



# Building supplies market study—preliminary issues

**Evidence for Affordable Building Coalition to Commerce  
Commission**

MARCH 2022

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# Definitions

<b>ABC</b>	Affordable Building Commission
<b>BCA</b>	Building Consent Authority
<b>BRANZ</b>	Building Research Association of New Zealand
<b>CBD</b>	Central Business District
<b>CPI</b>	Consumer Price Index
<b>GST</b>	Goods and Services Tax
<b>NASH</b>	National Association of Steel-Framed Housing
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PPI</b>	Producer Price Index
<b>RBNZ</b>	Reserve Bank of New Zealand
<b>RMA</b>	Resource Management Act
<b>USG</b>	United States Gypsum

# Executive summary

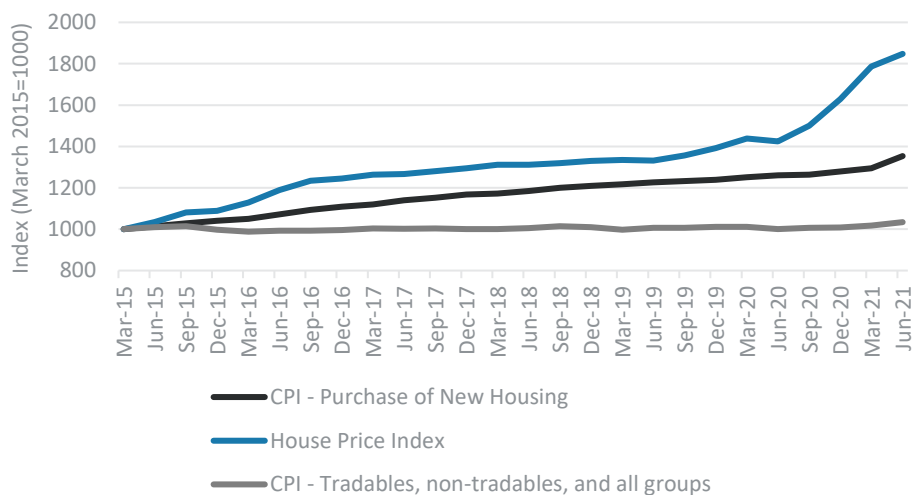
The Affordable Building Coalition (ABC) represents a group of building sector consumers, civil society groups and other parties that are interested in improving the efficiency and affordability of New Zealand’s construction sector. The Commerce Commission (Commission) is conducting a market study into residential building supplies (market study) and prepared a Preliminary Issues Paper, inviting submissions which were published in late February 2022. Castalia has been appointed by ABC to provide evidence and analysis to support its submissions and engagement with the Commission and other government agencies.

Overall, it appears the Commission is covering the appropriate markets, but there is a risk that the market study may focus on lower priority issues. Therefore, we wish to point out some key issues and relevant evidence. This report addresses key issues raised by the Commission and by submitters on the Issues Paper. It makes five major points:

## Competition in building supplies directly impacts housing affordability

Submitters have claimed that building supplies do not significantly impact housing affordability. This is incorrect. Analysis of the contribution of construction costs to house price increases shows that building supplies markets and construction markets contribute to the housing affordability problem. Furthermore, to the extent that building supplies market constraints delay house building, this is capitalised into land prices, further contributing to house price rises. Growing margins in the building sector also contribute to the housing affordability problem.

**Figure 0.1: Construction cost increases are a significant factor in house price rises**



Source: Statistics NZ, Reserve Bank of New Zealand (RBNZ)

We recommend that the Commission include plumbing and electrical supplies in its market study. These products contribute to the cost of housing, and costs have increased faster than other relevant indices in the recent past.

The Commission should also look to the role of standardisation in building supplies and house assembly. Submitters have suggested that consumer preferences for “bespoke” housing drive the construction market structure. New Zealand has adopted standardised building techniques in the past and should do so in future—much like in comparator countries. This is particularly important as the “economy class” segment of the market has been underserved in recent history, suggesting the market structure influences affordable housing delivery.

## **Independent benchmarking is needed to avoid poor-quality evidence**

We encourage the Commission to independently benchmark costs. We have analysed many key building supplies costs and find that New Zealand is disproportionately represented at the more expensive end compared to the other countries with which New Zealand is typically compared.

The Deloitte Report commissioned by Fletcher and referred to by several submitters and the Commission is biased and unreliable. It is highly selective in the building supplies, localities, cities, and countries it uses to make comparisons. This bias results in a report that understates the extent of the cost and structure problems in the New Zealand residential building supplies markets.

## **Building supplies industry structure drives poor downstream productivity**

There is a critical link between building supplies industry structure and the related construction of houses. Market structure issues in product markets drive downstream productivity issues. The literature surveyed here by Castalia is clear. Therefore, the claims by various submitters that building supplies comprise a small component of overall housing costs are further weakened. There is a direct link from building supplies markets to the productivity of New Zealand construction sector workers. Productivity improvements will translate into higher wages (for example, Australian construction wages are 25 percent higher than New Zealand’s). Since building supplies and construction costs amount to 81 percent of the cost of housing (excluding land and infrastructure), the functioning of building supplies markets is critical to the entire housing supply chain.

## **Nature of competition probably leads to higher prices**

The nature of competition for construction likely leads to higher prices for building supplies. There is a principal-agent problem that should be analysed, where builders (consumers’ agents) tend to compete on labour costs and pass on the cost of building products to consumers. Fletcher’s own survey evidence shows that builders do not compete on building supplies prices. It surveyed 320 builders and found that price is ranked low as a factor in supplies purchasing. This pass-through conduct impact on prices is also supported by the literature.

The possibility of coordination or accommodating behaviour cannot be ruled out. Many of the key conditions for coordination are present at the merchant level. There is a history of price-fixing conduct in the distribution and retail sector. We have been advised of various anecdotal accounts and understand this information will be provided to the Commission in the course of the market study.

## **Regulatory barriers contribute to higher costs**

We note that regulatory barriers likely lead to higher costs. We outline how the role of consenting authorities and standard-setting bodies can influence the market for building supplies.

## **Framework for thinking about interventions**

Finally, a note on the relevant framework for this market study. As the Commission formulates its framework, it needs to consider potential interventions. In the recent grocery market study final report, the Commission focussed on matters squarely in the purview of competition authorities. However, in the housing market context, it is important to recognise that the government and government-funded entities are some of the biggest participants. We therefore encourage the Commission to consider how the government, and the government as a scale purchaser of residential buildings and construction services, can engage with the market and improve markets for residential building supplies. This should include a consideration of how the social housing market segment is served, and how the government as the largest procurer of construction services and building supplies engages with the relevant markets to support improved outcomes for all New Zealanders.

# 1 Introduction

The Commerce Commission (Commission) is conducting a market study into residential building supplies. It released its Preliminary Issues Paper on 17 December 2021. The Commission received submissions from various parties on 4 February 2022 and published these on 25 February 2022 (the submissions).

Castalia has been appointed by the Affordable Building Coalition, a group representing various building sector participants and civil society organisations, to provide analysis of the issues raised in the Preliminary Issues Paper and the submissions.

This report addresses the questions in the Commission's Issues Paper and submissions from various parties to that Issues Paper. It is structured as follows:

- Comment on the Commission's approach to key issues (section 2)
- Why the Commission needs to independently benchmark costs, including because Fletcher's Deloitte Report is seriously flawed (section 3)
- How the building supplies industry structure drives poor productivity in the construction sector (section 4)
- How competition is impeded by conduct (section 5)
- How regulatory barriers influence costs and the role of government in the solutions (section 6).
- Appendix A contains detailed cost comparisons between New Zealand and other relevant jurisdictions.
- Appendix B lists the multiple flaws in Fletcher's Deloitte Report, which has been cited by numerous submitters and the Commission itself.



## 2 Commission's focus areas

This section outlines how key building supplies markets should remain in focus. We also explain how Castalia's independent construction cost data analysis shows New Zealand has high building material costs. The Deloitte Report commissioned by Fletcher (and referenced by a number of parties) is flawed and should not be relied upon in this market study.

### 2.1 Competition in building supplies industry impacts on welfare of all New Zealanders

Question number	Also addressing submissions from
1-3 59-60	Frame and Truss Manufacturers Association (Frame and Truss), HW Richardson Group Limited (HW Richardson), Fletcher Building Limited (Fletcher), Registered Master Builders Association (RMBA), New Zealand Construction Industry Council (NZCIC), and Mitre 10

#### *New Zealand house prices are very high and construction costs are a material factor*

The Commission should focus on the contribution of building supplies to housing costs. This is because the costs of construction set the prices for all houses in areas where housing demand exceeds supply. Where housing demand exceeds supply, house prices in the regional market are set by the cost of constructing the marginal new house. Since housing demand is very high in most places, house prices will be influenced largely by the cost of constructing the marginal new house.

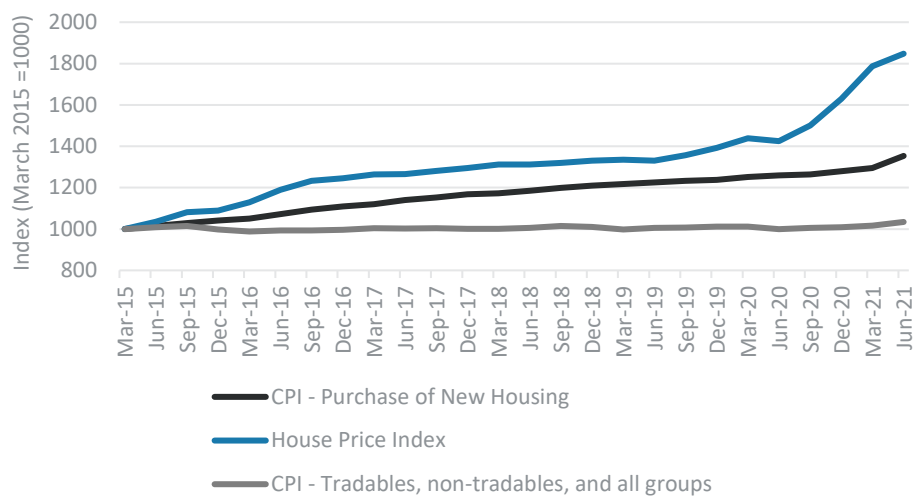
New Zealand has very high house prices by most measures. House price to income ratios in major cities are among the highest in the developed world. Since prices are related to the cost of constructing new houses (in locations where demand exceeds supply), the costs of construction are highly relevant. The cost of constructing a new house is determined broadly by the costs of land, infrastructure and building supplies and construction labour. Submitters are correct that high land prices and cost and sequencing of infrastructure contribute to the price of housing.

When house prices rise, two factors are likely to contribute to those prices:

- Cost of construction (building supplies, labour and related costs like professional fees)
- Land prices, which capitalise in:
  - Planning, resource consenting and infrastructure provision delays
  - Delays caused by the construction and build material markets.

This is supported by the evidence. The cost of building supplies and the cost of the inefficiencies in the construction sector has been a material driver of housing costs in the past five years.

**Figure 2.1: Construction cost increases are a significant factor in house price rises**



Source: Statistics NZ, Reserve Bank of New Zealand (RBNZ)

The above chart shows how construction costs increases (black line, measured by the Consumer Price Index (CPI) for new housing, which excludes land) have been a significant component of house price rises (blue line) over the past seven years.<sup>1</sup>

Land price rises have also contributed to house price rises. If the building and construction market is not working because the pace of construction is slower than demand, then land prices will be capitalising on the delays in new construction. Therefore, to the extent that land prices capitalise on the cost of delays related to construction supplies and labour, the building supplies market has also contributed to the increase in land prices. We therefore encourage the Commission to carefully consider the role of building supplies in land markets, and treat industry claims that land price increases are unrelated to the building supplies sector with appropriate scepticism.

*Margins are increasing in the construction sector*

Question number	Also addressing submissions from
26	Fletcher, NASH

An analysis of the price indexes for the construction industry provided by Statistics NZ indicates that the ‘Producer’s Price Index (PPI) – Building Construction Input’ Index<sup>2</sup> has increased by 24.9 percent between March 2015 and December 2021. Over the same period, the ‘Producers Price Index (PPI) – Building construction output’ index<sup>3</sup> has increased by 38.4 percent. This indicates a widening gap between the ‘prices paid’ and ‘prices received’ by

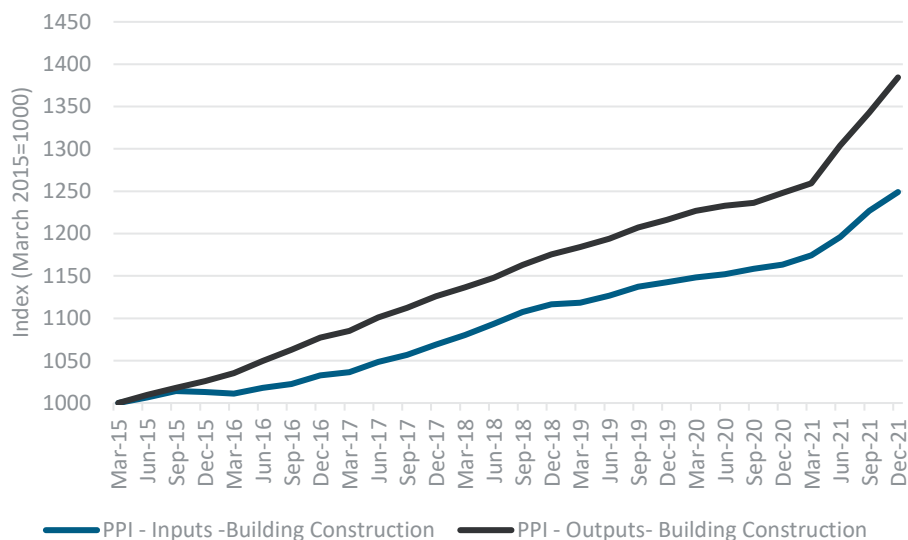
<sup>1</sup> The Statistics NZ “CPI purchase of new housing” measure is a price index of newly constructed dwellings excluding the value of land. The “House prices index” is from RBNZ/Corelogic and measures house price changes for all of New Zealand.

<sup>2</sup> Measures changes in prices paid by producers in the industry for inputs such as raw materials, fuel, and services excluding labour and capital costs paid by these businesses.

<sup>3</sup> Measures changes in prices received by producers in this industry for the outputs they produce. It includes both new construction and the cost of ongoing maintenance and services.

businesses within the construction industry, suggesting that margins are growing. The building construction indexes include both residential and non-residential building construction. This is in contrast with the indexes for the ‘Heavy and Civil Engineering Construction’, where the PPI input index has grown by 21.74 percent between March 2015 to December 2021, whereas the PPI output index has grown only by 18.98 percent.

**Figure 2.2: Margins are growing in the building construction sector**



Source: Statistics NZ

*Affordable housing market segment should also remain in focus, especially to meet the needs of Māori*

Question number	Also addressing submissions from
<b>3</b>	None

The Commission should also ensure it keeps the entry-level housing market in mind. New Zealand house building costs are higher than in other countries, particularly at the affordable end. Māori are a growing proportion of the population, and are disproportionately younger than other groups (median Māori age is mid 20s compared to mid 30s for the general population<sup>4</sup>). Therefore, to meet its Te Tiriti of Waitangi obligations, the market study should ensure the analysis focusses on entry-level housing for young people and families (that by definition meets standards on warmth, dryness and quality) and the industry and market structures that would permit this.

*Plumbing and electrical should be in scope*

Question number	Also addressing submissions from
<b>7-10</b>	Master Plumbers, HW Richardson, Fletcher, and RMBA

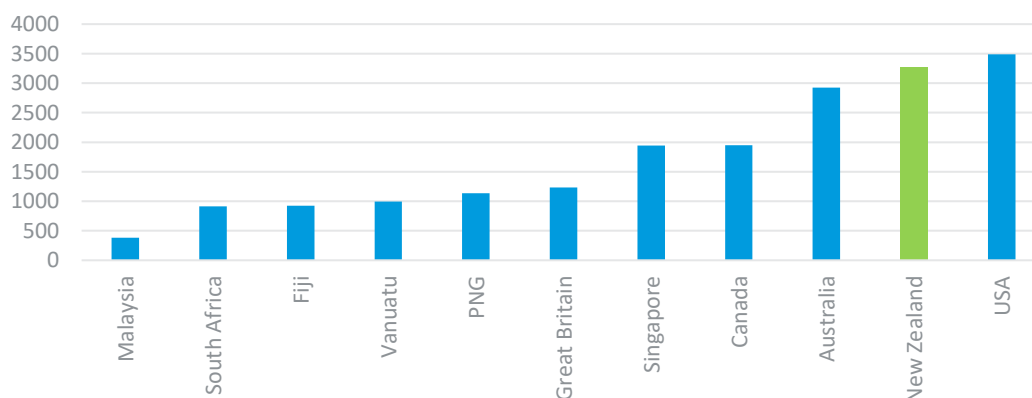
<sup>4</sup> See <https://www.stats.govt.nz/information-releases/maori-population-estimates-at-30-june-2020>

Plumbing and electrical products should be included in the market study. Those products comprise a significant proportion of the total costs of house construction. Plumbing material costs amount to around 8 percent (for a medium standard individual house) of the average cost of housing (excluding land and infrastructure). The plumbing distribution market is dominated by three merchants, one of which is owned by Fletcher, the vertically integrated firm with significant market share in upstream and downstream markets. Electrical material costs amount to around 2.5 percent of the average cost of housing (excluding land and infrastructure).

Statistics NZ’s Producer’s Price Index for selected commodities indicates that prices for water, plumbing, and drain laying services increased by 33.73 percent between March 2015 and December 2021. While increase in labour costs may be a contributing factor, the increase in prices for plumbing services is significantly higher than increase in prices for special trade construction services such as building and roof framing, structural steel erection, foundation, scaffolding and concrete services which increased by 22.89 percent over the same period.

The increase in prices for water services, plumbing and drain laying services may be attributed to the fact that plumbing material costs in NZ are one of the highest among comparator countries. Our analysis indicates that NZ ranks among the top 3 in costs for sanitary fixtures such as W.C. suite, wall basins and sinks/drainers. Figure 2.3 sets out costs for plumbing fixtures in NZ compared to other jurisdictions. Appendix A sets out more detailed comparative of building supplies costs in New Zealand and other jurisdictions.

**Figure 2.3: Costs for W.C. Suite (including pipework) across jurisdictions**



*New builds are most relevant, less so renovations*

Question number	Also addressing submissions from
2	Frame and Truss, NASH

New build supplies costs are most relevant to the market study. The renovation market is highly bespoke, involving non-standard sizing, and a mix of new and recycled building supplies in the construction. Renovations are typically of mid-market to premium quality homes.

The new build market will include the “economy ” segment, where prices for commodity building products would typically be set. The role of the economy market segment in setting

benchmark prices for the whole sector should be explored. This is typically a feature in other product and service markets—the middle market segment sets prices throughout the cost-quality spectrum, for example in aviation, automobiles and grocery. In all of those markets, suppliers meet minimum safety, security and health standards—which would also apply in building supplies markets. The Commission should be alive to the risk that market incumbents confuse between premium and luxury market segments and the mid-market/economy segment.

## 2.2 Commission should look to possibilities in other markets

Question number	Also addressing submissions from
4-6	Fletcher, Frame and Truss, HW Richardson and RMBA
11-12	
24	

The Commission should look to other countries to see what is possible and consider how workable competition in relevant markets can be achieved. Industry structure, regulatory conditions and market participant behaviour contributes to the availability of housing and typology of housing supplied. Other countries have market structures that contribute to vibrant and diverse building supplies markets and new housing markets for all segments.

For instance, the Commission should test how New Zealand could follow other developed countries that have large-scale homebuilders and assemblers that operate at scale.

However, from the Issues Paper, the Commission may assume that the New Zealand building sector has unique characteristics due to consumer preferences or some unique factors. While there are unusual features of the market and regulations that should be tested, these should not excuse the existence of market structure issues that permit high prices and a lack of competition. For example, the Commission notes that plasterboard is used as a bracing element, and that this is globally unique, but the Commission does not address the reason for this unique feature. The Commission should test the common assumptions for why the New Zealand market is the way that it is.

*Commission should avoid adopting industry claims of consumer preferences for bespoke housing*

Question number	Also addressing submissions from
11-12	Fletcher, Frame and Truss, HW Richardson and RMBA

The Issues Paper and various submissions refer to “unique characteristics”, including preferences for bespoke housing. This is a misconception, and could result in the Commission failing to differentiate between the high-end market and housing for average New Zealanders. If given a choice, we expect that the homeless or people currently housed in motels or vehicles would prefer standardised, non-bespoke, housing to bespoke houses. Therefore, the Commission should carefully examine any building industry claims to the contrary.

The current typologies of new housing (mostly high-end, semi-bespoke) are a consequence of the current market structure. The Commission should not assume that New Zealanders prefer bespoke and premium homes because the current market structure delivers more of these.

Throughout New Zealand history, and currently, in many international markets, houses are built using standardised products and building techniques, enabling scale and lower costs. This does not always result in completely uniform housing—standardisation of components and typologies can be with regard to structural elements or key building components.

It is also important to recognise that “bespoke” housing is not a fixture of the New Zealand market. Standardised housing where efficiencies and economies of scale are maximised could be achieved again. For example, 100 years ago, New Zealand railway cottages were built as pre-cut kitsets in a factory in Hamilton and distributed throughout the country. In the 1970s, when the building consents per 1,000 population was last at its peak, various “economy” segment builders produced prefabricated homes at scale, including Beazley Homes, McRae Homes, Modulock Homes, Industrialised Building System, Vintage Homes.<sup>5</sup>

In developed countries, social housing and entry level housing is delivered at scale and is standardised. Innovative, cost-lowering techniques are used, such as off-site manufacturing, modular building components, standard sizing of wall and window components and providing complete plumbing or electrical kits.

*Social and affordable housing is an important and underserved market segment*

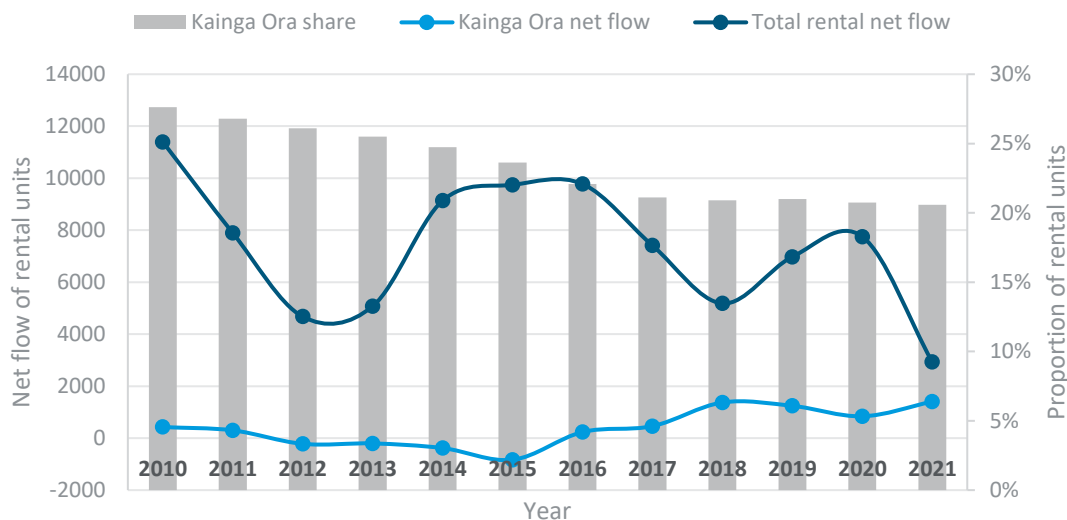
Question number	Also addressing submissions from
11-12 59	No submissions have addressed this particular point.

Social housing has been built at a much lower rate than private market housing. The current market structure reflects that social housing—typically the lowest cost and most standardised market segment has been absent. The cost of building supplies—with the current market structure and potential competition issues—are probably a contributing factor to the ability to provide social housing.

Figure 2.4 below shows how social housing, as a share of the total stock of rental housing, is falling, and that net additions of social housing to the total stock has been low. This has occurred during a period of strong population growth and rising house prices and rents. We encourage the Commission to bear in mind that the building supplies markets should serve this market segment.

<sup>5</sup> Bell, P (2009), Prefabricated Housing in New Zealand.

Figure 2.4: New Kainga Ora housing compared to new general market rental housing



Sources: Kainga Ora, MBIE bond data

*Retirement housing segment shows how standardisation can lower unit costs*

The retirement industry also builds standardised (non-bespoke) units that perform an important function in the overall housing market. Retirement units provide safe, warm, dry housing for seniors and free up housing stock in the general market for families and other buyers. The sector, and in particular the in-house design and build model of some firms, provides a model for how construction delivery can lower unit costs.

### 3 Commission should independently benchmark building supplies costs

Question number	Also addressing submissions from
23-27	Frame and Truss, Mitre 10, RMBA, Fletcher, WPMA, HW Richardson
<b>Global comment</b>	This section relates globally to the use of data in the Commission’s work.

We have carried out our own analysis of key building material costs. We find that New Zealand costs are systematically higher than other jurisdictions. We also find that the Deloitte Report commissioned by Fletcher is seriously flawed.

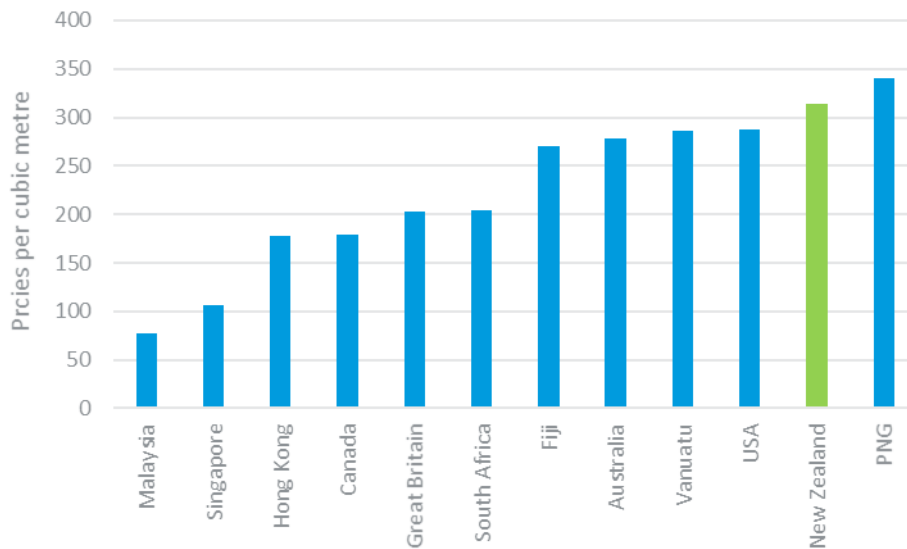
We, therefore, encourage the Commission to undertake its own independent analysis and benchmarking of building material costs. If the Commission does not develop its own benchmarks, there are real risks of conclusions being undermined.

### 3.1 Benchmarking of building material costs indicates New Zealand costs are high

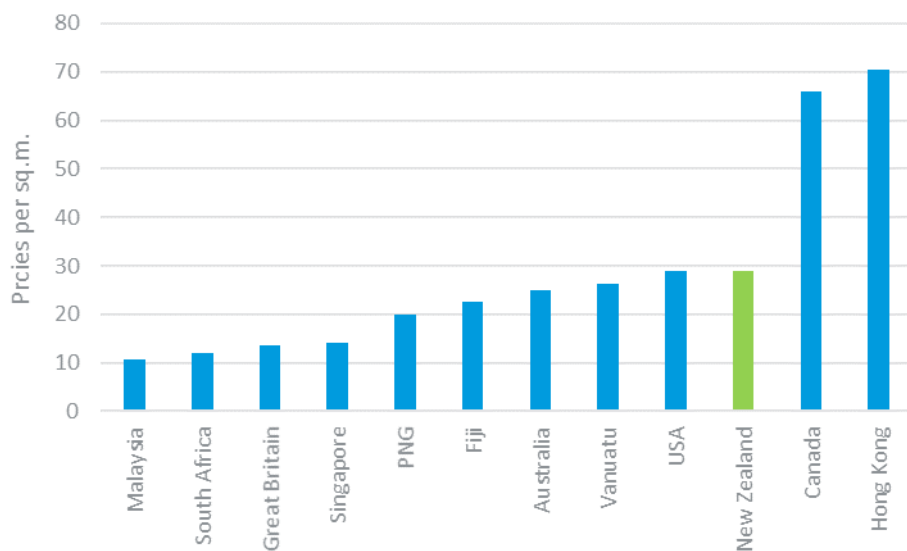
Independent data sources show that New Zealand building material costs are high compared to other countries. We compared the costs of key building supplies and included all countries listed in the data source, such as New Zealand, Australia, United States, Great Britain and other developed and developing countries. Our analysis indicates that prices are relatively higher in New Zealand compared to other jurisdictions, especially for concrete and plasterboard. Figure 3.1 illustrates some key cost comparisons for concrete and plasterboard. Appendix A sets out more detailed comparison of building supplies costs in New Zealand and other jurisdictions. We can refer the Commission to these publicly available data sources.

**Figure 3.1: Concrete and plasterboard costs (USD) in various jurisdictions**

#### Concrete



#### 10mm plasterboard



Source: Castalia analysis of industry data



We encourage the Commission to bear in mind the prevalence of particular building supplies in countries that it benchmarks against. For instance, the Commission should take into account that most houses in Ireland are built with bricks, so the impact of high timber prices (almost all timber is imported) is comparatively low when spread across all houses. In contrast, even moderately higher timber costs in New Zealand would push up construction prices significantly as timber is such a large cost component. Therefore, the Commission should benchmark against a sample of countries that build with timber (for example, Japan, parts of the US, Scandinavia, Australia) in a similar way to New Zealand to ensure relevance.

### **3.2 Deloitte Report is unreliable and biased**

Fletcher Building Limited (Fletcher) commissioned Deloitte Access Economics to prepare the report “*Cost of residential housing development: A focus on building materials*” in 2018. Fletcher and other submitters have cited the Deloitte Report in submissions. The Commission also referred to this report in the Preliminary Issues Paper.

The Deloitte Report is unreliable. It appears biased and systematically selective. It reaches unreasonable conclusions about the level of building supplies costs in New Zealand compared to other developed and developing economies.

Appendix B sets out our in-depth criticism of the Deloitte Report. The major points are:

- Deloitte systematically chose countries, cites and locations to compare to New Zealand, which provide a biased view of the level of costs in New Zealand. For example, it compares the local authority with the highest property prices in Victoria to compare against a suburb with low prices in Auckland
- Deloitte is selective in its choice of building supplies to compare, and when it does compare costs between countries, the results portray New Zealand costs as lower than they are

We therefore encourage the Commission to consider the evidence we provide in this submission, as well as carry out its own independent benchmarking analysis.

## 4 Industry structure causes lower productivity and higher prices

This section addresses the Commission’s questions on industry structure. We first discuss market concentration and the link to productivity. We then address vertical integration and the possibility of foreclosure.

### 4.1 Market concentration lowers industry productivity

Question number	Also addressing submissions from
28-34	Fletcher, Frame and Truss, Mitre 10, Property Council, RMBA, Wood Processors and Manufacturers’ Association, HW Richardson

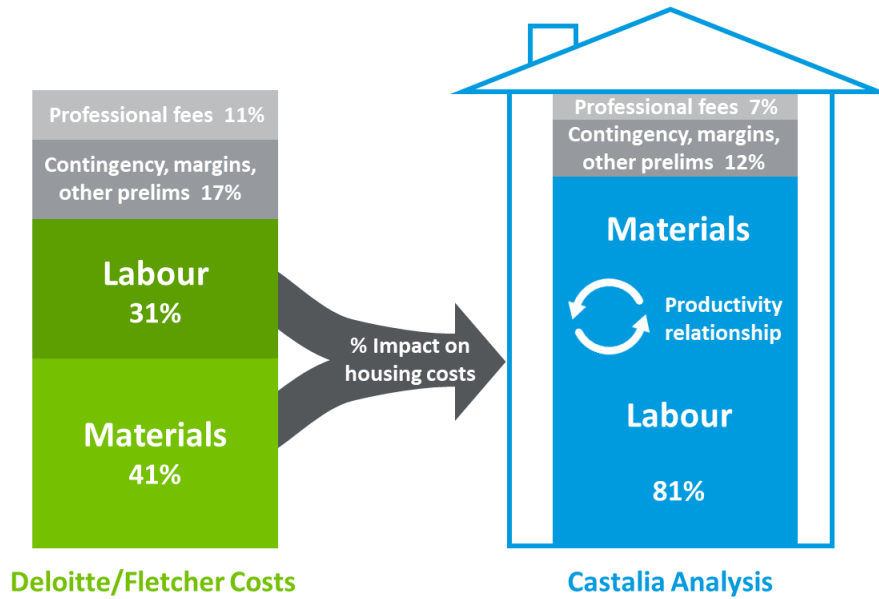
Economic literature shows a clear link between market concentration in upstream markets and lower productivity in downstream markets. The industry structure in the building supplies market affects productivity of building firms in the building services market that serves consumers.

*Building supplies market affects downstream labour productivity—building supplies and labour productivity are inextricably linked*

The Commission should bear in mind that the building supplies market affects the construction and house assembly market and productivity. We illustrate the linkage below. Building supplies markets can directly influence the productivity and, therefore, labour costs of construction. For example, in a building supplies market that is competitive, producers will compete to develop supplies that are more efficient to install, thus reducing install time/effort and increasing productivity.

We contrast Deloitte’s assessment of the separation of labour and building materials and compare this to Castalia’s analysis of standard industry data sources. Castalia finds that the construction cost (excluding land, infrastructure and GST) amounts to 81 percent of the total cost of building. We used the same sources as Deloitte and those sources blend materials and labour costs. Deloitte calculates a labour and building materials split (but does not disclose how this was done). Since all building supplies require installation, it is important to keep the link between the two in mind.

**Figure 4.1: Relationship between cost of materials/supplies and labour productivity**

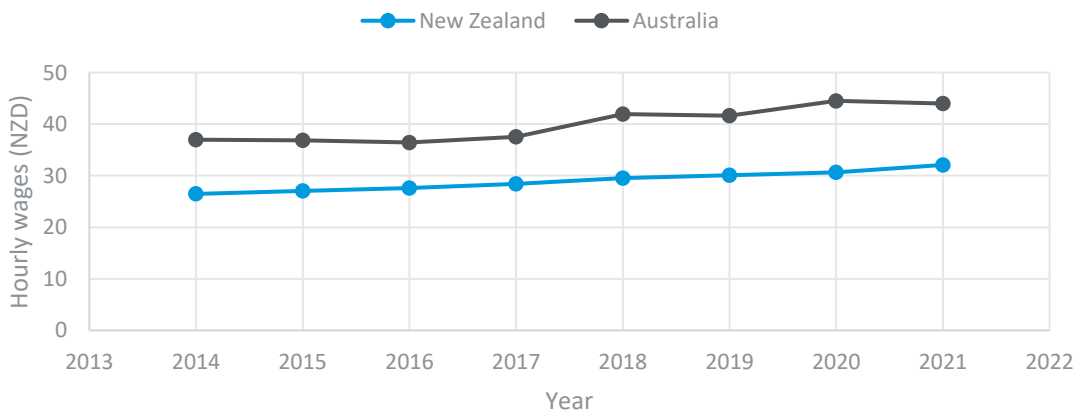


Sources: Deloitte Report, Castalia analysis of industry data

*Improving construction productivity would probably raise wages of New Zealand builders and other tradespeople*

Improving the productivity of the construction sector would also lift wages. Productivity and income are intrinsically linked. Since the 1990s, Australia and New Zealand have seen a growing divergence in productivity. Overall labour productivity now stands 20 percent higher in Australia than New Zealand. The construction sector is no exception. As a result, there is a persistent gap between construction sector wages in Australia and New Zealand, as shown in Figure 4.2. Australian builders and skilled tradespeople now earn 37 percent more than their New Zealand counterparts.

**Figure 4.2: Construction sector mean hourly wages in Australia and New Zealand**



Source: Stats NZ, The Australian Statistics Bureau

By removing barriers to productivity growth in the construction sector, not only will New Zealand households see more efficient builds, New Zealand’s builders and tradespeople will also earn higher incomes.

*Literature confirms that market concentration in upstream markets lowers productivity in related and downstream markets*

The literature confirms the relationship between upstream market structure (for example, building supplies) and downstream productivity (for example, construction). Regulations or other barriers to entry upstream that constrain competition can have significant indirect negative effects on the productivity of downstream sectors through input-output linkages. Bourlès, R. et al. find that high concentration in upstream markets can reduce incentives to increase productivity downstream.<sup>6</sup> This occurs when upstream markets have high barriers to entry and incumbent producers use their market power to extract innovation rents pursued by downstream firms.

Input services for a downstream firm have a significant impact on the productivity of firms downstream. When upstream markets are highly concentrated, downstream firms have minimal incentive to innovate because they know their rents will be captured by the powerful upstream supplier. Forlani, E. finds *“if the upstream firm is highly concentrated, then the downstream firm must compete to gain the contracts needed for downstream activities – which eats away at their profitability.”*<sup>7</sup>

Additionally, Arnold et al. reported a significant increase in the productivity of downstream firms following liberalisation reforms in the upstream market. This illustrates how high regulatory constraints to entry in upstream markets can impede improved performance of downstream firms.

Principal-agent theory can also be applied to highlight the significant indirect effects of concentrated upstream markets on productivity of downstream firms. As agents, upstream firms distribute input goods according to their incentives, whilst downstream firms as principals determine the quantities of final goods or services.

## 4.2 Vertical integration in building supplies distribution can be indicative of competition issues

Question number	Also addressing submissions from
35-38	Fletcher, HW Richardson, Mitre 10, NASH, Property Council, RMBA, WPMA,

Some submitters have claimed that vertical integration does not reflect a lack of competition per se. Vertical integration in the manufacture, distribution and retail of building supplies and also in construction can indicate competition issues.

<sup>6</sup> Bourlès, R., Cette, G., Lopez, J., Mairesse, J., & Nicoletti, G. (2013). Do product market regulations in upstream sectors curb productivity growth? Panel data evidence for OECD countries. *Review of Economics and Statistics*, 95(5), 1750-1768.

<sup>7</sup> Forlani, E. (2012). Competition in Services and Efficiency of Manufacturing Firms: Does' Liberalization Matter? *Katholieke Universiteit Leuven, LICOS Discussion Paper*, (311).

### *Vertically integrated house assembly firms can pass on benefits to consumers*

Whereas vertically integrated house assembly firms are likely to pass on benefits of scale and reduced margins to consumers, vertically integrated manufacturers and distributors are not.

### *The Commission should thoroughly investigate why Knauf and USG Boral exited the New Zealand market*

There is evidence in New Zealand from the difficulties faced by two of the largest plasterboard companies both entering and rapidly exiting the New Zealand market. The Commission should fully explore the reasons why plasterboard manufacturers and distributors Knauf Gips and USG Boral could not sustain business in a booming New Zealand residential housing market. The Commission should investigate why none of the distribution businesses that are supposed to be in competition with Fletcher-owned Placemakers did not take up the USG Boral or Knauf distributorship when those companies left the market.<sup>8</sup> Building consents have been growing over the past decade and are now at record highs. New Zealand plasterboard prices are high compared to other markets (refer Figure 3.1 and Appendix A).

## 5 Nature of competition leads to higher prices

This section discusses the impact of vertical arrangements, the principal-agent problem and the possibility of accommodating behaviour.

### *Vertical arrangements and principal-agent problem*

Question number	Also addressing submissions from
39-45	Fletcher, HW Richardson, Mitre 10, NASH, Property Council, RMBA, WPMA,
55-58	HW Richardson, Mitre 10, Property Council, RMBA

Vertical arrangements between building supplies manufacturers, distributors and merchants with builders can reduce consumer welfare. Builders face fewer incentives than their customers to seek out lowest costs. This is a principal-agent problem.

Builders provide a service to end consumers that includes inputs purchased from merchants (or from manufacturers or importers). Builders quote customers prices, and compete based on three major components:

- Labour price—a function of time and productivity
- Quality and workmanship—a function of quality and reputation and standard-setting bodies
- Building supplies prices.

<sup>8</sup> It is also curious that Carters uses the Fletcher-owned GIB logo on its website to denote its “internal linings and insulation” products. As excerpted here:



However, building supplies prices are typically passed on to consumers from the prices quoted by merchants or manufacturers/importers. Those quotes prices may have a builders' margin. In most construction contracts, there are escalation clauses whereby material costs changes can be on-charged.

Fletcher's submission cites its own research, which reveals that builders, who are the end-customer's agents, are not price sensitive.<sup>9</sup> Fletcher points out that the builders it surveyed overwhelmingly rank the condition of products, timeliness of deliveries and dispute resolution mechanisms ahead of price. Builders' main concern is quality and condition of building supplies.

This has two implications:

- First, this could reflect that builders have been conditioned by current market structure where builders do not have power to influence building supplies prices (dominant manufacturers and vertically integrated suppliers)
- Second, it suggests that consumers suffer from a principal-agent problem. Builders act as their customers' agents when purchasing building supplies. Builders face lower incentives to negotiate for lower building supplies costs because that component is fixed in contracts (and each competitor builder will face the same costs). Therefore, the builders only compete on the cost of labour and workmanship.

We understand that in key building supplies markets, Fletcher Building subsidiaries or business units provide non-price add-on services that secure loyalty against market entrants. This should be examined in detail given the principal-agent problem in the building sector, where consumers only benefit in a relatively minor way.

Non-price related services have the effect of securing market share in key building supplies markets. Where the marginal consumer (builder) values quality by more than the average inframarginal consumer, a firm with significant market power can raise price and quality (holding unit sales constant) in a way that lowers consumer surplus. This leads to the firm with market power to oversupply "quality" given output level.

#### *Literature suggests that builders can have little impact on upstream building supplies markets*

In a competitive supply chain, downstream firms compete on minimising input prices and maximising innovation to obtain higher productivity levels. Older literature on vertical relations often assumes that indirect effects of variations in market concentration along the supply chain can be disregarded, such that price taking can be assumed at one level (downstream retailers) and price making can be assumed at another level of the supply chain (upstream producers). Lee et al. illustrate that this assumption may not be valid when the upstream market is highly concentrated.<sup>10</sup>

In the construction sector, a vertically integrated upstream producer of building supplies with market power (price maker) may sell their products to a wide range of merchants in the phase below them on the supply chain. The merchants serve as price takers, and thus the retailers further downstream (builders) would purchase these products at a competitive price and have

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<sup>9</sup> Fletcher Building Limited, Residential building supplies market study: Response to the Preliminary Issues Paper, para 56.6.

<sup>10</sup> Lee, R. S., Whinston, M. D., & Yurukoglu, A. (2021). Structural empirical analysis of contracting in vertical markets. In *Handbook of Industrial Organization* (Vol. 4, No. 1, pp. 673-742). Elsevier.

the incentive to compete against rivals by incurring both a searching cost for lowest priced inputs as well as innovating to achieve higher productivity. Lee et al. allude to the fact that the merchants are not price takers that distribute building supplies at a competitive price, and simply pass on the products at a high price because the intermediate market is also penetrated by vertically integrated firms. All downstream retailers (builders) face these prices, and the absence of cheaper alternatives disincentivises builders to exert an effort to obtain the cheapest inputs, as well as the fact that all rival builders face the same costs regardless. As a result, these costs are simply passed on from builders to consumers, whilst builders are left to only compete for the cost of the building service.

This scenario gives rise to the principal agent problem. As agents, builders lack any incentive to compete on the cost of building supplies, and simply pass on these higher costs to the principal (consumers). Cadot, J. finds that vertical integration can significantly increase agency costs.<sup>11</sup>

Vertical restraints are often used to stimulate promotional activities such as rebates and other forms of non-price competition. These activities may indirectly affect consumer welfare through changes to price competition.<sup>12</sup>

#### *Coordination/accommodating behaviour cannot be ruled out*

Question number	Also addressing submissions from
<b>46-48</b>	Fletcher, HW Richardson, Mitre 10, NASH, Property Council, RMBA, WPMA,

The Commission has asked whether accommodating behaviour or coordination is present. We have been provided with anecdotal accounts from a variety of building sector professionals of behaviour that may be “accommodating” at the retail and wholesale levels. There are recent examples of price-fixing behaviour in building supplies distribution that should be taken into account as well. We note in one case affecting the Auckland market for structural timber resulted in a mere \$5,000 fine for the key individual concerned.<sup>13</sup>

We also note that the building merchant sector has relatively few players with significant market share. Low price promises are common, and have been the subject of Commission attention. Low price promises can be mechanisms to facilitate coordination. It is important that the Commission keep an open mind as to accommodating behaviour. It cannot be ruled out at this point in the market study.

There are some key conditions for tacit collusion or accommodating behaviour from the literature.<sup>14</sup> We outline the key conditions, and briefly comment on features of the New Zealand building supplies market that could lead to the condition being satisfied:

- A small number of competitors in key markets: timber, concrete, plumbing, electrical, fixings
- Significant market shares in key markets: the retail and wholesale sectors have relatively few merchants with high market shares

<sup>11</sup> Cadot, J. (2015). Agency costs of vertical integration—the case of family firms, investor-owned firms and cooperatives in the French wine industry. *Agricultural Economics*, 46(2), 187-194.

<sup>12</sup> Katz, M. L. (1989). Vertical contractual relations. *Handbook of industrial organization*, 1, 655-721.

<sup>13</sup> <https://www.nbr.co.nz/article/carter-holt-harvey-fined-185m-timber-price-fixing-agreement-fletcher-auckland-bd-153771>

<sup>14</sup> Ivaldi, M et al, (2003), The Economics of Tacit Collusion, IDEI Toulouse, available at: [https://ec.europa.eu/competition-policy/system/files/2021-04/the\\_economics\\_of\\_tacit\\_collusion\\_2003.pdf](https://ec.europa.eu/competition-policy/system/files/2021-04/the_economics_of_tacit_collusion_2003.pdf)

- Barriers to entry:
  - In key product markets arising from product accreditation
  - Difficulty for merchants to secure retail sites: the Commission’s retail grocery market study covered the barriers caused by RMA/planning and restrictive lease terms
  - Locked-in supplier-builder relationships due to rebates and differential rebates for different products.
- Frequent interaction between market participants
- Growing demand: Fletcher highlight how housing consents have grown from around 18,000 to 45,000 in the last decade. Collusion is easier to sustain in growing markets where accommodating behaviour is potentially rewarded with larger profits in future
- Markets are not innovative: we highlight above how building supplies markets lack innovation which contributes to lower downstream productivity
- Pricing is opaque: It is difficult to find listed prices for certain key building products such as timber and plasterboard at many merchants
- Rebates extensively used: Pricing can vary depending on loyalty or other factors which are not disclosed
- Rebates differ for different products.

## 6 Regulatory barriers influence building material costs

Question number	Also addressing submissions from
18-20	Fletcher, HW Richardson, Mitre 10, NASH, RMBA.
49-54	Fletcher, Frame and Truss, Mitre 10, RMBA

Regulatory issues clearly have a significant impact on house prices. Regulatory constraints contribute to high house prices in a number of ways:

- Land availability and development capacity is constrained by land use planning and regulation and this contributes up to 56 percent to the cost of housing<sup>15</sup>
- Large parcels of land are infrequently and only sequentially zoned for housing development, rewarding incumbent landowners and leading to uncompetitive land markets. This prevents significant and scalable home building on large sites at lower unit cost
- BCAs can tend to be cautious creating a compliance burden which may discourage market entry

<sup>15</sup> Superu (2017), Quantifying the impact of land use regulation: Evidence from New Zealand



- Industry standards bodies are influenced by incumbent firms

However, this does not mean that building material costs do not contribute to high housing prices.

We set out how even in regions of New Zealand with consistently high rates of building and accommodating planning regimes, infrastructure provision and building consenting, building costs are high.

We also outline how standard-setting agencies and BCAs can contribute to barriers to entry.

## 6.1 Regions with high rates of building also have high costs

Evidence from markets with high rates of consenting (Canterbury) face the same high building costs as other parts of New Zealand with lower consenting rates (Wellington, Auckland). Therefore, the contention from Carters and Fletchers that BCAs behaviour is a source of high building supplies prices and construction costs could be misplaced.

**Table 6.1: Consents per 1000 residents and construction costs (per sq.m) across regions in NZ**

Region	Consents per 1000 residents (2011-2022) <sup>16</sup>	Construction costs (per sq. m) in 2021 <sup>17</sup>
Auckland	6.2	3,095
Waikato	6.6	2,979
Wellington	4.1	3,019
Canterbury	8.7	3,023

Source: Castalia analysis based on Stats NZ and QV cost builder data

## 6.2 Standard-setting agencies can contribute to barriers to entry

Regulatory capture is a well-established issue in regulatory economics. Incumbent firms can develop relationships with regulators, standard-setters and policymakers. In the building supplies industry, this could include standard-setting entities such as BRANZ and BCAs.

The Commission should investigate the role of building supplies market participants in appointing people to standard-setting entities and otherwise influencing those entities. There is extensive literature on how regulatory capture can harm consumers. The Commission's 2014 plasterboard enquiry indicated that BCA behaviour was a significant contributor to Fletcher's market share. The decision by regulators to deem plasterboard a bracing element (a unique situation) favoured the incumbent dominant market supplier.

<sup>16</sup> Average consents per 1000 residents from 2011 to 2022 (including provisional consents)

<sup>17</sup> Average construction costs for the same pool of eight residential building types across regions

## 6.3 Government decisions in contracting for building supplies can contribute to costs

Question number	Also addressing submissions from
59	Fletcher, Mitre 10,

The government and its agencies can contribute to higher building material costs. The government, especially through Kainga Ora, is a significant purchaser of building supplies and construction services. During the Christchurch rebuild, the government attempted (and failed) to encourage market entry by another plasterboard supplier. The way it contracts with builders could have perverse impacts on competition in building supplies markets.

### *Kainga Ora's contracting practice could result in building firms bidding up prices of building supplies*

Kainga Ora tends to contract with multiple building firms, with each firm responsible for delivering relatively few houses. For example, we understand that Kainga Ora can contract with a number of builders building 10-20 houses each in the same suburb. This leads to those builders competing with one another for supplies at the distribution/retail level.

### *Government's contracting practice could quarantine market segment to incumbents*

Government contracts can have the effect of bedding in market power. Knauf Gips was specifically invited by the government to participate in the plasterboard supply contract for the Christchurch rebuild. The Minister for Economic Development hailed the entry by the German multinational at the time as being important for competition and diversity in building supplies. However, the contract was tendered to two parties, one of which was Fletcher with 94 percent market share. This meant that Knauf had to compete with Fletcher in the Christchurch rebuild market. This resulted in Fletcher Building effectively quarantining the competition to that specific contract and tender, leaving it with market power in the rest of the market. In contrast, and highlighting the role of government policies in impacting market shares, the nationwide "Warm Up New Zealand" programme wide launched after the 2008 financial crisis ushered in a rival insulation supplier.

# Appendix A: Building material costs compared between jurisdictions

We used an independent data source without any selective sampling to compare building material costs between jurisdictions. We consistently find evidence of New Zealand having a higher cost for building supplies when compared to other jurisdictions. We compared costs across various material types that include concrete<sup>18</sup>, plumbing<sup>19</sup>, plasterboard<sup>20</sup>, timber<sup>21</sup>, metal roofing<sup>22</sup> and structural steel<sup>23</sup>. The supplies vary significantly in terms of their size, dimensions, and relative strengths; therefore, it is not feasible to include all material types. However, the cost structures presented in Figure A.1 below across jurisdictions is consistent for supplies with varying relative characteristics.

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<sup>18</sup> Concrete 25 MPa in foundations, ground slab, suspended slab and beams, walls and columns

<sup>19</sup> Sanitary fixtures, fully insulated including pipework to outside face of building at ground level: W.C. suite, white vitreous china for single or two storey office building

<sup>20</sup> 10 mm plasterboard fixed to timber or steel wall framing

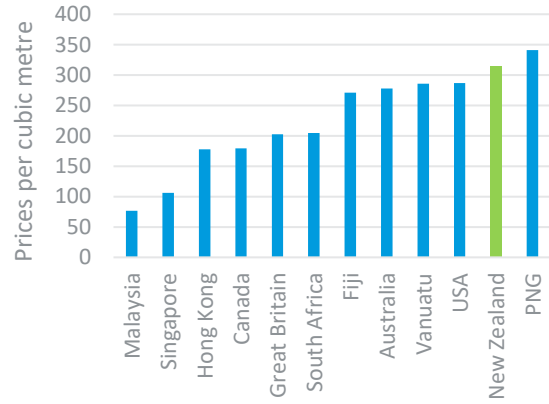
<sup>21</sup> Carpentry framing timber: 100x 50mm rafter

<sup>22</sup> Metal roofing fixed to steel purlins: Corrugated and ribbed

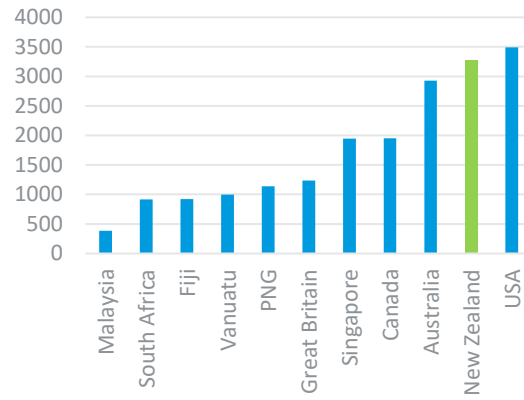
<sup>23</sup> Structural steel including shop drawings, fabrication, erection and zinc phosphate treatment

Figure A.1: Building material costs across jurisdictions

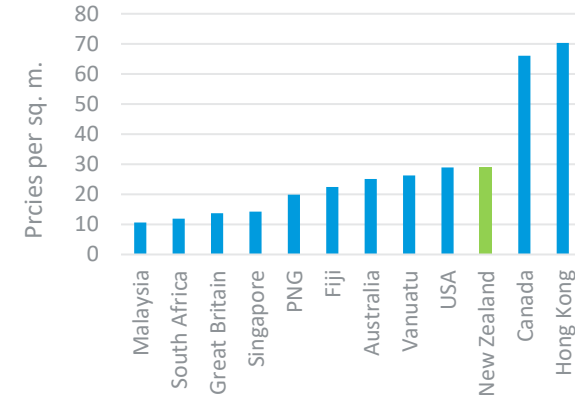
Concrete



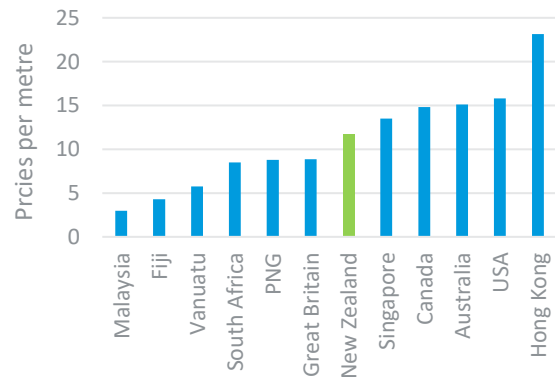
Plumbing



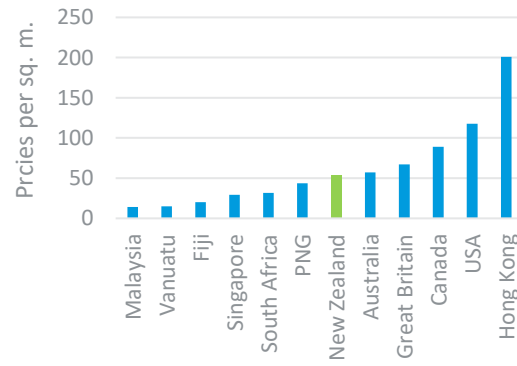
10mm Plasterboard



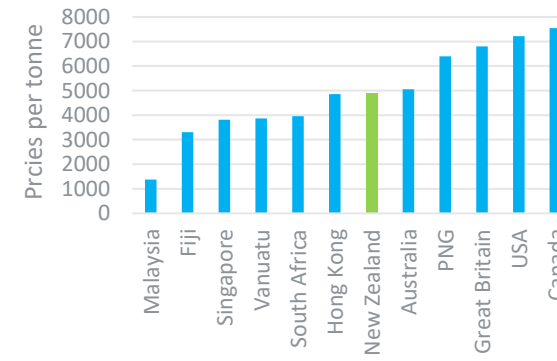
Carpentry Framing Timber



Metal Roofing



Structural Steel



# Appendix B: Flaws in Deloitte Report

This Appendix addresses methodological flaws in Deloitte’s Access Economics report for Fletcher Building Limited from 2018 titled “*Cost of residential housing development: A focus on building supplies*”.

## B.1 Introduction

The Deloitte report seeks to understand the costs associated with residential development in New Zealand, with a focus on building supplies and construction costs. Deloitte devotes considerable attention to the cost of land and correctly identifies it as a major cost component and driver of house prices. However, Deloitte’s analysis rests on data that is incomplete and potentially misleading. The sourcing of data should be a conscious and deliberate process. It is unclear why Deloitte has sourced and selected the data the way it has.

## B.2 Selection of Australian comparators is biased

Deloitte’s selection of comparators for New Zealand’s housing market is flawed at multiple levels. Typically, the best comparison between different markets should ensure that there are as many similarities as possible in all regards other than the parameters of interest. In this case, the parameters of interest are construction and building materials/supplies costs.

Deloitte does not select appropriate comparators, as we outline below. By doing this, Deloitte introduces uncertainty and error. It has selected comparator countries, cities and local areas within cities that differ from each other in many important aspects.

In other words, Deloitte appears to have cherry-picked the comparators. The analysis Deloitte performs on these comparators is therefore fundamentally flawed, even if the methodology is correct.

### B.2.1 Countries chosen by Deloitte introduce bias

Deloitte artificially constrains its analysis by limiting the set of comparator countries to Australia only. Australia could be a useful comparison due to its similarity and close ties with New Zealand. However, the housing markets in Australia’s main centres (including Sydney and Melbourne) are also unaffordable by global standards.

Deloitte finds that costs in New Zealand are not significantly different from those in Australia. Therefore, they conclude that New Zealand’s construction sector is healthy. However, this relies on the assumption that Australia’s construction sector is healthy also. This is not necessarily the case, and possibly not for all markets in Australia.

Cities across many of the countries with which New Zealand is often compared are much more affordable than Australian cities, as shown in Table B.1 below. Yet Deloitte’s analysis does not consider them.

**Table B.1: Housing affordability in select cities (in descending order)**

Country	City	Median Multiple
Australia	Sydney	15.3
Australia	Melbourne	12.1

Country	City	Median Multiple
New Zealand	Auckland	11.2
Canada	Toronto	10.5
Australia	Adelaide	8.0
Australia	Brisbane	7.4
United States	Boston	7.0
Ireland	Dublin	5.7
United States	Houston	4.5
United Kingdom	Newcastle upon Tyne	4.3
Canada	Calgary	4.0

*Median Multiple = (Median House Price)/(Median Household Income)*

*Source: Demographia International Housing Affordability Survey*

### B.2.2 Cities chosen by Deloitte introduce bias

The cities Deloitte selected are not entirely comparable due to significant differences in metropolitan population. A city's population may have multiple impacts on its housing market, including efficiencies of scale, limited land supply relative to growth, overseas investor interests, and denser urban forms. Deloitte's analysis conspicuously left out several Australian urban areas that might provide for a better comparison, as illustrated in Table B.2 below.

**Table B.2: Population of urban areas in New Zealand and Australia (in descending order)**

City	Metropolitan population (millions)	Included by Deloitte
Sydney	5.4	Yes
Melbourne	5.2	Yes
Brisbane	2.5	No
Perth	2.1	No
Auckland	1.6	Yes
Adelaide	1.4	No
Gold Coast	0.7	No
Newcastle	0.5	No
Wellington	0.5	Yes
Christchurch	0.4	Yes
Canberra	0.4	No

### B.2.3 Local areas chosen by Deloitte introduces bias

Deloitte’s selection of development locations for each building typology is flawed and incomplete. The characteristic of each local area/suburb influences the cost of building supplies due to different transport costs, ease of consent (particularly of non-typical typologies), and local preferences (for example, wealthier areas will prefer higher quality materials).

For instance, within townhouses, Deloitte compares costs between areas that share little in common, as shown in Table B.3 below. Deloitte is comparing somewhat disadvantaged areas in Auckland with the wealthiest local government area in greater Melbourne, and yet finds that Auckland is more expensive across all cost components. These differences (among others) can influence costs and do not allow for an objective comparison.

**Table B.3: Characteristics of comparator areas for townhouses**

City	Area	Distance from CBD	Socioeconomic Status	Urban Form
Auckland	Flat Bush	20km	NZDep 4, somewhat disadvantaged	Predominantly standalone houses
Wellington	Thorndon, Brooklyn	1–3km	NZDep 4, somewhat disadvantaged	Predominantly standalone houses
Christchurch	Edgware	2km	NZDep 7, very disadvantaged	Predominantly standalone houses
Sydney	Mascot	6km	SEIFA 3–4, somewhat disadvantaged	Even mix of apartments, townhouses, and standalone houses
Melbourne	City of Stonnington	3km	SEIFA 5, least disadvantaged (wealthiest local government area in Victoria)	Predominantly standalone houses

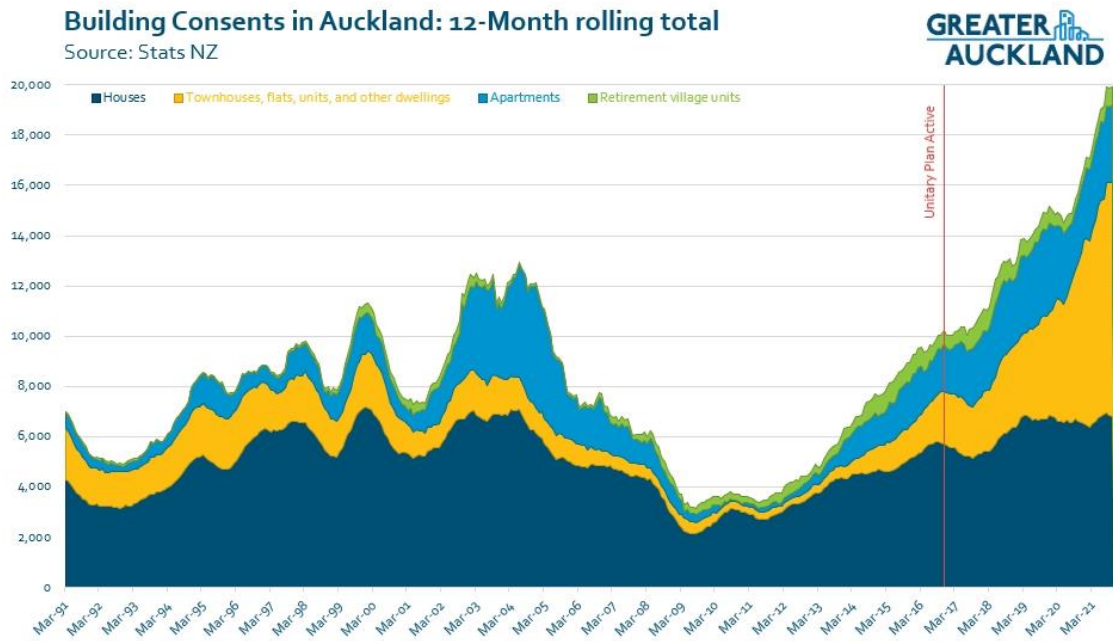
### B.2.4 Building typology chosen by Deloitte introduces bias

Deloitte’s analysis uses five building typologies (double-story greenfield house, double-story infill house, townhouse, low rise apartment, and high rise apartment).

It is unclear whether these typologies are representative. For instance, most greenfield developments on Auckland’s urban periphery consist of single-storey houses, which Deloitte has excluded from its framework.

Deloitte’s treatment of typologies can be misleading. The overwhelming majority of new consents in Auckland are houses or townhouses, as illustrated below in Figure B.1. This proportion is likely to be even higher in Wellington and Christchurch. Throughout the report, Deloitte often claims them as “exceptions” within its framework, even if they represent a large proportion of housing. A weighted approach would be more representative.

Figure B.1: Building consents in Auckland by typology



Source: Greater Auckland, prepared using Stats NZ data

### B.3 Selection of cost components for modelling appears biased

Deloitte’s modelling of cost components lacks transparency, and several estimates are difficult to reconcile with reality. For instance, Deloitte claims that:

- Land costs of townhouses in Flatbush, a middle-class suburb 20km away from Auckland CBD, are 16 percent higher than that of Stonnington, the wealthiest local government area in Victoria only 3km from Melbourne CBD
- Labour costs are similar across New Zealand and Australia (for example, a 13 percent labour premium for double-story greenfield in Sydney over Auckland), despite average construction sector hourly wages being over 37 percent higher in Australia than New Zealand (Australian Statistics Bureau and Stats NZ).

### B.4 Selection of comparator building materials and product markets appears biased

Deloitte provides comparative analysis of only two building materials: concrete and timber framing. It lists comparator product markets, but provides no reasons for the selection of those markets. When the results are presented, Deloitte uses a double-negative to conclude that “New Zealand prices are not unreasonably high”. For concrete, Deloitte presents two markets with higher prices than New Zealand are Uganda and Switzerland. Uganda is a landlocked African developing country with low incomes and poor infrastructure. Switzerland is one of the most expensive countries in Europe with high incomes. Figure B.2 illustrates this.



Figure B.2: Deloitte’s selective sample of comparator countries for concrete and timber

Figure 4.1 - International comparison of concrete prices (NZD, today’s value terms)

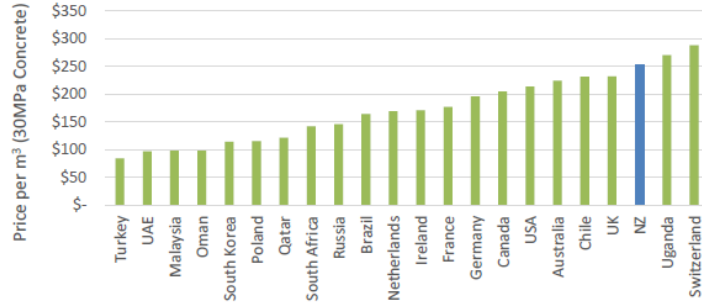
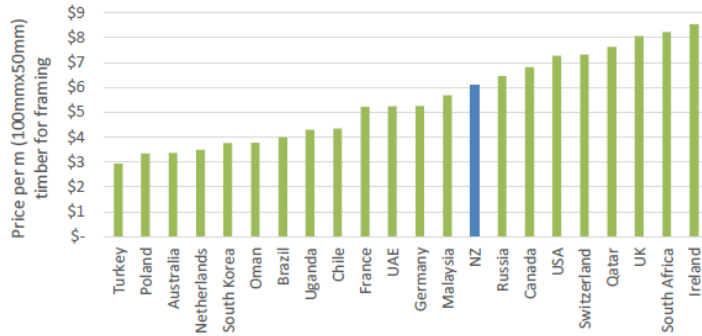


Figure 4.2 - International comparison of timber prices (NZD, today’s value terms)



Source: Deloitte Access Economics based on an international construction market survey

Deloitte Report, page 67.

## B.5 Other criticisms

Other criticisms that we note with the Deloitte Report are:

- Deloitte claims that a “like-for-like” comparison of building typologies is more “objective” due to various intangible preferences. However, it is equally possible that distortions in building costs influence consumers/developers’ preferences instead
- Deloitte repeatedly attributes costs to New Zealand’s dispersed population. Deloitte chooses Melbourne and Sydney in Australia, which also has a dispersed population. If Deloitte wanted to compare what it calls New Zealand’s dispersed geography with a relevant comparator, it could have compared Auckland, Wellington and Christchurch to Perth, one of the world’s most isolated cities. However, it did not.



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