Study of Insurance Costs for Mid-Rise Wood Frame and Concrete Residential Buildings

Executive Summary

GLOBE Advisors recently conducted a (2015) study of the property insurance costs for wood frame and concrete mid-rise residential buildings on behalf of the Concrete Council of Canada, with a view to identify the risk factors affecting differences in insurance rates between the two building systems. The data for this report was drawn from the relevant published literature as well as interviews with industry experts under the condition of non-attribution.

Property insurance for buildings can be divided into two types or phases: the construction phase where insurance is purchased by developers and contractors and the operational phase where insurance is purchased by strata managers and condo owners. Each of these two phases involves an analysis of different risk factors.

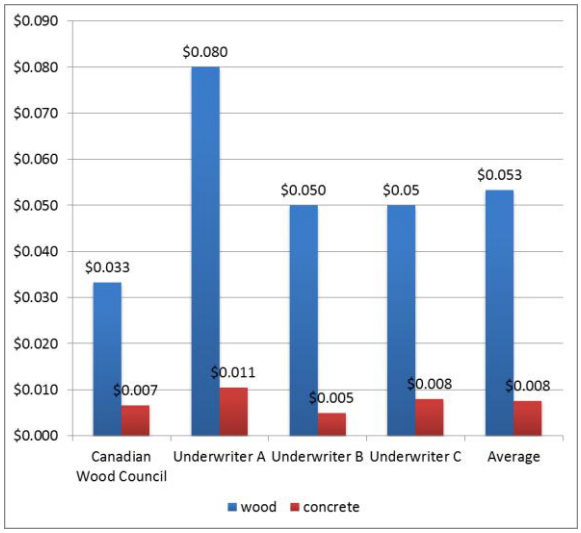
Construction insurance risks include, but are not limited to, fire, building envelope breaches (such as those from water), quality of materials, skill levels of contractors, security practices, and claims history. Risks for the operational phase primarily involve underwriter risks portfolios, strata and condominium operational practices, claims history and building management capabilities. While property insurance expenditures grew at 7.5% annually between 2007 and 2013, rate setting practices are generally not well understood by consumers, developers, building contractors and strata managers alike, which can lead to complications and financial strain when claims arise. This is particularly true for mid rise wood frame buildings, five stories and greater, that have only recently been approved by provincial and national building codes.

The research for this study shows that the costs for insurance, maintenance and calamity repairs over the life span of a building carry major cost implications for developers, strata managers, and condominium owners.

Insurance premiums are determined largely on the basis of perceived risk – how likely it is that a customer or group of customers in a given area will make a claim, and how much it will cost.

Consultations with brokers, underwriters and property managers confirm a substantial differential in the costs to insure wood frame buildings compared to comparable buildings constructed primarily of non-combustible materials. Interviews with three underwriters and data from the Canadian Wood Council (CWC) show that builders' risk insurance rates per $100 monthly for comparable wood and concrete buildings to be on average $0.008 for concrete and $0.053 for wood. When excluding the rate provided by CWC for wood frame insurance, which was significantly lower than that the rates provided by the underwriters, the average rate for wood buildings rises to $0.06, a factor of 7.5 times greater than that for concrete buildings.

Course of Construction, Builders Risk Insurance Rates per $100 Monthly



Source: Data drawn from Confidential Interviews and Canadian Wood Council[i]

Due to the mix of factors involved in ongoing strata operations, it is difficult to determine exactly the rate differentials between wood frame and concrete buildings for the operational phase. However, as a result of the differences in risk factors detailed below, rates for strata and condo owners are higher for wood frame buildings and it is generally much more difficult for strata managers to secure adequate and affordable coverage for such buildings. Many insurance companies in Canada are hesitant to underwrite wood frame structures, or will aggressively limit their risk exposure for such structures, during construction and over the life of the asset. Others will rely on more costly re-insurers.

Risk due to Fire

The fire insurance portion of property insurance is anywhere from 7 to 11 times higher for wood than for concrete structures, reflecting the far greater fire peril due to wood's combustibility. Fire damage to a wood frame structure can result in a total loss, whereas for concrete, the financial loss is only partial. Only 1% of concrete buildings are demolished due to fire, compared to 8% of wood frame buildings.

The 'higher risks – higher rates' issue extends beyond the individual building complex or project. A higher fire risk in the entire built environment – for example if more combustible structures are present– affects the amount of public fire protection required to meet the total risk level in the built environment. This in turn affects not only insurance costs, but also municipal budgets.

Risk due to Water, Moisture and Mold

One of the key points emerging from this research was the importance of moisture control, both during construction, and over the life of the insured asset. For wood framed mid rise buildings moisture management is a difficult and expensive process during both of these phases.

Wood frame structures are far more susceptible to mold, and also to rot, something that is far less an issue for concrete structures. During the construction phase, rain water (especially in moist climates) can lead to large scale,

later stage damage. Best practices for wood frame construction in some European countries involve tarping an entire building to prevent the incursion of rain water, and the application of a breathable membrane to permit moisture to evaporate. Such practices are not codified in Canada and are therefore generally not followed.

Water damage is already the leading cause of residential claims costs in Canada, and they are rising rapidly, by one estimate more than doubling in the last decade. Water damage tends to spread more rapidly and remain undetected longer in wood frame compared to concrete structures, sometimes not becoming evident until after the builder's warranty has expired. Undetected leaks in pipes or cladding in a wood frame building can render the structure unsafe or even uninhabitable due to extensive rot and mold. BC's "leaky condo" problems are known internationally.

Other Risk Factors: Climate Change

Climate change is also playing havoc with insurance claims. Payouts from extreme weather have more than doubled every 5 to 10 years since the 1980's, and are now a leading cause of property insurance claims. Given the growing catastrophic risk perils, the difference and nuances in insurance between wood frame and concrete buildings may become less clear in the future.

Insurance Market

One significant finding of the study is the difficulty in obtaining insurance for wood frame structures. Many insurance companies are starting to limit their exposure to these buildings, while others will not underwrite wood frame buildings at all. Insurers in this market are also reluctant to be the sole underwriter, therefore coverage must often be spread among a pool of insurers, increasing costs and complicating claims. Insurers tend to mitigate the heightened risks by imposing higher deductibles, and redirecting risk at reinsurance markets that are not yet federally regulated and are often offshore. Past experience has shown that reinsurance contracts are not always enforceable, which can lead to the failure of the insurer.

Home warranty concerns are also highly relevant for strata owners in wood frame structures. In 2014, in BC, only 8% of claims filed under home warranties from multi-unit residential buildings were paid; 51% were "resolved by builder" and 41% denied. Condo owners in wood frame buildings therefore carry greater individual financial risk, and the data shows they may not be covered by their home warranty.

In Closing

Given that we can expect the construction of more mid-rise wood frame structures in cities across Canada due to the allowances permitted by the building codes, it is important to know today the ramifications of this trend in terms of public safety, municipal budgets, homeowner risk exposure and contractors liabilities, so that all affected parties can plan accordingly.

Due to the enormous costs that developers, contractors and builders face when constructing mid-rise residential structures, and the costs that strata managers and condo owners face over the building's lifetime, a concerted effort must be made to engage the major players and build better awareness of the factors that influence insurance rates and how rate differentials between different classes of buildings can be lessened through best practices during and after construction.

So too, there is need for a definitive comparative assessment of total life-cycle costs of wood frame and concrete structures, taking into consideration not only changing technologies and related costs of building products, but also the longer term costs of building operation, maintenance, and decommissioning.

Improved construction and strata management practices have the potential to narrow the cost differential of insurance rate premiums between wood frame and concrete mid rise buildings. However, to date there is little evidence that such practices are being followed and little evidence that insurers have the right information or comfort levels to enable adjustments to existing rate setting practices.

[i] Fire Safety and Insurance in Commercial Buildings, Canadian Wood Council. While the CWC insurance comparison was for a commercial building, the shell costs for wood frame versus concrete commercial structure will involve much higher Builders Risk Insurance for wood frame than concrete similar to the differential for residential structures. The CWC builders' rate differential was included as a point of comparison to the rates derived from interviews with underwriters. The CWC rate differential, while on the low side of five to one was nonetheless possible, but not probable. The rate differentials for wood relative to concrete based on interviews with underwriters ranged from six to one to ten to one. http://www.cwc.ca/documents/case_studies/Fire_Insurance.pdf