partenaire mexicain n'est toutefois pas exigé par la loi.
- Être patient. Établir de bons rapports commerciaux prend du temps. Les chefs des entreprises canadiennes concernées devront sans doute passer beaucoup de temps en discussions avec d'éventuels partenaires mexicains. Les hommes d'affaires mexicains aiment tisser des relations d'amitié avec leurs associés. Il est peu probable qu'on puisse conclure un marché au terme du premier voyage d'affaires.
- Prendre en compte l'aspect social du transfert de technologie. Il faut demander leur collaboration aux organismes publics et aux autorités des domaines techniques. Ces organismes, qui peuvent influencer sur les décisions d'achat ou acheter eux-mêmes des biens, accepteront plus facilement les technologies étrangères si on leur demande leur avis. Bien entendu, il ne faut pas négliger le réflexe xénophobe qui peut inciter les experts du pays à repousser une solution parce qu'elle ne vient pas de chez eux.
- Faire une certaine place au «contenu local». Il se peut que le consommateur mexicain préfère des biens dont l'assemblage final est fait dans son pays à des produits finis importés. Le contenu local crée, dans le pays importateur, des emplois qui compensent ceux perdus à cause de l'importation.

L'ALÉNA exige la coopération des organismes gouvernementaux pour ce qui est des normes techniques et des homologations. Les organismes canadiens et les associations concernées devraient profiter de toutes les occasions de collaborer avec leurs homologues mexicains pour ce qui est de l'élaboration et de l'évaluation des techniques et des normes de construction. Cela pourrait être un élément clé de la stratégie d'exportation du Canada et fournir aux entreprises du secteur technique canadien une expérience précieuse et une utile connaissance du marché. Des organismes ou des groupes canadiens pourraient, par exemple, vouloir parrainer sur place des tests de technologies innovantes du bâtiment, puis aider les autorités mexicaines à en

évaluer les résultats. Des initiatives de ce genre ne devraient pas être considérées comme de l'assistance, mais comme une dépense de commercialisation essentielle. Elles peuvent contribuer à la bonne réputation du savoir canadien en matière de techniques du bâtiment et placer les produits canadiens parmi ceux qui répondent le mieux aux exigences du Mexique. Les autorités mexicaines exercent une grande influence sur les procédés utilisés dans la construction des logements destinés aux faibles revenus et elles verront d'un oeil plus favorable ceux qu'elles auront aidé à adapter à la réalité mexicaine. L'aspect social du transfert de technologie peut donc être pris en compte par des évaluations faites en collaboration.

À cause des rigueurs de notre climat, les entreprises canadiennes sont au fait des plus récents procédés de conservation de l'énergie. Bien que conçus pour un climat froid, ceux-ci peuvent convenir tout aussi bien aux pays chauds (par exemple, les matériaux d'isolation) et, donc, trouver un marché au Mexique. Les Canadiens savent aussi qu'un bâtiment et ses équipements mécaniques fonctionnent à la manière d'un système. Ils savent que l'enveloppe du bâtiment interagit avec les appareils de chauffage et de climatisation et avec les fluctuations quotidiennes de température, et que le confort des occupants dépend de cette interaction. L'expérience des ingénieurs canadiens peut donc leur être très utile pour concevoir des bâtiments éconergétiques.

Au Canada, les codes du bâtiment et les normes de produits sont plus uniformes qu'aux États-Unis. Le Code national du bâtiment du Canada constitue le point de départ de la plupart des codes locaux du pays. Les normes de produits sont coordonnées par le Conseil canadien des normes; il n'existe pas d'organisme semblable aux États-Unis. L'uniformité des normes canadiennes et leur excellence reconnue sont un gros avantage pour la commercialisation de notre savoir-faire sur le marché mexicain. De plus, les entreprises et les organismes canadiens, à la différence des américains, utilisent le système métrique.

D'autres facteurs, plus subjectifs, peuvent influencer sur le succès commercial. Il se peut que les Canadiens réussissent au Mexique simplement parce qu'ils ne sont pas américains. Le Mexique est sensible à la domination américaine et voit dans le Canada un partenaire commercial plutôt neutre et non menaçant.

E. Barrières commerciales

Le Mexique est un marché très différent du Canada. Les techniques de construction mexicaines, en particulier, diffèrent beaucoup des canadiennes. **Dans le secteur de l'habitation, la construction en maçonnerie domine.** Les Mexicains opposeront une grande résistance à la charpente de bois, de sorte que le Mexique ne constitue pas encore un débouché pour le bois de construction et ses dérivés.

Les Mexicains préfèrent la solidité des habitations en maçonnerie (qu'il s'agisse de maisons individuelles ou de logements collectifs), convaincus qu'elles résistent mieux aux tremblements de terre que celles à charpente de bois. Or, d'après les ingénieurs, c'est le contraire qui est vrai. Il est possible de trouver une solution à d'autres inconvénients que semble présenter le bois (la voracité des termites mexicains, par exemple). En outre, avec une isolation convenable, la charpente de bois est plus éconergétique. Les maisons à charpente de bois se construisent aussi plus

vite que celles en maçonnerie, un avantage marqué vu la pénurie de logements dont souffre le Mexique.

À cause de la préférence des Mexicains pour la maçonnerie, les techniques employées au Canada pour construire des logements collectifs (qui font souvent appel au béton et à la maçonnerie) sont peut-être plus exportables que celles utilisées pour bâtir des maisons individuelles (généralement en bois).

De plus, le Canada part avec une longueur de retard. En effet, sa présence sur le marché mexicain des produits de bâtiment et des installations techniques est limitée :

- Les échanges commerciaux entre les deux pays sont peu nombreux et, qui pis est, le Canada est en situation déficitaire.
- La part des investissements directs étrangers qui revient au Canada est négligeable. Comme nous l'avons dit plus haut, les occasions de faire du commerce avec le Mexique seront probablement liées à la volonté d'investir dans ce pays.

Parce que le Canada fait peu de commerce avec le Mexique, la présence des entreprises canadiennes est discrète. Rares sont les sociétés canadiennes qui ont établi des relations avec des entreprises mexicaines ou qui ont appris comment faire des affaires au Mexique. Les Mexicains connaissent bien peu les produits et les services canadiens. Bref, non seulement le Canada a du retard, mais il risque de ne pas le rattraper.

Le Mexique a des perspectives de croissance prometteuses, mais il reste néanmoins un pays pauvre. Le PIB per capita équivaut à peu près à un septième de celui du Canada. L'abordabilité est une contrainte qui s'exerce sur la plupart des achats. Le loyer de l'argent demeure élevé au Mexique et il y a toujours la possibilité de reculs économiques. Les normes techniques, si elles sont appliquées sans discernement, pourraient aussi constituer des barrières commerciales.

F. Implications pour le Canada

Le marché mexicain de l'habitation est une occasion pour le secteur canadien des produits de bâtiment et des installations techniques de créer des emplois, d'augmenter ses exportations et de faire des investissements rentables. Par exemple, des entreprises canadiennes s'emploient déjà au Mexique à promouvoir des systèmes brevetés de construction de logements préfabriqués. Il se peut que ces entreprises ouvrent au Mexique des usines où se fera l'assemblage final, mais le Canada n'en tirera pas moins des avantages. Par exemple, ces entreprises emploient des techniciens et des ingénieurs canadiens pour concevoir et réaliser leurs produits. Elles auront la possibilité de fournir à leurs usines mexicaines des composants à forte valeur ajoutée, comme des panneaux, des articles de quincaillerie, des appareils de salle de bain en plastique moulé. Il se pourrait qu'on confie à des firmes d'ingénierie et à des entrepreneurs canadiens l'aménagement des lotissements mexicains, qui seront le principal débouché des logements préfabriqués. Enfin des banques canadiennes pourraient se trouver mêler à l'opération, elles aussi, par l'entremise de leurs filiales mexicaines, et

prêter de l'argent aux Mexicains pour qu'ils achètent les maisons de ces lotissements. Chacune de ces activités aura des retombées bénéfiques pour le Canada.

Le Mexique peut en outre aider le Canada à élargir ses horizons économiques en lui servant de banc d'essai pour ses exportations dans d'autres pays latino-américains. Des pays comme le Chili et l'Argentine ont eux aussi pris des mesures importantes pour libéraliser leurs échanges commerciaux. Cette situation peut amener une ère de croissance sans précédent dans la région, entraînant un accroissement de la demande de logements ainsi que de produits et de services connexes. Une modeste augmentation des revenus peut faire croître énormément la demande de biens de meilleure qualité. **Le Mexique est un marché attrayant, dans une large mesure, à cause de son phénoménal potentiel de croissance.** D'autres pays latino-américains peuvent être sur le point de connaître une forte expansion économique et désirer vivement être partie à de futurs accords de libre-change. Le Canada ferait bien se placer dès aujourd'hui sur le marché mexicain et latino-américain.



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Introduction

This report summarizes our investigation into opportunities for the housing industry as a result of the North American Free Trade Agreement (NAFTA). This study is intended to identify the key issues and areas of opportunity in the Mexican housing market as a result of increased Canadian access afforded by the Agreement.

The focus of the inquiry is on three broad sectors that relate to housing:

- ▶ Manufacturers of building products and materials, including, but not limited to, wood and wood products.
- ▶ Providers of construction and related services, including engineering, architectural, and planning services.
- ▶ Financial service institutions, with a focus on the provision of mortgages and mortgage insurance.

One of the issues examined is the impact of Mexican building codes and product standards on ease of market entry.

In conducting this study, we have relied both on direct contact with industry and government officials and on a review of available secondary sources. We have spoken with trade officials, representatives of the Canadian and Mexican governments, technical experts, and business persons active in the Mexican market. We have also examined the Agreement itself, and obtained various studies on the Mexican housing market and economy. These studies were obtained from a wide range of institutions, including industry associations, and development and government agencies.

This study is not intended to be a definitive evaluation of the potential of the Mexican housing market. Rather, the study is intended to identify key issues and suggest areas of future work or action. Conditions in the Mexican market are dynamic and evolving, so that an on-going review of developments is advisable.

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Executive Summary

The potential demand for housing in Mexico is enormous: the current housing deficit exceeds 6 million units. This deficit is equivalent to well over half the total number of households currently found in Canada. Mexico's housing shortage therefore represents a large potential market for Canadian goods and services. Barriers to capturing this market are significant but so are the potential returns.

B. Mexico is an attractive market

Economic growth should allow Mexico to address its serious shortage of housing. There has been a surge in capital investment in Mexico as a result of trade liberalization and economic reform. The North American Free Trade Agreement (NAFTA) offers further prospects for economic gains. NAFTA will also result in easier access to the Mexican market for Canadian firms through:

- ▶ Eventual elimination of almost all tariffs on Canadian exports.
- ▶ Easier access for Canadian service providers, such as engineering and architectural personnel.
- ▶ Removal of restrictions on foreign investment.
- ▶ Access to the financial services sector.

Because Mexico badly needs foreign capital to finance its economic growth, investors in the Mexican economy should receive high returns. Opportunities for trade will often follow from opportunities for investment.

C. Identification of housing opportunities

Mexicans need innovative solutions that will allow them to address their housing deficit quickly and cost-effectively. A number of Canadian firms are already actively pursuing opportunities for pre-fabricated building systems. More generally, any unique technologies that can help speed construction and lower costs will find ready markets.

Also, the size of the Mexican middle class is expected to grow dramatically over the next decade. This will bring demands for more variety and quality in residential accommodation: consumers with higher incomes are likely to increase their expenditures on housing and to demand higher levels of comfort and aesthetics. Many Mexican homes are now simple, unappealing boxes constructed of concrete block. There will therefore be opportunities for items such as improved decorative and hardware products (including wall, roof and floor coverings) and higher-quality aluminum and wood doors and windows.

Canada is likely to retain a strong advantage vis-a-vis Mexico in the production of capital-intensive goods, or, in other words, goods whose production requires a large investment in production equipment and machinery. Shortages of capital mean that real (inflation-adjusted) interest rates in Mexico are high, and are estimated by the Department of Finance to be about twice their level in Canada. Short-term treasury bills in Mexico now yield over 20% per annum. High real interest rates translate into high costs for financing purchases of production equipment. Canada will therefore retain a comparative advantage in producing those building products that have a high capital, rather than labour, content. Wood-based panel products (such as plywood, particleboard, and medium-density fiberboard) entail more extensive production facilities and have a lower labour content than items such as kitchen-cabinets and wood mouldings. Panel products are therefore more likely to be an industry in which Canada has a comparative advantage.

Canada is also likely to meet success with goods that take advantage of our technical expertise and skilled personnel. Mexico suffers from shortages of skilled labour, while Canada has undeniable expertise in engineering and other technical services. Mexico therefore represents a market for our technical expertise, both directly, as a purchaser of engineering and other services, and indirectly, as a purchaser of goods that embody Canadian technologies. Canadian firms, for example, have utilized their scientific knowledge to develop building systems for prefabricated housing.

The financial services sector also represents a potential investment opportunity. Mexico has an underdeveloped banking sector, which reflects an historically low level of savings. It also reflects the period in which Mexican banks were nationalized by the government: state-owned banks were not motivated by the profit-incentive to maximize revenue and business opportunities. Canada, in contrast, has a well-developed banking industry and a highly efficient supply system for mortgage finance. As incomes and therefore savings increase, the Mexican banking sector should experience rapid growth. It will require expertise in retail banking, particularly in the areas of computer systems and marketing programs. At least one major Canadian bank sees Mexico as a very attractive investment opportunity. Canadian firms could benefit from being among the first in the Mexican market. Canadian agencies such as CMHC can also assist Mexican authorities in implementing new financial products, such as mortgage-backed securities (MBS) and mortgage insurance.

D. Critical success factors

Companies that succeed in the Mexican market will pay attention to Mexican habits and preferences. Mexicans have very different expectations about how their homes should be built, and products should be tailored to reflect this.

Furthermore, companies seeking to do business in Mexico should be willing to invest there. Business opportunities do not lie solely in the simple export of products but may involve investment accompanied by the export of services, technology and expertise. Mexico needs to attract capital to develop its economy. **Trade opportunities will flow to companies with long-term time horizons and deep pockets.**

Given the shortages of capital and credit in Mexico, exporters are more likely to find success if they can offer attractive financing terms. Financing offered through government agencies such as the Export Development Corporation may be an important selling point for Canadian goods and services.

Other important strategies are:

- ▶ Find a Mexican partner. Local partners understand local market needs and the intricacies of operating in the Mexican environment. A firm with a Mexican partner is therefore more likely to develop products that match Mexican requirements and to develop appropriate strategies for entering the market. Finding a Mexican partner is not, however, a legislative requirement.
- ▶ Be patient. Negotiating a successful business relationship is time consuming. Canadian firms may have to devote significant senior management time to discussions with potential Mexican partners. Mexican businessmen like to develop personal relationships with their business associates. Deals are unlikely to be concluded after just one business trip.
- ▶ Pay attention to the social aspect of technology transfer. The cooperation of Mexican technical authorities and public agencies should be solicited. These agencies, which may influence buying decisions or may themselves be purchasers of goods, will more readily accept foreign technologies if their input and views have been solicited. As always, the "Not Invented Here" syndrome, in which domestic experts favour domestic solutions, cannot be ignored.
- ▶ Provide some degree of "local content". The Mexican consumer, for example, may favour goods whose final assembly takes place in Mexico over those that are simply imported. Local content provides some domestic employment to offset those jobs lost to imports.

NAFTA calls on government agencies to cooperate in the areas of technical standards and certification. Canadian agencies and industry groups should actively pursue opportunities to collaborate with their Mexican counterparts in the development and evaluation of

building technologies and standards. Such initiatives could potentially be regarded as a key element in Canada's export strategy, providing the Canadian technical community with valuable experience and market intelligence. Canadian agencies or industry groups, for example, might wish to sponsor in-situ tests of innovative Canadian building technologies, and then assist Mexican authorities in evaluating the results. Such initiatives should not be regarded as "aid" but as an essential marketing expense. They can help promote a positive image for Canadian expertise in building technology and place Canadian products at the forefront of Mexican requirements. Mexican authorities have a major influence on the systems used to construct low-income housing and will look more favourably upon those technologies that they have helped adapt to the Mexican environment. Collaborative evaluation projects can therefore address the "social" aspect of technology transfer.

Because of the rigors of our climate, Canadian firms have state-of-the-art knowledge about technologies to conserve energy. While these technologies have been developed for a cold climate, some of them may be similarly applicable to a hot climate (insulating materials, for example) and may therefore find a market in Mexico. Canadians also understand how a building and its mechanical support equipment operate as a system. We therefore understand how the building envelope interacts with heating and air-conditioning equipment, and with daily temperature fluctuations, to influence occupant comfort. Canadian engineering firms may therefore have useful experience in designing buildings to minimize energy consumption.

Building codes and product standards in Canada are more uniform than their counterparts in the U.S. In Canada, the National Building Code acts as the starting point for most local codes. Product standards are co-ordinated through the Standards Council of Canada; no similar body exists in the U.S. The uniformity and acknowledged excellence of Canadian standards provide important advantages in marketing our expertise in the Mexican market. Unlike U.S. firms, Canadian agencies and firms are also used to operating within the metric system.

Other, more subjective, factors can influence business success. Canadians may have success in Mexico simply because we are not Americans. Mexico is sensitive about U.S. domination, and Canada is seen as a relatively neutral, non-threatening trade partner.

E. Market barriers

Mexico remains a very different market from Canada. Mexican construction techniques, in particular, differ markedly from those in Canada. **Masonry construction predominates in the housing sector.** Mexicans will strongly resist the adoption of wood-frame building techniques, so that Mexico does not yet represent a directly accessible market for lumber and wood products in the housing field.

Mexicans prefer the solidity of masonry homes (for both single and multiple dwellings) and believe that they will stand up to earthquakes better than wood-frame designs. In fact,

wood-frame buildings are, according to engineering sources, more resistant to earthquakes than masonry designs. Other perceived disadvantages, such as Mexico's problem with termites, can be addressed. If properly insulated, wood-frame designs can be more energy efficient. Wood-frame houses also take less time to construct than masonry buildings, a major benefit given Mexico's housing shortage.

The Mexican preference for masonry, however, may mean that Canadian technologies for multiple-unit dwellings (which often call for concrete and masonry) are more transferable than our technologies for single family dwellings (which generally rely on wood).

Canada is also starting from behind. Canada's current participation in the Mexican market for building products and services is limited:

- ▶ Trade flows between the two countries are very small and, furthermore, Canada is in the deficit position.
- ▶ Canada plays only a minor role in foreign direct investment in Mexico. As noted earlier, trade opportunities in Mexico will likely be tied to a willingness to invest.

Because of Canada's limited trade presence, Canadian businesses have a low profile in Mexico. Few Canadian companies have established contacts with Mexican firms or have learned how to do business in the Mexican environment. Mexicans have only limited awareness of Canadian products and services. In short, Canada, which is starting from behind, risks remaining there.

While Mexican prospects for growth are promising, Mexico remains a poor country. In Mexico, GDP per capita is roughly one-seventh of Canada's. Issues of affordability constrain most purchase decisions. The costs of capital in Mexico remain high, and there is the possibility that there will be economic set-backs. Technical standards, if arbitrarily applied, could also represent a potential trade barrier.

F. Implications for Canada

The Mexican housing market represents an opportunity for the Canadian building products and services sector to generate jobs, exports and investment returns. Canadian firms, for example, are already active in Mexico promoting proprietary systems for building prefabricated housing. While these firms may set up plants in Mexico to do final assembly, benefits will still accrue to Canada. Such firms, for example, employ Canadian technicians and engineers to design and engineer their products. Canadian firms will have an opportunity to supply their operations with high value-added components, such as paneling materials, hardware items and molded-plastic bathroom units. Canadian engineering and contracting firms could be involved in planning and building the Mexican subdivisions that will be the major market for prefabricated housing units. Lastly, Canadian banks, through their Mexican affiliates, may be involved in providing

mortgage credit to Mexican consumers purchasing homes in these subdivisions. Each of these activities will generate spin-off benefits to Canada.

Mexico can also help Canada expand its economic horizons, by serving as a testing ground for other Latin American export markets. Countries such as Chile and Argentina have also instituted wide-ranging free-market reforms. This may lead to an unprecedented era of growth in the region that will expand demand for housing and for related products and services. With moderate increases in incomes, the demand for higher-quality goods can increase enormously. **Mexico is an attractive market, in large part, because of its tremendous growth potential.** Other Latin American countries may also be poised for strong economic expansion, and may be eager to enter into future free-trade agreements. Canada would be well advised to position itself in Mexico, and in Latin America, today.

III

Trade Patterns In The Building Products Sector

In this chapter, we discuss Canadian and Mexican trade patterns, with particular reference to the building products sector.

Current trade patterns can be summarized as follows:

- ▶ The overall volume of trade between Mexico and Canada is quite small, especially in comparison to U.S.-Mexico trade.
- ▶ The volume of Canada-Mexico trade in building products and materials has historically been almost negligible.
- ▶ In the building products and materials sector, Canada runs a deficit with Mexico.
- ▶ One commodity product (asbestos) has accounted for most of the Canadian exports in this sector.

Canada's recent trade performance with Mexico is worrisome in view of the extremely optimistic projections of growth that have been made for the Mexico economy and, in particular, its housing sector over the next decade. Canada is currently not well-positioned with respect to our major international competitors in the Mexican market: we have a limited share of current Mexican imports and play only a minor role as investors in the Mexican economy.

On the positive side, the North American Free Trade Agreement (NAFTA) will give Canadian firms an advantage over non-U.S. competitors, both as investors in and exporters to Mexico. NAFTA therefore represents an opportunity to reverse our lagging position.

A. Overall trade flows between Mexico and Canada

The total volume of trade between Canada and Mexico is small in comparison to the volume of trade between Mexico and the U.S., and almost negligible in comparison with the volume of trade between Canada and the U.S.

Exhibit III-1 summarizes trade figures among the three countries.

Exhibit III-1
1991 export trade figures (C\$ billions)

Country of Origin	Exports to		
	Canada	Mexico	USA
Canada	-	0.5	105.1
Mexico	2.6	-	36.5
USA	87.8	38.1	-

Source: Statistics Canada.

B. Trade in the building products sector

As is the case with overall trade flows, Canada has a limited role in Mexican foreign trade in building products. Canadian exports of building products to Mexico lag far behind exports from the U.S. and a number of other major countries. Exhibit III-2 summarizes the market share of various countries with respect to Mexican imports of materials and equipment for the housing and construction industry.

Exhibit III-2
Market share data — Mexican imports of materials and equipment for the housing and construction industry

	(Percent)
USA	65
Japan	10
West Germany	8
France	6
Italy	5
Spain	2
Other	4
Total	100

Source: Industry Sector Analysis - Mexico: Housing, Construction and Services, U.S. Department of Commerce, May 1991.

Mexican exports to Canada in the building products and materials sector exceed Canada's exports to Mexico by a wide margin, leading to a substantial (in percentage terms) sectoral trade deficit. Trade balances are summarized in Exhibit III-3.

Exhibit III-3

**Canada/Mexico trade balance—building products & materials sector
(C\$ millions)**

Year	1990
Exports To Mexico	21.6
Imports From Mexico	<u>50.3</u>
Surplus (Deficit)	(28.7)

Source: External Affairs Canada.

Our trading deficit, however, is not an insurmountable problem. Since the total volume of trade between Canada and Mexico in the building products and materials sector is quite small, Canada's deficit position can be easily reversed.

Mexican imports in this sector are expected to increase sharply in response to robust economic growth and strong capital investment. The U.S. Department of Commerce estimates that the Mexican housing, construction and services sector will increase imports by 15% annually over the first part of this decade. Imports will meet demand that cannot be met by domestic industry. (Mexican demand in the housing, construction and services sector is projected to grow at a rate of 12% annually through 1993.)

C. Composition of Canadian exports

A breakdown of Canadian exports in the building products and materials sector is provided in Exhibit III-4. Historical data show that the volumes of individual items can fluctuate markedly from year to year.

Given that the total volume of trade in building products is quite small, trade figures for individual commodities can be quite volatile, and may sometimes reflect a single export contract. Analysis of existing trade patterns and trends may therefore be misleading. Exports of pre-fabricated buildings, for example, total \$144,000 in 1991, up from just \$18,000 in 1989.

Exports of wood shuttering (\$3.9 million from Exhibit III-4) were up from a mere \$33,000 in 1990. Moving in the other direction, exports of plastic tube and pipe dropped from \$3.8 million in 1990 to nil in 1991.

Exhibit III-4

**Canadian exports to Mexico—building products and materials sector
(C\$ thousands)**

	<u>1991</u>
Asbestos	15,989
Wood Shuttering	3,927
Automatic circuit breakers	517
Iron angles and shapes	201
Prefabricated buildings	144
Other	<u>791</u>
	21,569

Source: Statistics Canada.

When analyzing current trade patterns, one thing should be kept in mind: existing trade patterns are not necessarily a good indication of potential future trade flows. Asbestos is our largest export in the building products sector, but, as a commodity, it is probably not representative of the most lucrative future opportunities.

Exhibit III-3 and III-4 also do not include trade in services. Services may well be one area in which Canada has significant advantage, if not in the current volume of trade then at least in our export potential. Mexico is considered to have a shortage of professional and technical labour, and this will increase with projected growth. Canada may well have a competitive advantage in offering engineering, planning and architectural services.

D. Comparison of current and expected markets

It is useful to compare a list of Canadian products currently exported to Mexico to lists of products that have been identified as offering the greatest potential in Mexico as an export market.

The Department of External Affairs has concluded that the best sales opportunities for foreign firms in the building products sector lie in three main areas:

- ▶ Decorative and hardware products.

- ▶ Products for which Mexico has insufficient domestic production.
- ▶ Products in which Mexican producers can offer little variety.

In the section below, we provide some comparison between these areas of opportunity and current trade patterns.

1. Decorative and hardware products

Decorative and hardware products represent an attractive market for Canadian firms. As a result of economic growth and increased real incomes during the coming decade, Mexicans are expected to demand a greater variety and quality in their residential accommodation. Specific products identified by External Affairs as having potential include:

- ▶ Hardware, including locks and pad locks.
- ▶ Wall, roof, and floor coverings.
- ▶ Construction articles, such as tools and construction equipment.
- ▶ Sanitary articles, including plastic bathroom fixtures.
- ▶ Lighting fixtures.

Among current exports of hardware products, various electrical products (including lighting fixtures) were a major part, accounting for \$917,000 of 1991 exports; automatic circuit breakers, as noted in Exhibit III-4, represented over \$500,000 of these exports. Other electrical products exported included:

- ▶ Electrical relays.
- ▶ Electric switches.
- ▶ Plugs and sockets.
- ▶ Other electrical appliances.
- ▶ Electric boards and panels.
- ▶ Insulated wire.
- ▶ Electric conductors.
- ▶ Wall and roof lighting fixtures.

Limited amounts of the remaining items identified by External Affairs (namely hardware; wall, roof and floor coverings; construction and sanitary articles) are also found among current exports.

2. Products with insufficient domestic production

Opportunities identified by External Affairs include:

- ▶ Asbestos.
- ▶ Structural iron and steel.
- ▶ Wood and wood products.
- ▶ Electric fixtures and pipes.
- ▶ Bricks.

As previously noted, asbestos represents almost three-quarters of current Canadian exports in the building products and materials sector. Structural iron and steel is also represented among current exports, with the largest item being iron angles and shapes. Other iron and steel products exported to Mexico include bars and rods, and doors, windows, structures, wire, cable, fencing and sanitary articles.

In the area of wood and wood products, wood shuttering, as previously noted, represents a major export. Other wood products are curiously absent from the current export picture. Exports of plywood, wood doors and windows, wood shingles and continuously shaped wood, lumber, and were non-existent in 1991. A small amount (\$8,000) of veneer exports was recorded.

Bricks do not appear among current exports to Mexico. Although External Affairs classifies brick as a potential export, Mexican requirements will probably be met by producers in the Southern U.S., simply because of their lower transportation costs.

3. Products in which Mexican producers can offer little variety

As noted above, decorative and hardware products are segments in which Mexican producers offer little variety. There are also other sectors in which Canadian firms may be able to out-pace their Mexican competitors with respect to quality and variety. These include:

- ▶ Pre-fabricated housing.
- ▶ Steel structures.
- ▶ Aluminum and wood doors and windows.

As noted in Exhibit III-4, pre-fabricated buildings already appear as one of the top Canadian exports in the building products and material sector. Discussions with Canadian firms active in this sector suggest that sales of pre-fabricated homes and components could increase substantially. Their activities are discussed in greater detail in Chapter X.

- ▶ Category C Tariffs phased-out over 10 years in equal annual stages, beginning January 1, 1994 and ending January 1, 2003.
- ▶ Category D No phasing-out necessary—products are already tariff-free.

While these schedules apply to virtually all products, special phasing schedules exist for a small number of specific product items.

As noted, some Canadian exports (those in Category A) will gain immediate duty-free access to Mexican markets. Exhibit IV-I provides specific examples of some of these products. It should be noted that the items listed in the Exhibit IV-1 represent only a sample of the housing-related products in Category A.

Pre-fabricated buildings are among the items for which tariffs will be phased-out immediately. As noted elsewhere in this report, pre-fabricated buildings represent an attractive opportunity for a number of reasons, one of which is Mexico's tremendous shortage of housing.

Exhibit IV-I**Category A—some products on which tariffs will be immediately phased out**

HS Code ¹	Product Description ²	Current Mexican import tariff rate ³
7610.90.01	Aluminum structures and parts	10
6812.10.01	Asbestos	15
6811.10.01	Asbestos-cement corrugated sheets	15
8536.20.01	Automatic circuit breakers (voltage <1000)	10
4407.92.01	Beech lumber	10
6810.11.01	Cement, concrete, and artificial building blocks and bricks	20
6904.10.01	Ceramic building bricks	20
6906.00.01	Ceramic pipes	20
6905.10.01	Ceramic roofing tiles	20
8535.10.01	Electrical fuses	10
8536.69.01	Electrical plugs and sockets (voltage <1000)	10
6806.90.99	Insulating mineral material	15
4409.20.01	Lumber—hardwood continuously shaped	20
4409.10.01	Lumber—softwood continuously shaped	20
9406.00.01	Prefabricated buildings	n/a
4408.10.01	Veneers	15
4418.50.01	Wood shingles and shakes	20

¹Canada, Mexico and the U.S., classify products according to the same method, the Harmonized System of Tariff Classification. Under this system, specific product items are assigned an 8-digit code, enabling cross comparison of identical products from each NAFTA participant country.

²Please note that product descriptions have been shortened. Please refer to the NAFTA tariff phasing schedule for a more detailed description.

³Mexico's current tariff rates are set at 0%, 5%, 10%, 15% or 20%, with no intermediate rates.

Exhibit IV-2 lists some specific products in Category B (tariffs will be eliminated over a 5-year period). Wood shuttering is among the products listed in this category - as noted in Chapter III, wood shuttering was Canada's second largest export to Mexico in the building products and materials sector in 1991.

Exhibit IV-2

Category B—some products on which tariffs will be eliminated over five years

HS Code	Product Description	Current Mexican Import Tariff Rate
6812.90.01	Asbestos roofing	10
6811.30.01	Asbestos-cellulose tubes, pipes	15
4411.11.01	Fibreboard	15
4407.21.01	Lumber—various types	15
8302.30.01	Metal mountings, fittings	20
4418.30.01	Parquet panels	20
6809.11.01	Plaster boards	20
6810.91.01	Prefabricated cement structural components of buildings	15
4418.90.01	Wood builder's joinery	20
4418.20.01	Wood doors, frames and thresholds	20
4418.40.01	Wood shuttering	20
4418.10.01	Wood windows	20

Exhibit IV-3 lists some products in Category C (tariffs will be phased-out over 10 years). We note that although many "raw" lumber products (such as beech lumber and continuously-shaped hard- and soft-woods) appear in Category A (with immediate tariff phase-out), various types of plywood and particleboard fall in category C. Mexico may be trying to soften NAFTA's impact on its domestic wood-processing industry, but it appears to be less concerned about dislocation in its lumber industry.

Exhibit IV-3

Category C—some products on which tariffs will be eliminated over 10 years

HS Code	Product Description	Current Mexican Import Tariff Rate
7610.10.01	Aluminum doors & windows	20
8535.21.01	Automatic circuit breakers	15
6901.00.01	Bricks, blocks and ceramic goods	15
6910.10.01	Ceramic sanitary fixtures	20
9405.10.01	Chandeliers & other electric ceiling or wall lighting fittings	20
8544.20.01	Co-axial cable	15
8537.10.01	Electrical boards & panels	15
8536.50.01	Electrical switches (voltage <1000)	10
8544.11.01	Insulated wire	15
7308.30.01	Iron & steel doors & windows	20
3925.20.01	Plastic doors & windows	20
3918.90.01	Plastic floor, wall and ceiling coverings	20
3922.10.01	Plastic sanitary fixtures	20
4412.12.01	Plywood—coniferous, non-coniferous	15
4412.11.01	Plywood—tropical wood	20
3918.10.01	Polymer & vinyl floor, wall and ceiling coverings	20
4412.21.01	Wood panels—coniferous, non-coniferous & particle board	15
4410.10.01	Wood particle board	20

B. Services

Under NAFTA, Mexico will open its markets for business and professional services, including management, engineering, accounting and legal services. Temporary entry procedures for business persons will be simplified, and there will be fewer restrictions placed on professionals.

Other service-related provisions in the agreement are discussed below.

1. Professional licensing

For each country in the Agreement, NAFTA stipulates that provisions for professional licensing and certification should:

- ▶ Be based on objective and transparent criteria, such as competence and the ability to provide a service.
- ▶ Be no more burdensome than is necessary to ensure service quality.
- ▶ Not constitute a disguised restriction on the cross-border provision of a service.

Within two years of signing of the NAFTA agreement, each country must remove any requirements that licensed professionals be citizens or have permanent residency status. Professional groups will also be encouraged to develop mutually acceptable standards, which could lead to mutual recognition of licensing and certification requirements. Any such reciprocity, however, is likely to be many years down the road, since it will require the agreement of professional licensing bodies in each country. These bodies were not part of the NAFTA negotiations and are unlikely to have any interest in pursuing licensing harmonization.

2. Engineering services

Within the NAFTA agreement, the engineering profession is singled out with specific provisions that call for further discussions on the subject of temporary licensing.¹ The agreement calls on each country to establish, in conjunction with its relevant professional bodies, a "work program" to provide for the temporary licensing of engineers from other countries to the agreement. As part of the "work program," professional bodies will be asked to come up with recommendations on procedures for temporary licensing. Professional bodies may identify specific engineering specialities to which priority should be given when developing such procedures.

NAFTA specifically identifies civil engineering as an engineering specialty for which Mexico has an obligation to initiate discussions on temporary licensing. This is significant because civil engineering services are probably the biggest potential opportunity in Mexico for Canadian engineering firms, given the large investments in infrastructure and housing that are likely to occur.

¹The NAFTA Agreement, Annex 1210.5, Section C.

C. Financial services

Under NAFTA, the financial services sector will gain full access, after a transition period, to the Mexican market. Canadian banking, insurance, and securities firms will be able to establish wholly-owned subsidiaries in Mexico. Foreign-owned firms, will, however, be subject to certain market share limitations until the year 2000. Other safeguards are in place in the banking and security sectors in case Canadian and U.S. market share levels become excessive, but these will disappear by 2007.

NAFTA calls for equal treatment for foreign-owned and domestic firms. Dispute settlement provisions will also be put in place for the financial services sector.

D. Investment

Under NAFTA, Mexico will reduce investment restrictions in dozens of sectors, including:

- ▶ Financial services.
- ▶ Most manufacturing sectors.

There will also be free movement of capital for investment transactions. Investors will be able to convert local currency to foreign currency (and vice-versa), and freely transfer funds in and out of the country. Mexico will also no longer be able to impose trade-distorting performance requirements on foreign investors. (In the past, these have taken the form of specified minimum levels of exports or domestic content, or requirements for domestic sourcing, trade balancing, technology transfer or product mandating.) The Mexican government will, however, be able to restrict foreign investment in existing state enterprises or government operations that are privatized.

E. Standards

The issue of standards covers those regulations and requirements for product performance that are designed to protect health, safety and the environment. Under NAFTA, all standards and technical regulations must be applied without discrimination to products (and certain service sectors) of Canadian, Mexican and U.S. origin. NAFTA encourages agreements among governments and private standards organizations for mutual acceptance of test results and certification procedures.

Rules will be established to prohibit standards regulations and procedures from being used as unnecessary obstacles to trade. Promotion of international standards will also be encouraged. Regulators will be encouraged to consult among themselves and provide greater access to information on technical regulations. This should provide for a more open development and application of standards in each of the countries. As with any

agreement, however, the achievement of benefits will depend on the ability and willingness of the parties involved to co-operate. Because private organizations and local governments play a large role in setting and enforcing standards, it may be difficult for central governments to effectively enforce compliance with NAFTA provisions.

NAFTA provisions relating to standards are discussed in more detail in Chapter XI.

F. Government procurement

Procurement by the Mexican government of construction services will gradually open to Canadian firms over the next ten years. (Procurement at the state and municipal level, however, is not covered under NAFTA.) In addition, there will be improved procedures to covering tendering and challenges to bids, as well as a dispute resolution mechanism.

V

Economic Environment

In this chapter we discuss the general economic climate in Mexico, and its implications for the market for building products and services.

A. History of protectionism

Understanding Mexico's position today requires an understanding of Mexico's past. During the 1930s, the Mexican government (like many other governments) embarked on a program of protectionism and intervention in the economy. Large portions of the economy were nationalized including:

- ▶ Telecommunications.
- ▶ The petroleum sector.
- ▶ Many manufacturing firms.

The government's strategy to develop the economy called for a program of import substitution. Imports were discouraged through a system of quotas and high tariffs. Protected by high tariffs, local industries became inefficient, unresponsive, and insular.

Policies of protectionism and state intervention continued for decades in Mexico, and were initially reinforced by the development of large domestic oil reserves. As oil prices increased during the 1970s, Mexico saw a huge increase in its export earnings. These earnings stimulated an economic boom and a surge in government spending, which were partly financed through foreign debt.

B. Mexican debt crisis

Mexico's period of oil-driven prosperity ended abruptly with the collapse oil prices in the early 1980s. Export earnings dropped dramatically, and Mexico found itself facing huge foreign debts that it could not service. When Mexico announced a moratorium on debt repayments, this precipitated an economic crisis, which resulted in economic stagnation for most of the decade.

At the time of the debt crisis, the Mexican government also nationalized the commercial banking system. The reasons for this move were partly political: the government accused the banks of precipitating a capital flight. Following nationalization, a significant portion of bank loans were made to the government, which used the proceeds to service its foreign debts.

During the 1980s, the banking system basically channelled money out of the economy to meet the government's financial needs. Commercial and business loans became scarce. Foreign debt, nevertheless, continued to grow. High rates of inflation led to a capital flight from the country, as both domestic and foreign investors sought to avoid currency losses resulting from severe devaluation of the peso.

C. Free-market reforms

In 1987, the Mexican government initiated a series of free-market reforms, commonly referred to as *la apertura* or *the opening*. These reforms were a bold attempt to reverse the stagnation brought on by the 1982 debt crisis and many years of protectionism. The reform agenda has as its major goals the following:

- ▶ Reduction in the rate of inflation.
- ▶ Reduction in government deficits.
- ▶ Deregulation.
- ▶ Liberalization of markets and foreign trade.
- ▶ Privatization of state-owned industries.

Debt re-negotiation was also a key element in the government's strategy to resume growth. At the height of the debt crisis, foreign debt service payments consumed 6% of Mexico's GDP.¹ These payments starved the economy of investment capital.

Free-market reforms were initiated in an attempt to re-vitalize the Mexican economy, and restore investors' confidence. The government thereby hopes to attract additional investment capital, which will serve to boost the country's economic growth rate.

The North American Free Trade Agreement (NAFTA) is an important component of the government strategy. The government wants to cement its free-market reforms through external agreements, and thereby inhibit the ability of any future government to return to a protectionist regime.

¹Mexico/Canada, *Partnering For Success*, p. 15.

A major goal of NAFTA is thus to persuade investors that Mexican reforms are permanent and will be accompanied by reform in all areas of the government. Liberalization has therefore also been accompanied by reform to many government agencies, including those that work in the housing sector.

There is a general trend towards making use of the private sector and market-based mechanisms as much as possible in carrying out government initiatives such as the construction of housing. The government uses an auction system, for example, to allocate subsidized mortgage capital to commercial banks and private developers. The government also aims to make its rules and regulations more transparent. In part, this reflects a desire to move away from a system in which personal connections and even corruption are the basis for allocating funds. The Mexican government believes that Mexico must shake its image as a third world country with inhospitable regulations and capricious governments if it is to attract investment.

Reforms are also under way to improve the availability and reliability of economic and housing statistics. These reforms are part of the effort to improve the functioning of private markets, by increasing the information available to market participants.

D. Results of reforms

Mexican reforms have resulted in some significant gains. Capital investment in the Mexican economy in the first two years of this decade exceeded the total value of investment made during the entire previous decade.¹

The Mexican middle class represents a relatively small proportion (20% to 30%) of the total population. This proportion should expand significantly over the next two decades, however, if the potential offered by NAFTA is realized. Strong economic growth will bolster the demand for professional and managerial services, and should increase the proportion of higher-wage manufacturing jobs. Some forecasters expect that Mexico will experience real income growth of between 3% and 4% annually through to the year 2000.

Despite recent economic successes, however, the standard of living of many Mexicans remains depressed. Between 1982 and mid-1991, the purchasing power of the Mexican minimum wage dropped by 66%.² **Mexican GDP per capita remains low—at roughly one-seventh the level of Canada's.** (Mexican GDP per capita in 1992 was estimated at about \$4,000, vs. approximately \$28,600 in Canada.) The large disparity in per capita income between Canada and Mexico means that consumer behaviour is significantly different: items regarded as luxury goods in Mexico may be commonplace in Canada.

¹ "Mexico's warm reception for deal brings capital flood," *Globe and Mail*, Thursday, September 24, 1992, p. C-7.

² *Globe and Mail*, Thursday, September 24, 1992, p. C-10.

NAFTA has also raised concerns about extensive job losses in those sectors of the economy that are inefficient. The agricultural sector employs 26% of the work force, and there is concern that many farmers displaced by food imports will migrate to the cities, exacerbating urban congestion and unemployment.

Population growth in Mexico over the next decade is projected at 1.9% per annum, compared to 0.7% in Canada. Mexico's economy has to grow faster than Canada's just to keep up with its population growth.

E. Implications for marketing

Mexico is at a different stage of development than Canada. Per capita income in Mexico is much lower than in Canada (by almost an order of magnitude). Mexico's rate of economic growth, however, is likely to significantly out-pace Canada's.

Because of low income levels, goods that are commonplace in Canada may be luxury items in Mexico. This has significant implications for marketing strategies and for forecasts of potential growth in the demand for individual products.

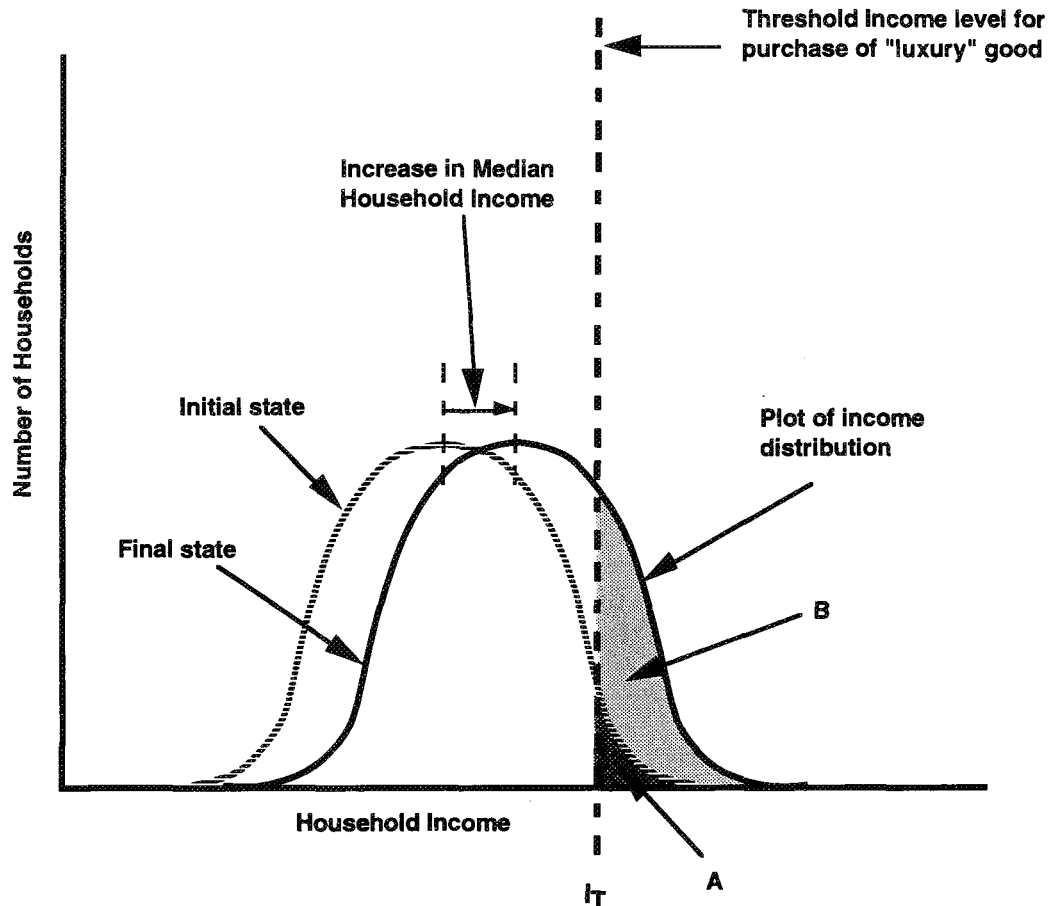
In an economy characterized by a low level of per capita purchasing power, strong economic growth can result in enormous increases in the demand for better quality goods. Much of the recent investor interest in Mexico is not tied to specific provisions of NAFTA; rather it reflects expectations of strong economic growth in Mexico as a general result of NAFTA and as a result of economic reform.

Exhibit V-1 presents a conceptual framework for understanding the markets of developing countries. The exhibit examines potential demand for a hypothetical "luxury," or high-quality, good. The basic premise of the analysis is that only households with an income above a threshold level (shown as the point I_t on the horizontal axis of the diagram) will consider purchasing a luxury item.

In Exhibit V-1, household income is shown to be normally distributed (in practice, the distribution of income is likely to be positively skewed, but this will not affect the basic results of the analysis). In the initial period, only a very small proportion of the population could consider buying the luxury item. This portion is represented by Area A in the diagram.

Exhibit V-1

Impact of income growth on demand for a hypothetical luxury good — Conceptual framework



As a result of economic growth, the distribution of household income shifts to the right (from the "Initial State" to the "Final State"). As shown in the diagram, a small shift in the median income level dramatically increases the proportion of the population able to buy the good. (Area B represents the proportion of households that can afford the good after the increase in median household income.)

In our hypothetical example, roughly a 25% increase in median income results in a dramatic increase (about seven-fold) in the number of households willing to purchase a good. This relationship accounts for the attractiveness of the Mexican market: foreign investors want to position themselves for the substantial increase in the market size for high-quality goods that will accompany economic growth.

F. Capital needs

A shortage of capital has affected all sectors of the economy, including the housing sector. This capital shortage reflects the years of underinvestment that accompanied Mexican economic crisis, and is a major factor behind Mexico's large housing deficit.

1. Capital to labour ratio

A study by the Canadian Department of Finance notes that the ratio of capital to labour in Mexico is only one-fifth of Canadian and U.S. levels.¹ A country's investment in capital (relative to its labour force) is a major determinant of its labour productivity.

The current aggregate annual rate of investment in the Mexican economy is about U.S. \$30 billion. The Department of Finance study estimates that additional investment of U.S.\$6 billion annually will be required just to maintain a constant capital to labour ratio (i.e., keep up with population growth). If the rate of investment increases by U.S.\$67 billion annually, this will just be sufficient to increase Mexico's capital to labour ratio to 35% of the U.S. level over the next 20 years. In comparison, total Mexican GDP is now about U.S. \$240 billion. Two things stand out from this analysis:

- ▶ The Mexican economy has a huge requirement for capital.
- ▶ Even with large amounts of investment, the structure of the Mexican economy will remain quite different from the U.S.'s and Canada's for years to come.

Understanding these macro-economic conditions is key to understanding the Mexican economic climate: **Mexicans are looking for investors with long-term time horizons, and deep pockets.**

The potential market for capital goods (such as housing) in Mexico is enormous, but this potential is accompanied by a tremendous need for financing. Companies and countries willing to invest money will probably be in the best position to capture export opportunities.

2. Cost of capital

The real cost of capital in Mexico is high, roughly twice the cost of capital in Canada. Some insight into differences in the costs of capital is provided by the Department of Finance study referred to in the previous section. The Department of Finance estimated real interest rates in both Canada and Mexico by taking the

¹*The North American Free Trade Agreement—An Economic Assessment from a Canadian Perspective, Department of Finance, November 1992, p. 32.*

average interest rate paid on three-month prime corporate paper over the period 1989 to the second quarter of 1991, and then subtracting the average percentage change in the national CPI price index over the same period. Real interest rates were found to be twice as high in Mexico as in Canada.

In the same study, the Department of Finance found that capital productivity, which is defined as the ratio of GDP to the stock of capital in an economy, is roughly equivalent in Mexico and Canada. Capital productivity can be considered a measure of how effectively an economy uses its capital stock.

Because the real cost of capital in Mexico is twice its cost in Canada, while capital productivity rates are similar, it follows that capital-intensive goods are cheaper to produce in Canada (i.e., by about a factor of two with respect to capital inputs).

These factors lead, as expected, to the conclusion that Mexico has an advantage in areas that require extensive use of unskilled labour. Canada, in contrast, has a comparative advantage in sectors that are capital-intensive and that require high-skilled labour.

Costs of capital in Mexico are also likely to remain high. Foreign investors (on whom the country is dependent) will demand high rates of return to compensate for perceived risks. In the fall of 1992, for example, T-Bill rates in Mexico stood at just under 20%.

G. Demographic profile

Demographically Mexico is quite different from Canada. Almost 40% of the population in Mexico is under the age of 15; the equivalent number for Canada is only 21%. The demographic profile of the country will be a major factor in boosting demand for housing and employment.

H. Foreign direct investment

Given the linkages between investment and export opportunities, it is worthwhile examining Canada's role as an investor in the Mexican economy. Exhibit V-2 below shows foreign investment in Mexico by country. The United States has, by far, the largest share of investment, at over 60% of total foreign investment. Canada is well down the list, representing only 1.4% of total foreign direct investment.

Exhibit V-2
Share of accumulated foreign direct investment in Mexico—
1991 (percent)

United States	60.4
Germany	6.0
United Kingdom	5.9
Japan	4.7
France	4.3
Switzerland	4.2
Spain	2.2
Canada	1.4
Other	<u>10.9</u>
Total	100.0

Source: External Affairs and International Trade Canada.

The historically low rate of Canadian investment poses a potentially significant barrier to an increased Canadian export presence. Representatives of the Mexican government repeatedly stressed that: **countries seeking to do business in Mexico should be willing to invest there.** Business opportunities do not lie solely in the simple export of products, but may involve investment accompanied by the export of services, technology and expertise.

Canada needs to keep an important relationship in mind: other foreign direct investors are more likely to introduce Mexicans to technologies and goods from their home country than to technologies and goods from Canada.

Mexico is eager to develop its economy. Investment by foreigners, rather than just their pursuit of export sales, will act as a major stimulus for domestic growth. Establishing local assembly of pre-fabricated housing components, for example, provides Mexican employment and takes advantage of low local wage rates. Opportunities for Canada lie in operating such facilities, providing design services, and supplying the higher-value added components.

Some other issues with respect to foreign direct investment are discussed below.

1. Finding a local partner

Some companies report that finding a local partner is a key element to successfully doing business in Mexico. Local companies have the necessary knowledge of and contacts with local, state and federal government officials. Local partners also understand local tastes and business practices.

While partnering can be advantageous, there is also stiff competition from other foreign firms to tie-up with the most promising Mexican firms. Canadian firms will obviously be more successful if they have:

- ▶ A willingness to invest for the long-term.
- ▶ Unique technology or skills.
- ▶ Compatible styles of doing business.

Because of this competition for local partners, Canadian companies generally have to go out and actively solicit Mexican firms. Mexican firms are unlikely to take the initiative and venture to Canada .

2. Land ownership restrictions

Foreigners are prohibited by law from owning land within restricted zone areas. These areas include all land within 100 kilometers of Mexico's border and within 50 kilometers of the coastline. Real estate investment trusts, however, are available that effectively allow 100 percent foreign ownership within the restricted zones. These trusts are established through Mexican banks and have a life of 30 years; renewals for additional 30 year periods are available.¹ Ownership restrictions therefore do not appear to pose a significant obstacle for Canadian developers who might be interested in building resorts or housing developments in border or coastal areas, although companies may still have legitimate concerns about security of tenure.

¹*Mexico/Canada, Partnering for success, p. 27.*

VI

Competitive Environment

In this chapter, we discuss the position of Canada relative to the U.S. in competing for export and investment opportunities in Mexico. We also discuss cultural factors that influence the Mexican business environment.

A. Canada's position relative to the U.S.

When reviewing the competitive position in Mexico of Canada relative to the U.S., several issues immediately come to mind:

1. **Historical trade patterns.** As previously noted in Chapter III, the volume of Canada-Mexico trade is almost negligible in comparison to the volume of U.S.-Mexico trade.
2. **Geographic distance.** Canada is geographically distant from Mexico. In contrast, California and the states of the American Southwest, are right next door.
3. **Linguistic familiarity.** The proximity of the U.S. to Mexico means that there is a substantial Spanish-speaking minority in the U.S. Spanish is more commonly encountered as a second language in the U.S., and many businesses and governments may be more used to operating in a Spanish-speaking environment. (Building codes, for example, in California have already been translated into Spanish and might be used to assist Mexican authorities in upgrading or modifying their own standards.)

All of the above factors might suggest that the U.S. has a unsurmountable advantage in obtaining new business or investment opportunities in Canada. This conclusion would, however, be premature. More than one contact (including those representing Mexican interests) noted that Canada may have an advantage simply because it is not the U.S. The U.S. has a long history of doing business in Mexico but this, depending on the circumstances, has not always been perceived by Mexicans as a good thing.

While the importance of any anti-American sentiment should not be over-emphasized, there is probably a natural desire on the part of Mexicans to diversify the number of countries that they deal with. The U.S., because of its large size and economic clout, can engender the same misgivings in Mexico as it sometimes does in Canada.

Canadians may be somewhat less aggressive than Americans, and therefore slightly closer to Mexican styles of conducting business. Patience and the development of personal relationships is particularly important in the Mexican business environment.

B. Doing business in Mexico

In conversations with representatives of the Mexican government and with companies actively pursuing business in Mexico, it was repeatedly stressed that finding good Mexican partners is a key success factor. Local businesses understand the Mexican market, and the ins-and-outs of dealing with the government bureaucracy.

1. Dealing with government

Mexico is anxious to shed its image as a third-world country with a capricious and arbitrary bureaucracy. Free-market reforms have been matched by new expectations for openness and efficiency from government.

One bank official noted that civil servants in the highest levels of the government, and especially in the treasury and finance functions, were highly competent, very honest, and had set far-reaching goals. The government has set an ambitious agenda for privatization, and has carried out that agenda with speed, efficiency, and total transparency (details and procedures are made clear to all parties involved). He felt that it would be a grave mistake to underestimate the competence of officials at very high levels, although he had no direct experience with other levels of government, or with local and state governments.

Government in Mexico has also benefitted from the high regard in which civil servants are held. Talented individuals often gravitate to government agencies, which have played a key role in the management of the economy. The competence of private-sector management, in contrast, has often suffered as a result of the highly protected economic environment.

Nevertheless, when dealing with the government, some characteristics of the Third World stereotype remain. One manufacturer, for example, felt that many parts of the government were highly corrupt. Unless you knew exactly who to contact, you could end up wasting much time (and possibly futilely pay bribes). In 1992, the government reportedly fired all of its customs inspectors at the border after repeated problems with corruption. The inspectors were replaced with young, newly-trained recruits. Reforms such as these may be on-going, but they may not yet have permeated all segments of the public sector. Given the potential pitfalls of misreading government requirements, it is therefore important to find an appropriate Mexican local partner.

2. Finding joint-venture partners

It became clear through our interviews that there is considerable interest on the part of many Mexican companies in meeting with potential Canadian joint venture partners. At the same time, however, U.S., European and Japanese firms are also vying to secure agreements with the same Mexican firms. Competition for good joint-venture partners is intense.

The process should be initiated by the Canadian side since few Mexican firms will make the effort to do so on their own. The discussions required to reach agreement will generally be long and involved. All three of the Canadian prefabricated housing manufacturers that we interviewed, for example, found this to be the case—as each of their "discussions" are still ongoing. While this process can be initiated in a number of ways, at some point, it generally requires some involvement by government officials.

3. Social structure

One observer has characterized Mexico as a "socially coherent" society. Different segments of the economy (the government, the private sector, and academia) have closer ties than would be found in Canada. Mexicans are eager for foreign assistance but, at the same time, do not want to under-cut their own experts.

One Canadian scientist that we talked to had been retained to act as a technical expert by a company with a subsidiary in Mexico. This company wanted to promote the technical benefits of its product to Mexican building authorities. This company was competing with a U.S. company that also had a Mexican subsidiary, and which offered an alternative technology. Mexican scientific experts had judged this alternative technology to be superior. Our contact felt that this preference was due, in part, to the fact that the competitor was perceived as being more "Mexican"—the competitor carried out a larger proportion of the manufacturing process in Mexico than the first company. The opinions provided by Mexican scientific experts, who worked out of a local university, carried a great deal of weight with government building authorities. The government listened carefully to foreign experts, but in the end, deferred to Mexican opinions.¹

An element of pride may be involved: Mexicans are eager for assistance but not to the point at which it would cause members of their own society to lose face. In this atmosphere, providing technical assistance to local authorities can be the most effective means of promoting your products and expertise. Indirect, or "soft," marketing methods (you give Mexicans the expertise and knowledge to pick the best product) may be more effective than direct promotion of the advantages of Canadian products.

¹From conversation with Dr. Mark Bomberg, National Research Council, January 1992.

The lesson is that social structure has an impact on the effectiveness of the technology transfer; technology transfer is not just the simple transfer of an engineering solution.

Because Mexican experts play an important role in legitimizing products and technologies, technical assistance from Canadian agencies such as the National Research Council and CMHC can play an important role in promoting trade relations. Mexico is the target of promotional efforts from manufacturers of building products from around the world. Mexicans are faced with a large variety of potential solutions, but may have difficulty evaluating them properly. A potential role for Canadian government agencies would be to sponsor demonstration projects for competing Canadian technologies, and then assist Mexican authorities in evaluating the results.

VII

Profile Of Mexican Housing Market

In this chapter, we provide a profile of the Mexican housing market with respect to price, buyer income and volumes. We also discuss some continuing problems that inhibit proper functioning of the housing market.

A. The Mexican housing deficit

The Mexican government has identified a serious deficit of housing units: 6.1 million units nationwide. In comparison, the total number of households in Canada in 1991 was just under 10 million. The shortage of housing is partly due to the extreme shortage of capital that followed the 1982 Mexican debt crisis. It also reflects high rates of population growth.

The Centre for the Promotion of Housing and Construction (CIHAC) is a non-profit association of the construction industry, and is a major source of housing statistics. It estimated that the total number of dwelling units built in 1992 would be 475,000 units. It also estimated, however, that 584,000 units were needed, just to keep up with the increase in population and the deterioration of the existing housing stock.

According to the 1990 census, there were just over 16 million dwelling units in Mexico. Eliminating the housing deficit would therefore mean roughly a 40% increase in the country's housing stock. Furthermore, much of Mexico's existing housing stock is deficient in quality. Only about half of the housing units have piped water, and only three-quarters have electricity.¹

B. Segmentation by price

The housing market in Mexico covers a wide range of price levels. Exhibit VII-1 summarizes statistics compiled by CIHAC. CIHAC breaks the housing market into three segments:

- ▶ Luxury sector.

¹*Mexico: A Primer for Canadian Business, Laurier Trade Development Centre, June 1992, p. 76.*

- ▶ Medium sector.
- ▶ Social sector.

Current spending on housing in Mexico is heavily-skewed towards the higher-value sectors. As shown in Exhibit VII-1, housing built for the "social" segment accounts for over 90% of the units built, but only 44% of the total dollar value. In contrast, homes sold to the luxury market represent less than 1% of units built, but account for over 10% of value. The wide disparity between the high- and low-cost housing markets suggests that separate marketing strategies may be appropriate for different price ranges.

CIHAC also distinguishes between housing built by established construction firms (the so-called "formal" construction sector) and homes built by the owner-occupier. As shown in Exhibit VII-1 self-constructed homes are an important source of housing for low-income families.

We discuss the different market segments in more detail below.

1. Luxury sector

The average value of homes in the luxury category exceeds, by a fair margin, the value of an average home in Canada. The luxury segment may be willing to purchase Canadian building products if they offer better quality and more variety. Style is likely to be important; cost less so.

One representative at a Mexican bank noted that the luxury market is looking for high-quality completed subdivisions, which might offer perimeter security systems and controlled access. The desire for security reflects high-income differentials in Mexico, and resulting concerns about crime and theft.

2. Medium sector

As defined by the CIHAC, the average unit value of a home in the "medium" segment is approximately U.S. \$115,000 (see Exhibit VII-1). This average value is far in excess of the overall average Mexican home value of about U.S. \$20,000. The medium segment represents less than 10% of the units built, and would probably be most accurately characterized as upper-income, rather than middle-income, housing.

Exhibit VII-1
1991 private residential construction in Mexico

Segment	'Formal' Construction Sector		Self-Constructed	Total	Percentage
	Single-Family	Multiple Family			
Units					
Luxury	2,500	1,600		4,100	0.8%
Middle	29,000	13,800		42,800	8.3%
Social	51,000	60,000	360,000	471,000	90.9%
	82,500	75,400	360,000	517,900	100.0%
Total value (\$US Million)					
Luxury	833	256	0	1,089	10.2%
Middle	3,800	1,104	0	4,904	45.7%
Social	1,700	1,260	1,787	4,747	44.2%
	6,333	2,620	1,787	10,740	100.0%
Unit value (\$US per unit)					
Luxury	333,316	160,000		265,680	
Middle	131,028	80,000		114,575	
Social	33,332	21,000	4,963	10,078	
	76,764	34,748	4,963	20,737	

3. Social sector

For the social category of housing, defined by CIHAC to be the lowest-cost segment of the market, price and cost-effectiveness are likely to be major criteria. Because public housing agencies play an important role in providing housing for low income families (they provide mortgage financing and may sponsor the construction of projects), marketing strategies are also likely to be quite different than for middle- and upper-income housing. Canadian technologies may have to be sold to public agencies. As discussed elsewhere in this report, the associated bureaucracies may vary markedly in their openness and responsiveness.

The low and middle-income sector accounts for much of the deficit in Mexican housing units. Given the income distribution of the Mexican population, the National Foundation for Industrial Housing Promotion (FOVI) estimates that

75 percent of all new housing should have a unit cost of between \$5,000 and \$18,000 (including land and indirect costs).¹

Exhibit VII-2 summarizes the projected growth of private housing needs in Mexico from 1987 to 2000 by household income level. Sixty-eight percent of the projected unit requirements are for families earning the minimum wage, or less. This segment of the market will obviously not be able to afford housing without government assistance.

Exhibit VII-2
Private housing needs by household income level (1987-2000)

Household Income Level (as a multiple of the minimum wage)	No. of units (000's)	Percent of Total
Less than 0.5	3,609	43.6
0.51 to 1.00	2,035	24.6
1.01 to 1.25	524	6.3
1.26 to 2.00	803	9.7
2.01 to 3.00	574	6.9
3.01 to 4.00	305	3.7
4.01 to 6.00	245	3.0
More than 6.00	178	2.2
	8,273	100.0

Source: CIHAC Catalogue 1992, p. 366.

4. Self-constructed homes

Even within the social housing category, there is a wide discrepancy in the value of homes built depending on whether or not the unit is self-constructed. According to CIHAC statistics, the average value of a single-family home built by the formal construction sector for the social category in 1991 was over U.S. \$33,000 (see Exhibit VII-1). In this category, most of the homes built by construction firms would be sponsored by state agencies such as INFONAVIT. In the same year, the average cost of self-constructed homes was under \$5,000. These self-constructed homes accounted for over three-quarters of the units built in the social category, and they are therefore a major factor in meeting low-income housing needs. Many of these homes may be deficient in construction quality, and some may be built on land for which the owner has no title. There is therefore a major gap between

¹Housing and Commercial Real Estate Development Mission to Mexico-Trip Report, U.S. Department of Commerce, 1991, p. 8.

housing provided by government agencies for low-income workers and housing built by these workers themselves.

5. Gaps in public programs

This discrepancy between the housing provided by public agencies and self-built housings poses a dilemma. The public sector is clearly not addressing the housing needs of the majority of low-income Mexicans, yet constraints on public spending inhibit the public sector from taking a much larger role in the provision of housing. Rather than providing "high-quality" assisted housing for a few low-income families, the public sector may try to broaden the reach of its assistance programs, which will require reductions in unit cost.

Some state governments, for example, have plans to provide land and building materials to low-income households. Households can then use these materials to construct their own housing. This type of program would bridge the gap between homes built under current government programs and self-constructed homes. One Canadian firm that we spoke to noted that it was trying to sell its building technologies to a state government with such a "self-help" program; the firm's technologies would then be transferred at low (or no) cost to low-income workers building their own housing.

Governments in Mexico are also looking at ways to encourage the renovation of existing housing stock.

C. Importance of multiple-unit construction

Multiple-family dwellings account for almost half the dwelling units built (excluding those that are self-constructed). Multiple-unit dwellings are somewhat more important in the lower price ranges than at the upper end, but even in the luxury category over a third of the units built are multiple-unit. Multiple-unit construction is especially important in densely populated areas such as Mexico City, so that there is a market for high-density developments that can with-stand earthquakes and are attractive and appealing to consumers.

The importance of multiple-unit construction has implications for potential suppliers of building technologies and systems. As noted in Chapter IX, masonry construction predominates in the Mexican housing sector; Mexicans have an aversion to wood-frame construction techniques. Masonry and concrete are also used extensively in Canadian multi-unit residential buildings, such as multi-story apartment complexes. Canadian building methods for multi-unit dwellings may therefore be more transferable to Mexico than Canadian technologies for single-family homes, which generally rely on wood-frame construction methods.

D. Role of rental units

In Mexico, about one-third of housing units are rented; the remaining two-thirds are owner-occupied. Investment in new rental units during the 1980s declined markedly as a result of the poor economy and the scarcity of financing. A major concern of the government is the deterioration of existing rental accommodation. Many cities have rent controls, which, although poorly enforced, have worsened the investment climate.

Beginning in 1987, the government offered accelerated depreciation and tax credits to encourage investment in rental property. The government also encouraged additional lending by commercial banks for rental properties.

E. Barriers to proper functioning of the housing market

In this section, we discuss some constraints that continue to inhibit the ability of the private sector to meet housing needs. These include:

- ▶ Over-regulation of the housing market.
- ▶ Shortages of reasonably-priced land.
- ▶ Lack of accurate housing sector information.

These barriers have been a major focus of government reform efforts. The government recognizes that housing shortages pose a potentially serious political problem and could inhibit economic growth. Addressing the housing deficit will be a major step in improving the standard of living of ordinary Mexicans.

Barriers in the housing market are discussed in more detail below.

1. Over regulation of the housing market

A number of interviewees agreed with a recent World Bank report that found that excessive regulations, standards and other indirect costs have added unnecessarily to housing costs. This includes over 50 different licenses, permits and service charges issued to builders by local governments, banks and notaries; assorted state and municipal taxes; unnecessarily high building standards for various utilities; excessively large minimum lot sizes; etc. A survey by FOVI (which is the National Federation for Industrial Housing Promotion) estimated that regulatory costs on FOVI-backed projects equalled about 12% of housing costs.

Various initiatives have been launched to address these regulatory barriers such as:

- ▶ Using single municipal offices to streamline the review and approval process.

- ▶ Having FOVI design mechanisms and incentives to remove or reduce regulatory bottlenecks.

2. Shortage of reasonably-priced urbanized land

The high price of urban land is essentially a demand - supply problem. Simply put, there is an inadequate supply of serviced urban land. This is due, in large part, to the difficulty of converting agricultural land to urban land as well as to the costs associated with providing the necessary infrastructure on lands suitable for housing development. While the government has taken recent initiatives to address this problem, it may be a few years before the supply shortage has been adequately addressed.

One interviewee noted that this has resulted in difficulties in finding land that is cheap enough to make it viable to build so-called "affordable" housing. For instance, Mexican and Canadian developers are finding it difficult to satisfy FOVI stipulated housing prices.

3. Lack of accurate housing sector information

Industry stakeholders (e.g., financial institutions, contractors, the government) do not have access to industry statistics that are relevant, timely, and reliable. And what little information that is available is often inaccurate, incomplete, or inconsistent. This necessarily results in an industry that is not as competitive as it could be—by not permitting market participants to make informed, well-developed decisions. As part of a recent World Bank project, the government is analyzing the information needs of the housing sector and preparing a plan to encourage the private sector to produce this information itself, using its own funds.

4. Implications for CMHC

In Canada, CMHC is the lead federal agency charged with promoting the efficient functioning of the housing industry. CMHC provides statistics on the housing market and studies the impact of government-imposed costs and regulations on housing prices. CMHC may therefore be able to assist Mexican authorities in recommending improvements to the functioning of the Mexican housing market.

VIII

Financial Sector

In this chapter, we discuss the financial sector in Mexico, particularly with respect to personal and mortgage credit.

A. Background

As the consequence of the Mexican debt crisis in 1982, Mexico suffered a severe shortage of capital and debilitating rates of inflation. During the debt crisis, the government nationalized the Mexican banking system. (This period is discussed in greater depth in Chapter V.)

The result of this economic turmoil has been a serious shortage of long-term capital. In the housing sector, mortgage credit became virtually unavailable, which was a major factor behind Mexico's serious housing shortage.

As part of its reform agenda the Salinas government recently re-privatized the country's major commercial banks. Of the eighteen commercial banks in Mexico, three control a majority of bank assets:

1. Banamex (with 27.8% of assets).
2. Bancomer (with 25.4%).
3. Serfin (with 15.3%).

The total banking sector in Mexico remains small. Lloyd Atkinson, Chief Economist at the Bank of Montreal, noted that:

Mexico is one of the most under-banked markets in the world with total banking assets of only \$100 billion, Canada has three Schedule A banks that *each* have assets of excess of \$100 billion. There is a great deal of room for growth in a market the size of Mexico.¹

¹*Mexico/Canada, Partnering For Success, study prepared for the Bank of Montreal, September 1992, p. 26.*

As discussed in greater detail in Chapter IV, NAFTA relaxes investment restrictions for Canadian (and U.S.) financial institutions that wish to enter the Mexican market. Any Canadian financial-service firms investing in Mexico, however, will probably want to link-up with existing Mexican firms.

B. Retail banking sector

As a consequence of the economic difficulties during the 1980's, the Mexican consumer has been poorly served. Personal credit has been virtually unavailable, and most observers see a tremendous capacity for expansion in retail credit. A growing middle class has created a pent-up demand for:

- ▶ Credit cards.
- ▶ Car loans.
- ▶ House mortgages.

During the next decade, it is likely that many Mexicans will be exposed to consumer credit for the first time in their lives. Firms providing mortgages to consumers may want additional security against default, as might be provided by financial instruments such as mortgage insurance.

C. Importance of the public sector to housing finance

Government agencies have traditionally played an important role in providing housing and subsidized mortgage financing, especially for low income families. In the section below, we provide a brief outline of the most important agencies.

Before discussing specific agencies, however, one point is worth noting. Many segments of the public sector are undergoing rapid reform and the role of various agencies is subject to change. Representatives of the Mexican government stressed that the exact future role of agencies in the housing sector is unclear. (Other observers noted that uncertainty is an on-going characteristic of the Mexican public sector.)

1. INFONAVIT

INFONAVIT is the National Fund for the Construction of Housing for Labour Union workers. It accounts for just over a-fifth of public funding for housing programs.

INFONAVIT provides mortgage loans to its members, who belong to private sector unions and who make payroll contributions to the agency. Its members are salaried

workers who generally earn less than five times the annual minimum wage. Members can use their loans to purchase housing constructed by INFONAVIT.

An investigation into the Mexican housing market by the US Department of Commerce reported that INFONAVIT, which typically employs bricks and concrete block in its projects, has sometimes employed pre-fabricated components, such as pre-cast slabs and beams. It is also working with universities to develop modular structures and building systems and is commissioning studies on the economic impact of pre-fabricated construction methods relative to traditional techniques.

Some observers feel that Canada has an advantage over the US in low-cost building techniques. Public agencies such as INFONAVIT would be a logical target for any marketing efforts with respect to low-cost building systems.

2. FOVI

FOVI is the National Federation For Industrial Housing Promotion, and was created in 1963 to channel federal government funds for low-cost mortgages from the Central bank to commercial banks. Its programs are targeted to home buyers earning less than a certain multiple of the minimum wage.

The US Department of Commerce reports that the FOVI is interested in obtaining assistance in the development of pre-fabricated components in modular housing systems. FOVI also believes that there are opportunities for wood-frame housing manufacturers in northern Mexico, and that Mexican developers require assistance with insulation and ventilation technologies.

FOVI makes funds available to commercial banks for low-income home buyers at the CPP less a discount, which is generally 2 to 3 percentage points. (CPP refers to the average cost of funds for the banking system.) The commercial banks, in turn, offer mortgages to qualifying home buyers at the CPP.

Banks bid for FOVI funds, and in addition to collecting the spread between rates charged to home buyers and rates paid to FOVI, can also recover some administrative fees. The banks are themselves responsible for loan approvals, and bear full default risk.

Since the mortgage rate varies with CPP, it adjusts for inflation. Monthly payments, however, are tied to minimum wage levels. If increases in inflation outstrip increases in the minimum wage, then the term of the loan will automatically increase to allow recovery of principal. If the term extends beyond 20 years, however, FOVI will assume the balance outstanding at year 20. This provides some assurance to buyers that they will not end up with debt that can never be eliminated if inflation accelerates, but this obviously represents a potential liability for the government.

3. FOVISSSTE

FOVISSSTE is the Housing Fund of the Social Security System for State Service Workers. It plays a similar role to INFONAVIT, but is much smaller in scale.

4. FONHAPO

FONHAPO is the low-income housing fund of the federal government, and targets the largest and poorest sector of the housing market. It lends money to agencies (state and municipal governments, co-operatives, etc.) that construct housing for non-salaried workers.

D. Mortgage credit

As noted previously, Mexico's commercial banks have historically not been active in the personal mortgage market. Residential mortgages accounted for only about 7% of total outstanding bank loans at the end of 1991.¹ Public agencies (FOVI, INFONAVIT, etc.) still account for almost half of total housing financing.

Exhibit VIII-1 shows investment in the housing sector and extension of mortgage credit by various institutions in 1991. Lending by commercial banks accounted for just over half (53%) of the total funds extended. The lending by commercial banks in 1991 (U.S. \$2,870 million) represented a substantial increase over their 1989 lending, when they lent only U.S. \$452 million.

Exhibit VIII-1
Housing investment and number of mortgages approved — 1991

	<u>Amount Financed</u> (US \$ Million)	<u>No. of Units</u> (000's)	<u>Value per Unit</u> (US\$ 000s)
Commercial Banks	2,870	92	31.2
FOVI	353	32	11.0
INFONAVIT	1,215	77	15.8
FOVISSSTE	252	26	9.7
Other	17	4	4.3
FONHAPO			
Housing Units	134	16	8.4
Serviced Lots	61	24	2.5
OTHERS			
Housing Units	416	22	18.9
Serviced Lots	67	55	1.2
	<u>5,385</u>	<u>348</u>	<u>15.5</u>

¹World Bank, *Staff Appraisal Report—Mexico*, May 26, 1992, p. 8.

1. Commercial bank mortgages

For their own mortgages, commercial banks usually charge a variable interest rate equal to the CPP plus 5 to 6 percentage points. (As noted below, commercial banks have also acted as distributors for subsidized mortgage credits offered by government agencies.) In addition, banks charge an up front commission of 3 percentage points. CPP is a measure of the banking system's average cost of term funds, and as of September 1992 stood at about 20%. Commercial bank mortgage rates were therefore around 25 to 26%.

At the same time, inflation was running at about 12%. The real interest rate on mortgages available from commercial banks might therefore also run about 11% to 12%, which is much higher than even *nominal* mortgage rates in Canada.

High real interest rates would explain a reluctance (or inability) by Mexicans to avail themselves of mortgage credit. The World Bank reports that the term of mortgage loans can range between 3 to 15 years. These maturities vary significantly among banks. The payment structure of mortgages and number of annual payments also vary. There therefore does not appear to be the standardization of mortgage terms and conditions that is found in Canada.

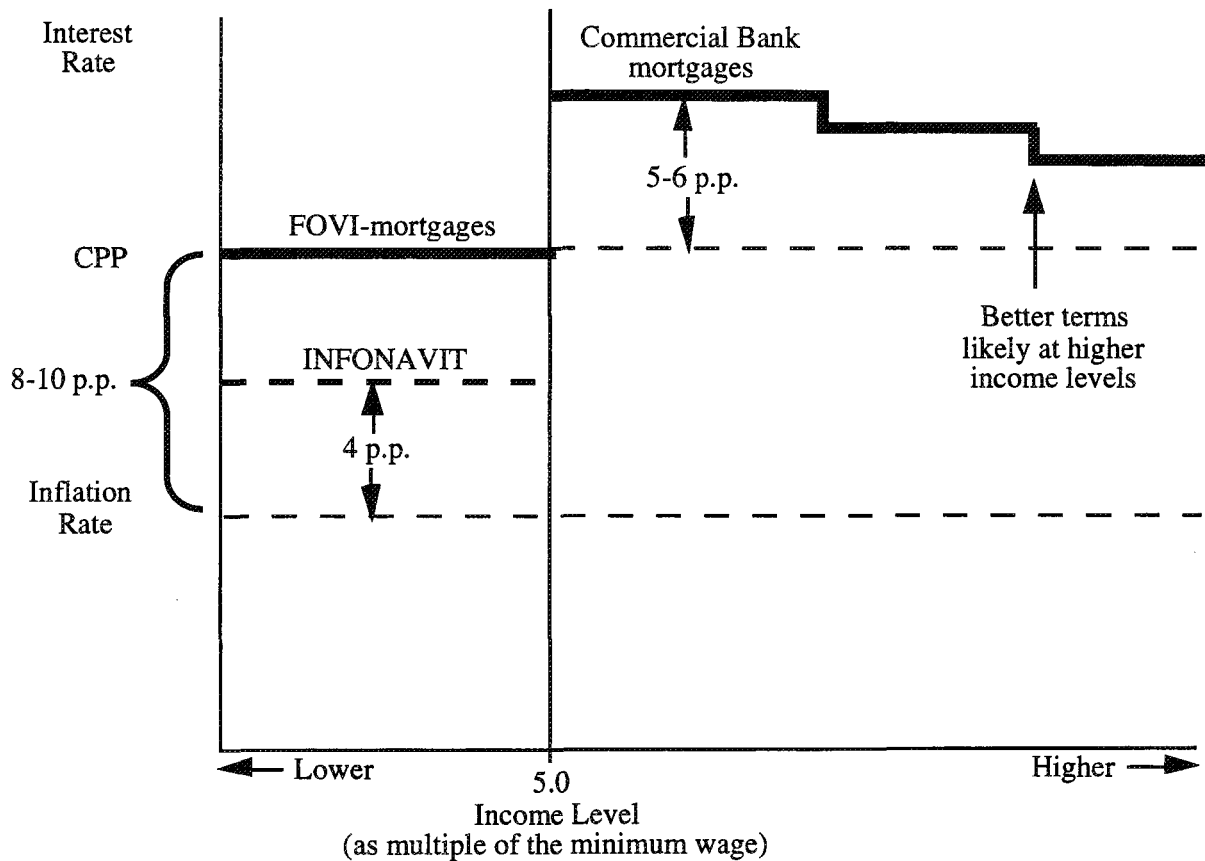
The World Bank also reports that commercial banks are only willing to provide mortgages to households that earn more than five times the minimum wage. As noted in Exhibit VII-2 of Chapter VII, less than 5% of projected housing requirements (in terms of units) are among this income category.

2. Segmentation of Mortgage Market

From the proceeding analysis, it is clear that the mortgage market in Mexico is highly segmented. Quite different mortgage terms are available to prospective homeowners depending on their income level and union affiliation. As noted previously, members of INFONAVIT qualify for mortgage loans at a nominal interest rate equal to the inflation rate plus 4 percentage points. (Demand, however, dramatically exceeds supply.) Other lower income workers (who need not necessarily be members of INFONAVIT or its public sector counterpart, FOVISSSTE) can obtain FOVI-subsidized loans at an interest rate equal to the CPP. In the fall of 1992, CPP was about 8 percentage points higher than the prevailing inflation rate, so that loans from FOVI were somewhat more expensive (by about 4

percentage points) than those from INFONAVIT.¹ Workers who are better-off (those earning more than 5 times the annual minimum wage) can obtain mortgages from commercial banks at an interest rate of CPP plus a 5 or 6 percentage point premium. An anomalous situation therefore prevails: because of the role of public agencies, mortgage terms are more favourable for lower income households (although supply is limited). Considering only commercial mortgage loans, more 'normal' conditions probably prevail: mortgage terms are more favourable for higher-income households. This situation is illustrated diagrammatically in Exhibit VIII-1.

Exhibit VIII-1
Diagrammatic representation of mortgage rates by consumer sector



¹As noted previously, CPP is the banking system's average cost of funds, and stood at about 20% in September 1992. Inflation was then running at about 12%.

3. Role of Canadian financial institutions

Canadian financial institutions may have a role in assisting the Mexican banking sector in expanding its consumer credit operations. Some Canadian firms are already active in the Mexican market. The Bank of Nova Scotia has recently purchased a small equity position in Grupo Financiero Inverlat S.A., which is a holding company for a major Mexican commercial bank, Multibanco Comermex. The Royal Bank and the Bank of Montreal have offices in Mexico.

In the banking sector, personal mortgages are a relatively high-volume business, which is software and paper-work intensive. Canadian firms may be able to offer Mexican firms their expertise in this area. Canadian banks have extensive experience in operating wide-spread retail banking networks, which require extensive support with computer systems and marketing programs.

One bank representative noted that this expertise is also available from U.S. banks and from consulting organizations. The deciding factor for Mexican institutions that are choosing joint-venture partners therefore often becomes their ability to develop mutually beneficial business agreements. Canadian institutions may have some appeal in this area given their well-developed retail network, and Canada's reputation as having an efficient mortgage market for housing.

4. Role of Canadian government agencies

Like banks, Canadian agencies such as CMHC may also have a role in assisting the Mexican banking sector. The Mexican government, for example, is examining the feasibility of developing a secondary mortgage market. Such a market may take the form of mortgage-backed securities (MBS). A related question is whether the government should provide some form of consumer credit guarantees, perhaps through mortgage insurance. Such insurance could be used to induce commercial banks to expand their participation in the mortgage market, especially for low-income housing. CMHC has extensive experience in the development of both MBS and mortgage insurance, which could benefit the Mexican authorities. In return for providing assistance, CMHC may gain insight in how best to promote the interests of Canadian financial institutions.

E. Conclusions

Mexico's financial sector suffers from years of underinvestment and economic crises. Upgrading the country's credit and banking system represents a major, long-term task. Companies and agencies in Canada, which has a well-developed and stable financial system, have undeniable skills and a good reputation, which can be applied to the Mexican environment.

IX

Construction Methods

In this chapter, we discuss the construction methods used in the housing sector in Mexico, and comment on the implications for Canadian export opportunities.

Our most significant finding is that masonry construction predominates in the Mexican housing sector. Canadian-style wood-frame construction techniques appear relatively unknown. This has significant implications for Mexican export opportunities:

- ▶ First, the housing market does not represent an instant, or easily accessible, market for Canadian wood and lumber products.
- ▶ Second, Mexican expectations about building performance and looks are quite different from Canadian expectations.

These issues are discussed in more detail below.

A. Reliance on concrete block and masonry construction

Masonry construction predominates in the housing sector in Mexico. According to the 1990 census, almost 70% of dwelling units had walls constructed of concrete block or brick. A further 15% of housing units had adobe walls. Only 8% of homes were reported to have walls made of wood, and it is not clear that these would correspond to the stud-frame walls traditionally found in Canada. Census data are summarized in Exhibit IX-1.

1. Resistance to wood-frame construction

Resistance to wood-frame construction is widespread and entrenched. Some commentators refer to a "cultural bias" against wood construction. Resistance to wood is certainly reinforced by habit and historical precedent. A severe termite problem has precluded widespread use of wood-frame construction methods.

There are reportedly other barriers to the adoption of wood, and these are discussed in more detail below. It is important to recognize, however, that the familiarity of the Mexican consumer with masonry construction may be one of the most intractable barriers to wood-frame techniques. Mexicans have come to value the solidity of masonry construction, and associate it with permanence and quality.

Exhibit IX-1
Existing housing stock — 1990 census

Component	Materials Used	Units (Thousands)	Percent
Floors:	Cement or concrete	8,542	53
	Mosaic or other coverings	4,282	27
	Earth	3,120	19
	Not-specified	91	1
Roofs:	Concrete or bricks	8,245	51
	Metal or asbestos sheets	2,872	18
	Cardboard	1,551	10
	Tiles	1,533	10
	Palm or Wood	1,367	9
	Other	468	3
Walls:	Bricks & block	11,148	70
	Adobe	2,342	15
	Wood	1,303	8
	Palm or bamboo	320	2
	Cardboard	200	1
	Metal or asbestos sheets	120	1
	Other	223	1
		<u>16,035</u>	

2. Importance of addressing wants

There is a truism in marketing that it is easier to change brands than habits. Companies are more likely to meet marketing success by addressing consumers wants, rather than by trying to convince them that what they want isn't appropriate.

The case of a Canadian manufacturer of pre-fabricated homes illustrates this point. To provide homes with a solid masonry-like feel, the company developed a building system making use of cement boards mounted on a frame of steel studs. (The use of steel studs eliminates any concern about termites.) Interior surfaces are finished with dry wall. Use of cement boards for the exterior skin provides the solid feel necessary to attract buyers. (You can hit it with a hammer.)

A representative of the Canadian firm that developed the concept noted that his firm was successful because it gave the Mexicans what they had asked for. Competitors had returned with concepts that had not been adapted to Mexican tastes.

B. Barriers to wood in Mexico

There are a number of reasons, other than just termites, why wood frame construction is not popular in Mexico. These are:

- ▶ Cost.
- ▶ Bank lending restrictions.
- ▶ Lack of familiarity with wood-frame techniques.
- ▶ Incompatibility with building codes.
- ▶ Humidity.

These factors are discussed in more detail below.

1. Cost

Concrete/masonry construction has traditionally been 30% cheaper than wood-frame construction in Mexico.¹

2. Bank lending restrictions

Banks will not currently provide financing or mortgages for homes constructed with wood. One bank representative noted that property insurers are not willing to insure wood-frame homes, which poses problems for loan security. The representative explained that she didn't see this situation changing in the short-term.

One bank representative cited the following problems with wood-frame homes:

- ▶ They don't resist earthquakes.
- ▶ They require air conditioning or heating systems, while many homes currently have neither.

When reviewing the barriers cited, it is important to remember that, in marketing, perception is reality. Wood-frame homes may, in fact, be more resistant to earthquakes than masonry construction, and the addition of insulation could reduce heating and/or cooling loads. Imparting these facts, however, requires that you go against the grain of accepted wisdom.

¹*An Investigation Into The Opportunities For Souther Pine Lumber Exports To The United Mexican States, study prepared for Southern Forest Products Association (SFPA), 1990, p.6.*

3. Lack of familiarity with wood-frame techniques

Mexico has a severe shortage of skilled labour. As a consequence, qualified tradesman command premium (by Mexican standards) salaries. The predominance of masonry construction means that skilled carpenters, in particular, are in limited supply. Conversion to wood-frame techniques would further strain the training capacity of the Mexican economy.

4. Incompatibility with building codes

To the extent that building codes do exist, they reflect the predominance of masonry construction. Codes, for example, stress load-bearing capacity rather than wind or fire resistance.

5. Humidity

Coastal areas in Mexico suffer from high humidity, and this can lead to wood rot. (Of course, areas in the south-eastern United States also experience high humidity, but rely extensively on wood, so this problem may be surmountable.)

C. Opportunities

While Mexico does not present a ready market for structural lumber, there are significant market needs that do present export and investment opportunities. Specifically, the Mexican housing market requires products that will:

- ▶ Meet domestic consumers' desire for better quality construction and more variety.
- ▶ Speed up the construction process to help alleviate housing shortages and reduce costs.
- ▶ Compensate for the lack of skilled tradesman.
- ▶ Address Mexican requirements for multiple-unit residential buildings (MURB's).

These opportunities are discussed in more detail below.

1. Provide variety and quality

The Mexican preference for masonry construction does not mean that there is no opportunity for improvement. Homes are basically boxes constructed of concrete block with tile or corrugated steel roofs, and perhaps a cement floor slab. These structures are generally cold, unattractive and susceptible to leaks.

Current construction techniques in Mexico for housing do not lend themselves to providing variety or unique features. There is therefore a potential market for construction techniques that would allow a greater variety of form, and for finishing materials and decorative products that would enhance appearance.

Foreign firms are therefore considered, for example, to have good sales prospects in the following areas:

- ▶ Wall, roof and floor coverings.
- ▶ Trim manufacturing equipment.

2. Speed-up and reduce the costs of the construction process

As noted in Chapter VII, Mexico has a large housing deficit, brought on by years of under-investment and economic stagnation. With improvement in economic conditions, the construction industry is now totally unable to keep up with existing and potential housing demand. Current construction methods are labour-intensive and entail long completion times. Technologies to reduce the time and cost of building housing would find a ready market.

3. Address the shortage of skilled labour

There is a serious shortage of skilled labour in Mexico. Building products that are easy to use, and which require little training, represent a significant market opportunity.

4. Multiple-unit residential buildings

As noted in Chapter VII, multiple-unit residential buildings represent a significant component of the Mexican housing market. Canadian construction technologies for multiple-unit buildings, which generally use masonry and concrete, may be more transferable to Mexico than our technologies for single-family dwellings (which rely on wood-frame structures).

D. Opportunities for wood and wood products

Although immediate adoption of wood-frame construction techniques by Mexican producers is unlikely, there are opportunities for wood and wood products in the Mexican housing sector. These opportunities arise because of the declining domestic supply of lumber, as well as the low quality of some domestic lumber products.

About 80% of Mexican lumber production is reportedly used to provide concrete forming for the construction industry. Much of this lumber is low grade.¹ An additional amount of high-quality lumber is used to provide interior decoration in the homes of high-income groups. Domestic softwoods reportedly have 90% share of the market in Mexico for furniture, flooring, and panelling. Plywood is also an important component of kitchen cabinets.

Some of the issues important to the lumber sector are discussed below.

1. Declining domestic supply

Domestic timber reserves in Mexico, however, are gradually becoming less accessible. There are inadequate financial resources for investment in equipment and manufacturing technologies, and generally poor infrastructure for the transportation of logs and timber to primary and secondary processing facilities.

Between 1985 and 1991, total annual wood harvests decreased by 23% (from just under 10 million cubic meters to 7.7 million cubic meters).² At the same time, domestic consumption of wood products is growing, increasing Mexico's dependence on imports.

2. Initiatives by U.S. associations

The American Hardwood Export Council (AHEC) has identified particleboards and medium-density fibre boards (MDF) as particularly promising export opportunities once NAFTA eliminates Mexican import duties. (Current tariffs on particleboard and MDF are now 20% and 15% respectively.)

Even with the current tariffs in place, U.S. exports of particleboards to Mexico have increased from under U.S. \$1 million in 1983 to almost U.S. \$20.0 million in 1990.

AHEC reports that U.S. particleboard is superior to Mexican particleboard in terms of:

- ▶ Internal bond.
- ▶ Uniformity of thickness.
- ▶ General quality control.
- ▶ Density.

¹*Conifera*, p.18.

²*Mexican Hardwood Market Profile, Phase I, Final Report, Spring 1992, Study prepared for American Hardwood Export Council*, p. ii.

With respect to medium-density particleboard, the American Hardware Export Council reports that Mexican product is 40% more expensive than imports from the U.S.

Another U.S. industry association, the Southern Forest Products Association (SFPA), has also investigated the Mexican market. SFPA concluded that low and middle-income housing represents the best *long-term* opportunity, but that convincing Mexicans to adopt wood-frame construction techniques will represent a significant challenge. In the interim, manufactures of furniture represent an attractive alternative market, both for lumber and plywood and for particleboard products.

Another opportunity identified by SFPA is the Mexican market for chemically-treated lumber. Resort areas, for example, may require chemically treated lumber for board-walks, piers, retaining walls, landscaping and framing. Although the Mexican treated lumber industry is reportedly operating at a very low capacity utilization, the quality of its product has been questioned.¹

3. Maquiladora region

Northern Mexico and, in particular, the Maquiladora region, has been targeted by the U.S. Department of Commerce and some U.S. associations as the best region for introducing wood-frame construction techniques.

Lumber costs less in Northern Mexico than in other regions of the country, so that cost is less of a barrier. Furthermore, the growth of Maquiladora manufacturing operations has resulted in a large influx of workers, and a corresponding shortage of housing. Because of the difficulty of attracting and retaining workers, companies operating in the region may be willing to help finance, or even build, worker housing. Canadian mining companies have significant experience in this task. There is therefore both a large potential market and the possibility of access to company-assisted financing. Furthermore, to the extent that maquiladora operations are owned by foreign companies that can influence the buying decision, this region may be more receptive to foreign construction techniques.

4. Need for a Canadian response

Given the active pursuit of Mexican opportunities by U.S. lumber and wood products associations, the Canadian lumber and wood products industry should undertake an in-depth investigation of its competitive position relative to U.S. producers in the Mexican market.

¹*An Investigation into the Opportunities for Southern Pine Lumber Exports to the United Mexican States, SFPA, August 1990, p. 7.*

E. The cement industry

Given the importance of cement to the Mexican construction industry, it is worthwhile to summarize the status of the Mexican cement industry.

Mexico exported U.S. \$69.6 million of cement in 1990, which represented over 10 percent of its total exports of building products and materials. Cement exports in this sector were second only to exports of iron and steel products (which totaled U.S. \$116.9 million).

CEMEX is the dominant firm, and represents the fourth largest cement company in the world. It is also the largest producer and exporter of portland cement in North America. CEMEX has apparently diversified into the tourism sector, and initiated a joint venture with Marriott Corporation to construct hotels in resort areas such as Cancun and Puerto Vallarta.¹

While basic cement does not appear to offer an attractive export opportunity, the U.S. Department of Commerce has identified a potential market for plastering cements. One manufacturer of pre-fabricated housing also noted that Mexico could not supply the desired type of cement wallboard. Thus, even within sectors that are not attractive overall, there may be niche for specialty products that are currently not supplied by Mexican industry.

Other examples of potential niche markets can be found. One manufacturer of pre-fabricated housing, for example, notes that it cannot find in Mexico the particular type of dry wall that it requires, and will probably import it from the U.S. The same manufacturer also notes that it has not found a Mexican supplier of steel studs, even though Mexico has a large steel industry and certainly produces the flat-rolled stock necessary to produce steel studs. This represents another potential opportunity, either for export or for direct investment.

F. Miscellaneous opportunities

In the course of our investigations, we contacted some individual manufacturers and distributors that are currently active in the Mexican market and enquired about the types of products with which they have met success. This review was not exhaustive or in-depth, but serves to provide a flavour of some of the opportunities available.

One manufacturer has met success by selling a building system that uses inter-locking bricks. These bricks are stacked together, and then at periodic intervals concrete is pumped into cavities within the resulting structure. The advantage of this system is that it does not require skilled bricklayers, and it can speed up the construction process. The

¹*Mexico-Canada, Partnering for Success, External Affairs and International Trade Canada, p. 37.*

product therefore addresses Mexico's shortage of skilled labour and its need to reduce construction lead-times.

Another firm has marketed a system for manufacturing concrete blocks. During manufacture, polystyrene beads are used to replace some of the aggregate that normally makes up a large portion of a concrete block. The polystyrene increases the insulating value of the wall and can thereby reduce cooling loads. This can increase comfort, and/or serve to reduce or eliminate the costs of air-conditioning equipment. The process, however, increases the cost of construction. It is attractive to the buyer only when initial cost is not the sole criterion. This product therefore appeals only to those segments of the market that are looking for better quality and comfort than provided by basic building technologies.

Other Canadian exporters are apparently meeting with some success selling roofing systems using either elastomeric materials or modified bitumen materials. These technologies provide seamless, water-proof roof barriers that are easy to apply. One respondent noted that it was important to provide roofing materials with light colours to reduce heat gain from the sun.

The above examples show that there are opportunities in Mexico, but that they are frequently tied to unique technologies and skills offered by Canadian firms.

X

Canadian Initiatives To Date

In this chapter, we discuss initiatives taken by the Canadian housing industry to develop business opportunities in Mexico. In the latter part of the chapter, we focus on one specific industry, the pre-fabricated housing industry, as this appears to be a major area of potential business.

The Federal Government, through External Affairs and International Trade Canada (EAITC) and Industry, Science and Technology Canada (ISTC), is heavily involved in evaluating and promoting initiatives and opportunities related to the NAFTA. The provincial governments are also increasing their interest and involvement in this area. It appears, however, that private-sector interest in the Mexican market has to-date been limited to a few "niche" companies and organizations.

We are able to summarize our findings related to the interest in and understanding of the total residential construction and building products market in Mexico as follows:

- ▶ Interest by Canadian firms in Mexico as a potential business opportunity is slowly increasing. This is particularly true of companies that feel they have a product capable of filling a solid market niche.
- ▶ While the NAFTA is not the primary reason for this increase in interest, it has acted as a catalyst for some companies and organizations to take a second look at Mexico.
- ▶ At the same time, only those companies that are already actively pursuing Mexican opportunities have anything more than a rudimentary understanding of what it takes to do business in Mexico.

In the section below, we summarize initiatives taken to-date by a variety of industry stakeholders.

1. Wood products sector

Our interviews in this sector were primarily restricted to a number of wood product associations including the Canadian Kitchen Cabinet Association, the Canadian Manufactured Housing Institute, the Canadian Window and Door Manufacturers Association and the Laminated Timber Institute of Canada. The Canadian Kitchen Cabinet Association noted that while the decrease in tariffs that resulted with the

FTA had a substantial impact on their members, no such impact is expected as a result of the NAFTA's ratification. In essence, the common theme from these discussions was that not only were the associations not actively researching the Mexican market but that their members had expressed no desire to do so. These impressions were further reinforced by sector specialists at ISTC who saw no targetable opportunities in Mexico in the near- to medium-term.

A summary of our contacts with various industry associations is provided in Appendix A.

2. Contractors and developers

Some associations and companies in this sector have recently begun to express an interest in Mexico. For example, the Toronto Construction Association (TCA) invited the President of the Mexican Construction Association to be the key-note speaker at Construct Canada 92. As well, the TCA is actively involved in the Ontario Construction Initiative to Mexico (discussed in the following section), as is the Greater Toronto Housing Board.

The real estate developers we contacted, while not actively pursuing this market, were nonetheless interested in learning more about it. They felt, however, that any interest they might have in Mexico would not be a direct result of the NAFTA, but rather a natural course of following up on any good development opportunity. In other words, Mexico would be competing with Europe, Asia and other parts of the Americas for companies' limited investment funds. Furthermore, many developers are hurting from the ongoing real-estate recession in Canada and do not have the financial strength to go abroad. At the same time, there was a feeling that if the resources were there, that this could be the perfect time to explore opportunities beyond Canada's borders.

A major question is whether the Canadian style of development (with development companies building large subdivisions and then re-selling homes to individual purchasers) is applicable in the Mexican environment. Another question is which markets (upper- or lower-income levels, or particular geographic areas) should be targeted by Canadian firms.

3. Professional services

The Association of Professional Engineers of Ontario (APEO), the Consulting Engineers of Ontario, and the Ontario Association of Architects are each involved in the Ontario Construction Initiative to Mexico (to be discussed in detail later in this chapter). Professional services groups see the merits of investigating the Mexican market. Canadian contractors with world-class engineering services are also interested in the Mexican market, just as they are in other growing markets (e.g., parts of Europe and the Americas).

A. Information gaps are beginning to be addressed

At the end of the day, companies interested in doing business in Mexico have to rely on their own due-diligence. This necessarily includes undertaking product-specific market research, establishing relationships with Mexican firms, and, in general, becoming as comfortable with what it takes to do business in Mexico as they are with doing business in their own "backyard." However, prior to undertaking this process, companies should access as much readily available information as is practical. Examples of areas where progress is being made includes:

1. Publications

Some recent publications that have been produced include:

- ▶ *Mexico - Canada: Partnering for Success*; sponsored by EAITC, ACOA and the Bank of Montreal, 1992—A good practical publication that describes what it takes for Canadians to do business in Mexico.
- ▶ *Market Study on the Mexican Market for Building Products and Materials*; External Affairs and Industry, Trade and Technology; June 1992.
- ▶ *Report on the Construction Industry in Mexico*; sponsored by the Canadian Embassy in Mexico; September 1992—A survey of 30 large construction companies in Mexico. It includes company contacts and the nature of their interest in establishing relationships with Canadian firms. Note that a portion of this has been summarized in Appendix B.
- ▶ *Canadian Export Opportunities in Mexico; An Analysis of SECOFI Import Data*; 1992; by the Conference Board of Canada.

In addition, a number of reports other are in the "pipeline." This includes a report being overseen by the Canadian Embassy in Mexico on the potential of the prefabricated housing market in northern Mexico. As well, ISTC is working towards the completion of a lumber-sector study by the Fall of 1993.

2. Construction and housing trade fairs

Trade fairs represent a relatively low-cost means of gaining direct access to a variety of companies and individuals involved in the Mexican construction industry. Recent and upcoming examples of relevant Mexican trade fairs include:

- ▶ **Canada Expo '92, Monterrey**

The January 1992, Canada Expo'92 trade fair was the largest ever undertaken by Canada in Central and South America—involving the participation of 206 Canadian companies, 165 exhibitors and attracting close to 15,000 visitors.

Approximately nine construction related companies participated in the fair with only one directly involved the housing sector—Royal Plastics Group, which demonstrated their prefabricated housing system.

► **Expo CIHAC '93, September 6-12, 1993**

Expo CIHAC is an annual international building and housing exhibition sponsored by their major construction association. Attendance in 1992 was in the order of 30,000.

Canadian trade fairs also have the potential to expose/introduce the Canadian construction and housing industry to Mexican firms/individuals. A recent example was the Toronto Construction Association's 1992 Construct Canada which invited Ing. Gonzalo Gout, President of the Mexican Construction Association, to be its keynote speaker. He was said to be suitably impressed with the Canadian technology presented to him during a tour of area developments—such as the SkyDome and its use of real-time design systems.

3. Trade missions

The Ontario Ministry of Industry, Trade and Technology (MITT) together with the Toronto Construction Association (TCA), the Greater Toronto Housing Board (GTHB), the Consulting Engineers of Ontario, Export Development Corporation, the Association of Professional Engineers of Ontario (APEO), the Ontario Association of Architects, the Trade Commission of Mexico and Banco Nacional de Mexico (Banamex) have formed a partnership called **"The Ontario Construction Initiative to Mexico."**

While this Initiative is not directly a result of the NAFTA, NAFTA has certainly increased the awareness and profile of this mission. The group has been established to work together to identify and develop opportunities for Ontario companies interested in doing business in Mexico.

This Initiative has been established with the realization that few Canadian firms are able to afford prolonged, extensive direct investment in Mexico. Most Canadian companies are likely to invest in Mexico only after a solid relationship has been established with a Mexican partner. It is the intent of this Initiative to promote the establishment of such partnerships.

In March 1993, 10 to 15 members from the above-noted associations will travel to Mexico (at their own expense) to meet with their Mexican counterparts. The Canadian associations are responsible for ensuring that the member firms travelling to Mexico bring something special to the table. As noted by Richard Howard, Manager of Strategic Planning Task Force, Americas Branch, MITT, *"companies will need to have all the bells and whistles to succeed. There's no use trying to go down to Mexico with the same old tried and true technology that all your competitors are offering to the Mexicans."*

It is expected that only one or two of the companies travelling to Mexico will have first-hand experience with dealing with Mexico. The Trade Commission of Mexico together with Banamex, will identify potential Mexican partners for the Canadian companies.

B. Prefabricated housing market

Mexican imports of prefabricated buildings are currently in the order of U.S. \$5 billion per year—or about 1% of total building products and materials imports (see Exhibit X-1). Imports consist of various prefabricated housing systems (e.g., wall panel, modular, etc.) available from a variety of international manufacturers. Meanwhile, Canada's share of this market has historically been insignificant.

Exhibit X-1

Mexican prefabricated housing imports vs. Canadian exports (U.S. \$ thousands)

	1988	1989	1990	1991
Total Mexican imports of building products and materials	227,652	308,416	514,458	Not Available
Mexican imports of prefabricated buildings	2,796	4,597	4,925	Not Available
Canadian exports of prefabricated buildings to Mexico	0	15	54	126

Source: *Market Study on the Mexican Market for Building Products and Materials, InfoExport, EAITC, June 1992.*

We spoke with three Canadian companies, however, that are actively pursuing opportunities in the Mexican prefabricated housing market—Royal Plastics Group, Festival Development Group, and Terra Nova Industries. These companies are generally still in the early stages of market development; none has yet built a significant number of homes.

1. The Royal Plastics Groups has developed a modular plastic-based prefabricated housing system

The Royal Plastics Group has taken direct aim at the affordable housing market in Mexico with its introduction of the "Royal Housing System." This system consists of a series of interlocking panels and connectors made from reinforced polymer

components, which are filled with concrete—and to which the roof components are then integrated.

They are currently in the process of investigating and developing markets for this new housing product in China, Spain, Argentina and Mexico. The Royal Plastics Group already has a presence in Mexico in the form of two joint-venture plants manufacturing PVC building products.

By focussing on the Mexican affordable housing market, they will be building homes 50-55 square metres in size with a total installed cost of U.S. \$16,000 (including land). Unit costs are in the order of \$16.00/sq.ft., or \$8,600 to \$9,500 per home. Assembly takes only 3 to 4 days, versus the 3 to 4 months required to build a conventional Mexican home. The need for skilled tradespeople is therefore minimized. Because the system makes use of domestic concrete, local sensitivities about economic impact are minimized.

The introduction of this system to Mexicans first occurred at the Canada Expo'92 trade fair in Monterrey in January 1992, where the Royal Plastics Group assembled a demonstration home. They are currently in the process of:

- ▶ Negotiating a joint venture relationship with a Mexican developer/contractor.
- ▶ Completing a market feasibility study.
- ▶ Establishing distribution operations and model centres in three Mexican cities (including Mexico City and Saltillo). The model home centres are expected to open later this year.

For cost control reasons, the units will initially be supplied from Canada. Royal Plastics, however, will work towards establishing a manufacturing facility in Mexico.

2. Festival Development Group has the potential major prefabricated housing opportunity

Late in 1992, it was reported that Festival Development Group, together with a Mexican joint-venture partner, Casas Importadas, had signed a U.S. \$179 million deal to build prefabricated homes in Canada for export to Mexico—reportedly 27,500 units over a 30 month period. This would certainly have been one of the largest contracts ever signed between the two countries.

Festival Development has developed a building system that employs cement wall-boards mounted on a structure of steel studs. This system addresses Mexican concerns about solidity and permanence.

At the time of finalizing this report, however, it appears that a completed contract is not yet in place. As well, while initial indications were that manufacturing would take place in Canada (possibly Stratford), it now appears that manufacturing will take place in Mexico.

3. Terra Nova Industries Inc. has developed a steel-based prefabricated housing system

Based on their experience as an industrial and commercial builder for the past 3 1/2 years, Terra Nova has developed a steel panel-based prefabricated housing system. Terra Nova feel that the system should be attractive to Canadian home-buyers because:

- ▶ it has good insulating properties (its wrapped in styrene).
- ▶ it is of high quality (due to its high precision manufacturing process).
- ▶ it is less expensive than a conventional wood-framed home.

However, Terra Nova may not experience substantial near-term Canadian sales due to:

- ▶ **Limited marketing**—The product is relatively new, with product awareness limited primarily to Calgary/Alberta.
- ▶ **Adoption problems**—Metal-framed/steel homes are new not only to house buyers but to the house-building industry in general.
- ▶ **Restricted insurability**—According to Terra Nova, CMHC mortgage insurance to the 95% financing level is not available for their product.

Because of limited domestic response, Terra Nova has been examining export markets. In addition to investigating the potential of the Mexican market for the past 2 1/2 years, they have also been developing relationships with contractors in Russia, Hungary, the Caribbean and Hawaii. Their system is felt to be attractive to the Mexican housing market because it does not incorporate wood, is heat resistant, can have the appearance of local homes, is able to withstand earthquakes better than most concrete structures, and requires minimal skills to construct. Recent initiatives with regard to the Mexican market include:

- ▶ The completion of a market feasibility survey (with CIDA's assistance). Terra Nova is expected to submit a proposal to CIDA in the coming months concerning additional joint Terra Nova-CIDA initiatives.
- ▶ Ongoing discussions with potential Mexican joint venture partners. While Terra Nova feels that a joint venture partner is essential to the

success of any such project, they have found this to be a slow, methodical process requiring "extreme" patience.

While Terra Nova would like to be able to supply the potentially more lucrative middle income housing market (U.S. \$30,000 - \$35,000), they realize that, in the near term, they may have to focus on the low income market (U.S. \$18,000 - \$20,000). The short to medium term sales potential is felt to be in the order of 1,000 units per month.

XI

Technical Standards And Building Codes

In this Chapter, we discuss the key differences in Canadian, U.S., and Mexican standards; the key features of standards-related measures of the NAFTA; recent Mexican initiatives related to standards; standards-related opportunities available to Canada; and the importance of NAFTA to the Canadian building technology/industrial sector.

A. The key differences in Canadian, U.S. and Mexican standards

Trade negotiations must necessarily deal with the issue of standards and technical regulations and their impact on trade. Trade between Canada, the U.S. and Mexico is currently characterized by standards-related systems that range from centralized to federated to localized. A brief description of the key elements of each country's system follows:

1. The Canadian system

In Canada, voluntary standardization is the statutory responsibility of the Standards Council of Canada (SCC)—a Crown corporation. Over the years, the SCC has succeeded in bringing Canada's major standards organizations into a uniform National Standards System (NSS). The NSS is comprised of 5 accredited standards writing organizations (BNQ, CGA, CGSB, CSA and ULC), 5 certifying organizations (CGA, CSA, COFI, ULC, and WHPS)¹ and a growing list of testing labs.

Codes and regulations in Canada generally do not cover all aspects of an activity (e.g., building construction) by themselves, but, instead, make extensive use of standards, usually through references in the body of the code, bylaw or regulation, making the standards officially part of the document. For instance, the 1990 National Building Code (NBC) references 209 voluntary standards such as those prepared by CGA (2 codes referenced), CGSB (63), CSA (85), NFPA (9) and ULC

¹Definitions: *Bureau de normalisation du Québec (BNQ)*, *Canadian Gas Association (CGA)*, *the Canadian General Standards Board (CGSB)*, *the Canadian Standards Association (CSA)*, *the National Fire Protection Association (NFPA)*, *the Council of Forest Industries of British Columbia (COFI)*, *Warnock Hersey Professional Services Ltd. (WHPS)* and *the Underwriters' Laboratories of Canada (ULC)*.

(25). This interdependence of codes and standards is an important aspect of Canadian code development and use.

2. The United States system

In the United States, there is no comprehensive national standards policy. The voluntary standard's infrastructure is dominated by a number of private independent organizations operating within varying subject areas such as American Society for Testing and Materials (ASTM), the American Society of Mechanical Engineers (ASME), Underwriters Laboratories Inc. (UL), and others. At the government level, control rests with federal regulators (i.e., public health and safety regulations) and state/local officials (i.e., building, electrical and plumbing codes).

Even recognizing the differences between the Canadian and U.S. systems, there is still a considerable amount of cooperation between the two countries in both standards and certifications. For example, there are a number of cases where U.S. standards are referenced or used in Canada (e.g., references to the NFPA in Canada's NBC—see above). This compatibility has very much evolved from the extent of bilateral trade between Canada and the U.S.

It is expected that while Canada will experience an influx of U.S. certification organizations over the coming years, the U.S. will ultimately be required to consolidate national standards systems.

3. The Mexican system

In Mexico, technical standards are centralized within a single body - the Directorate General for Standardization (DGN). However, the realities of Mexico's developing economy have resulted in diffuse activities at all levels, including by local government and private bodies. Its technical standards are generally consistent with those of other industrialized countries, especially with the U.S. where it does 70% of its trade. For example, Mexico follows standards and certification systems set by ASME, ASTM and Society of Automotive Engineers (SAE). Note also that while Mexico's system is based on the metric (S.I.) system, the U.S. standards-industry is predominantly imperial-based.

Imported goods must receive DGN certification (which results in an "NOM" label) before they can enter the country. Goods requiring certification include building and construction materials, and electronics (as well as chemical and medical equipment). However, one source at the Underwriters Laboratories in the U.S. reports that many of the labs carrying out DGN testing are, in fact, owned by domestic Mexican manufacturers, who could be considered to have a conflict of interest. They have no incentive to give speedy approval to potential competitors. According to this source, regulations requiring a designation were previously not enforced, but this is now changing. UL or CSA labelling is no longer sufficient. Canadian exporters and building contractors operating in Mexico that we talked to, however, didn't raise the issue of certification as a problem.

B. NAFTA builds on the initiatives of the Canada-U.S. FTA

While technical standards are a corner-stone of international trade, they can and have been used effectively as barriers to trade. Any effective free trade agreement requires that all trade restrictive devices be eliminated, including those related to technical standards. Chapter 6 of the FTA and Chapter 9 of the NAFTA were the result of such considerations.

The NAFTA agreement is intended to build on the standards-related measures provided for in Chapter 6 of the existing Canada-U.S. Free Trade Agreement (FTA). In essence, the FTA calls for the national recognition of foreign testing and certification organizations and accreditation systems, the establishment of of compatibility between Canadian and U.S. standards and regulations, and the strengthening of information exchange.

Chapter Nine of the NAFTA - *Standards-Related Measures* - cover both the voluntary and mandatory technical specifications describing the characteristics of a product such as quality, performance, labelling, etc. The key elements of this "standards chapter" are summarized in Exhibit XI-1.

The National Research Council (NRC) has recently been requested to review the Mexican building standards in light of the above-noted terms of the NAFTA—that is, to address the standards-related issues that need be addressed prior to the implementation of the NAFTA. This process will be completed during 1993.

Exhibit XI-1
Summary of key standards-related NAFTA measures

Article	Description
903	The NAFTA affirms the existing rights and obligations relating to standards-related measures under the <i>GATT Agreement on Technical Barriers to Trade</i> .
904	<p>The Agreement will not require Canada (or the U.S. and Mexico) to lower existing health or safety regulations, nor will it impair the ability of Canada to enact or maintain more stringent regulations than the U.S. and Mexico.</p> <p>All standards and technical regulations must be applied in a non-discriminatory manner.</p> <p>No unnecessary obstacles to trade may be applied unless the purpose of the measure is to achieve a legitimate objective.</p>
905	The NAFTA encourages use of international standards and upward harmonization of standards and technical regulations among the three NAFTA countries.
906	The NAFTA continues efforts to make product standards more compatible . It establishes various working groups, which may include private sector representatives, to facilitate work in specific product areas.
907	Countries may choose the level of risk they deem appropriate , but measures must be scientifically justifiable. Scientific and environmental experts may be called upon to provide advice on factual matters.
908	Under the NAFTA, Canadian testing laboratories will be able to apply for accreditation in Mexico and the U.S. (and vice versa) on the same terms as domestic laboratories in those countries. This will enable Canadian laboratories to perform testing for products for sale in all three markets. ¹
913	The NAFTA establishes a Standards Committee to monitor the implementation and administration of this chapter and to address problems between the parties.

¹Note that on December 24, 1992, the CSA received recognition by the U.S. Occupational Safety and Health Administration (OSHA) as a Nationally Recognized Testing Laboratory (NRTL). As noted by CSA President John Kean, "along with continuing efforts towards harmonized standards, this recognition reflects the spirit of the NAFTA, as well as the needs of customers on both sides of the border".

C. Recent Mexican standards-related initiatives that will affect the building industry

The perception of Canadian builders and exporters currently working in Mexico is that building codes are ill-defined and not enforced. As noted in chapter VII, building codes also reflect the predominance of masonry construction. The emphasis is on strength and weight resistance, rather than wind and fire protection.

On the other hand, some scientific authorities feel that Mexico has a very well-developed building code, with a large amount of expertise in earthquake resistance. Mexican authorities have apparently put a lot of research into seismic affects since the 1985 earthquake. The difference between the two group's perceptions (exporters and scientific personnel) could simply reflect a problem of enforcement and distribution: Mexico may have well-developed codes that are not disseminated to the field.

In any event, Mexico has begun to take initiatives that will impact the building products and construction sector:

- ▶ **Initiatives to improve the coordination and openness of standardization within the country's public and private sectors**—New legislation authorizes federal ministries to issue compulsory product standards through consultative committees. Standards proposed by the committees will be referenced in Mexico's Diario Oficial and will be open for public review.

The legislation empowers Mexican customs officials to ensure that imports meet specific standards. The Canadian Exporters' Association has advised its members to obtain a certificate of conformity from SECOFI (Mexico's ministry for commerce and industry) for products entering the country.

- ▶ **Establishment of an accreditation system**—Mexico is in the process of developing an accreditation system. By late 1992, Mexico had accredited more than 100 Mexican laboratories to test products for conformity with Mexican standards.
- ▶ **Labelling**—In addition, as of November 1992, SECOFI had imposed new labelling requirements for imports sold directly to consumers. Unless all labels appear in Spanish, products can be refused entry to Mexico or may be impounded and a fine of 150 percent of their value levied.
- ▶ **Develop and coordinate standards**—As noted in Chapter II, NAFTA calls for standards agencies among the signatory countries to work together to develop standards and test procedures. Mexican authorities have already

agreed to participate with Canadian and U.S. bodies to develop and coordinate standards for plumbing products and fixtures.¹

D. Building standards opportunities in Mexico

Even though the U.S. has a considerable trade advantage with Mexico, Canada has some marketing advantages over the United States in offering technical assistance with respect to standards and codes:

1. Our uniform building regulations provide a competitive advantage.
2. We can help implement performance rather than prescriptive codes.
3. Canada's use of the metric system more closely matches Mexican needs.

The nature of each of these opportunities are described in more detail in the following text:

1. Our uniform building regulations provide a competitive advantage

The Canadian building industry is regulated by a consolidated/uniform system of building regulations—which is implemented by the National Research Council. This has been achieved by the provincial and regional adoption of the building-related codes and standards prepared by the National Research Council (NRC)—or by member organizations of the National Standards System (NSS). Exhibit XI-2 summarizes the extent of the adoption of the National Building Code (NBC) of Canada.

At the same time, this uniformity is not restricted to the NBC but is extended to the other codes produced and maintained by NRC's Institute for Research in Construction (IRC)—the National Fire Code of Canada, the Canadian Plumbing Code, the Canadian Farm Building Code, the Canadian Housing Code, and the Supplement to the NBC.

As noted earlier, Canada's uniform system is contrasted in the U.S. by a variety of authorities that draft codes. With the international move towards consolidated national (and international) standards, Canada is well-positioned to assist Mexico develop such a system.

¹From conversation with Peter Ridout, Canadian Standards Association, January 1992.

Exhibit XI-2
Adoption of the National Building Code by the provinces and territories

Province or Territory	Level of NBC Adoption
British Columbia	Adopts the NBC with a number of changes and publishes it as the B.C. Building Code
Alberta and Manitoba	Adopt the NBC by reference, making a few changes and additions. They publish their own provincial codes as the Alberta Building Code and the Manitoba Building Code.
Saskatchewan, Quebec, N.S., the Yukon & NWT	All adopt the NBC by reference, most with little or no change, and do not publish a separate code document.
Ontario	Does not formally adopt the NBC by reference in its Act of Regulations, as do the others, but the Ontario Building Code is based on the NBC, with a number of provincial changes and additions.
New Brunswick and Newfoundland	Do not have provincial legislation adopting a province-wide building code. However, N.B. requires that any municipal bylaw must adopt the NBC without change. Both provinces automatically update such municipal bylaws when a new addition of the NBC is published.
Prince Edward Island	Is the only province with neither a provincial code nor a program to achieve uniformity of municipal action. However, the larger P.E.I. cities voluntarily adopt the NBC, thus effectively achieving uniformity.

Source: Consensus, Summer 1992, National Standards System of Canada.

2. We can help implement performance rather than prescriptive codes

Because of the rapid introduction of new technologies into the Mexican building sector, it may be desirable for them to have a code that stresses performance requirements, rather than a rigid specification of acceptable techniques and materials. Canada has a well-developed system for evaluating building technologies, which may be useful in implementing performance rather than prescriptive codes. The National Research Council may be able to assist Mexico in drafting this type of code.

3. Canada's use of the metric system more closely matches Mexican needs

More than 20 years after Canada adopted the metric system of weights and measures, Canada's construction industry is a patchwork of the metric and imperial systems. The degree to which metric measurement is used varies from region to region, from product to product, and from user to user. There does not appear to be any consensus as to how this issue should be resolved. Even so, Canada's experience with both systems should prove useful in providing standards-related assistance to Mexico.

E. Importance of NAFTA

Opportunities to provide assistance in technology evaluation and drafting to codes should be actively pursued by the appropriate Canadian authorities. Exchanges of assistance and technology information should be regarded as a key element of Canada's export strategy. There are several reasons for this:

- ▶ Canadian assistance to Mexican authorities will help promote a positive image for Canada expertise in the building and construction sector. This will reflect favourably on Canadian building technologies and products and may provide an edge over foreign competitors.
- ▶ The information that Canada gains through technical exchanges and assistance programs may provide us with useful information that can be directed back to Canadian industry. This information can help Canadian firms develop products that better suit Mexican market conditions.
- ▶ More generally, Canadian assistance can bolster Canada's image as a good trading partner.

Appendix A

Summary Findings: Canadian Associations

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A total of 13 construction-related associations in Canada were contacted—3 representing housing builders and 10 representing suppliers of construction materials. The person contacted was a president/vice-president or an individual in charge of public relations for the organization. The discussions were open-ended in nature and topics covered include; the organization's role, its membership, and whether they have studied or conducted any research of Free Trade (NAFTA in particular). Listed below are the organizations contacted and a brief summary of the findings.

Canadian Construction Association (CCA)

The CCA represents both large and small corporations involved with the construction industry including contractors, trades people and manufacturers. They have been actively investigating opportunities in the U.S. and Mexico under NAFTA for their members. Efforts include internal research on NAFTA for their board of directors and maintaining an ongoing dialogue with the Mexican Contractor's Association. They previously endorsed a study on U.S. market penetration and opportunities under FTA. They are planning to conduct a similar study, possibly in association with the federal government, on Mexico and opportunities under NAFTA.

Canadian Homebuilders Association (CHA)

The CHA, which represents home building organizations, has done no significant research of NAFTA. In 1992, they prepared a report, "Competitiveness of the Housing Industry," which briefly discusses the impact of international trade on Canadian home builders.

Canadian Manufactured Housing Institute (CMHI)

The CMHI represents all major Canadian housing manufacturers (modular, mobile, etc.). While they are actively involved in facilitating trade initiatives for their members, they do not feel there is a lot of opportunity in Mexico for home builders given a perceived inability to finance projects in that country. Their main targets for export opportunities are Germany and the E.C. Currently, they are conducting a statistical study of the U.S.

housing market to examine a breakdown of different types of housing being produced and uncover import and export markets. They have no plans to study NAFTA in particular.

Council of Forest Industries of B.C.

This group is a member of the Canadian Wood Council. They have done some foreign market development studies where they looked at issues such as market access, building codes, standards and a general review of market conditions in new market areas. Some research in Mexico was done by David Cartwright, Market Development Officer. These research studies are for internal and member use only.

Ontario Forest Industries Association

Trade issues are generally not within this association's scope. They deal mainly with provincial government policy matters such as labour, environment, forest management and forest resource policies. While they rarely deal with federal government matters, such as trade, they did research the countervailing duties issue from a resource policy point of view.

Interior Lumber Manufacturer's Association

The President of this Association has done some work on the countervailing duties issue. They are interested in how well the binational panel (under the FTA) works since this would affect the forestry industry. However, they have not studied NAFTA in any detail since lumber is exempt under the agreement.

Canadian Portland Cement Association (CPCA)

This group has done no significant research on the implications of NAFTA for its members since trade issues are not within their role (they are funded by Canadian and U.S. organizations). They leave the investigation of trade issues up to their individual members. They did not feel that NAFTA would greatly affect their members since there have been no tariffs on cement for decades.

National Floor Coverings Association

This group has not conducted any research of NAFTA or export opportunities. They are more concerned with, and have looked at, the effects of imports.

Associations that do not research trade issues

The following associations deal primarily with technical issues such as standards, regulations, quality control, etc., and do not research trade issues or examine market opportunities.

- ▶ Ontario Lumber Manufacturer's Association
- ▶ Canadian Wood Council
- ▶ Canadian Institute of Pressure Treated Wood
- ▶ National Concrete Producer's Association
- ▶ Canadian Hardwood Plywood Association (CHPA) (associated with Canadian Window and Door Manufacturer's Association, Canadian Kitchen Cabinet Association and the Canadian Lumbermen's Association).