Cement & Concrete Association of New Zealand
Level 6, 142 Featherston St, Wellington
PO Box 448, Wellington
Tel: (04) 499 8820
Fax: (04) 499 7760
Email: admin@cca.org.nz
www.cca.org.nz

Cement and Concrete demand

Activity and trends

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Rob Gaimster

Cement & Concrete Association of NZ
PO Box 448
Wellington 6140

Contents

1. Introduction

The purpose of this report is two-fold:

- To evaluate the effect of current economic indicators on present and future demands for cement and concrete.
- To collate and report on a range of cement and concrete industry metrics

The report has been produced with input from the New Zealand Institute of Economic Research (NZIER). It looks at factors from the macro economic environment which is currently dynamic and is therefore having a significant impact on the demand for cement and concrete products. Much of this data is compared with ready mixed concrete (RMC) production as an indicator of performance of the overall concrete sector as a whole[1].

Data from Statistics New Zealand is examined together with information reproduced with the permission of Precast New Zealand. Recent trends are discussed together with sector specific data in the latter part of the document.

2. Cement and concrete share of construction

For some time now, the cement and concrete industry has been interested in measuring its share of construction industry output in order to track its performance in comparison to competitor industries such as timber and steel. Indeed it is a CCANZ strategic objective[2]. It is not however a simple measure to determine since direct and indirect inputs cut across a number of related industries, such as quarrying and concrete placing and complete figures are, therefore, unavailable.

Figure 1 (page 3) however attempts to chart cement and concrete's share of construction activity since 1995. This is a metric which can be tracked in future.

Cement and concrete remain important components of the construction industry. Figure 1 highlights that in June 2009 slightly over four percent of inputs to construction were cement and concrete related.

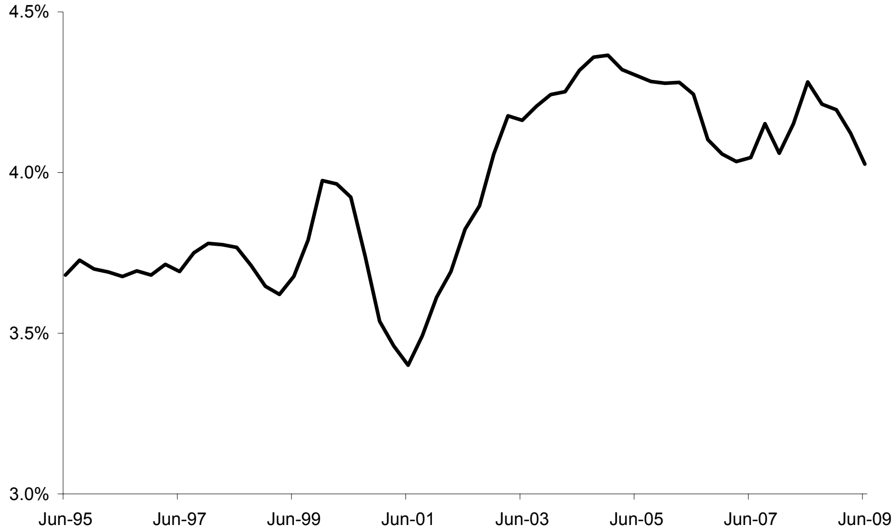
- Since 2003 cement and concrete share of construction inputs has averaged about 4.2 percent.
- The key reason for the growth in cement and concrete share of construction inputs from 2001 to 2003 was RMC production by volume increasing at a faster rate than construction intermediate consumption (approximately 12% c.f. 6.6%).

The remainder of this report considers future demand for construction, and hence cement and concrete, in New Zealand.

[1] The RMC sector accounts for the majority of concrete produced in New Zealand.

[2] CCANZ internal document *Strategic Outlook* 2009

Figure 1: Cement and concrete share of construction
Value of cement and concrete inputs to construction relative to total intermediate inputs to construction; current prices; smoothed over 4 quarters



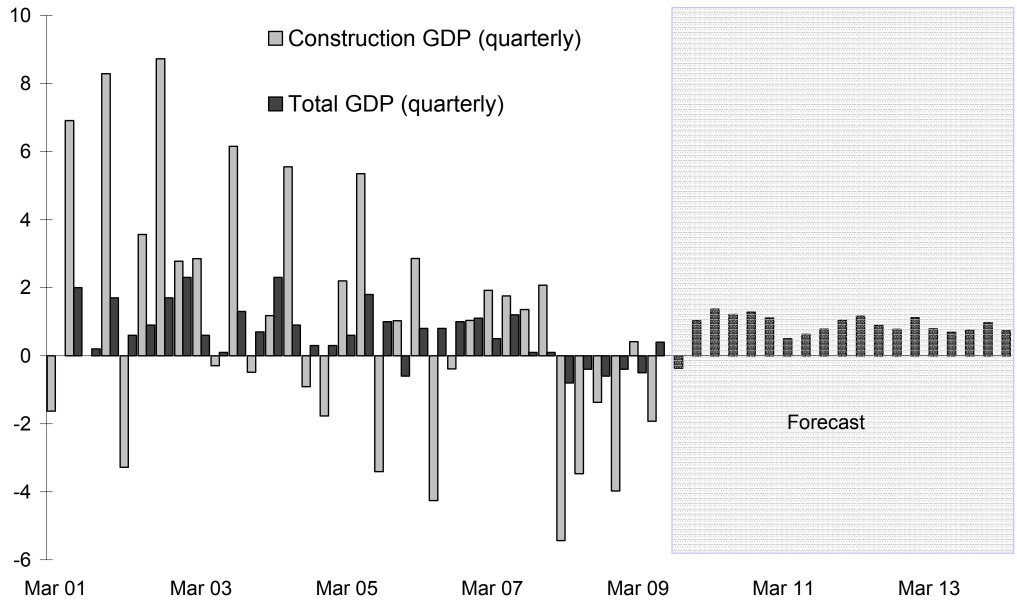
Source: Statistics New Zealand, CCANZ, Holcim
Note: RMC values based on Holcim price estimates; total value of cement and concrete estimated based on ratio of RMC to total values; Intermediate inputs to construction from 2006 estimated based on SNZ industry purchase data.

3. Economic Trends - setting the scene

- New Zealand went through a period of strong economic growth during the first few years of this century.
- Several factors encouraged spending on new houses and alterations, including rising house prices (increasing home owner wealth and ability to borrow), positive net migration and the belief that housing was a good investment.
- Demand for housing, and cement and concrete reduced considerably from 2008 as New Zealand went into recession. Demand for residential construction weakened as people re-evaluated expectations of future house prices. Net migration slowed and the financial crisis increased uncertainty, unemployment and restricted people's ability to borrow.
- Demand for cement and concrete for non-residential buildings also weakened significantly, primarily due to less demand for industrial, farm and commercial buildings, as farm and business incomes weakened.
- The recession in New Zealand lasted five quarters ending in the June quarter 2009, with 0.1 percent positive Gross Domestic Product (GDP) growth.[3]
- NZIER expect GDP growth to be positive over the next few years and construction GDP growth to be generally positive (as illustrated in Figure 2 construction GDP is much more variable quarter to quarter than total GDP).

[3] A recession is defined as two consecutive quarters, or three month periods, of negative GDP growth.

Figure 2: Total and construction GDP growth
Percent change, 1995/96 prices: quarterly figures are seasonally adjusted



Source: Statistics New Zealand, NZIER *Quarterly Predictions* June 2009

- GDP growth will be somewhat subdued, however, relative to the first few years of this century.

The factors leading to this forecast in construction GDP growth are discussed in the following paragraphs.

4. Looking forward through 2009: a slight pick-up

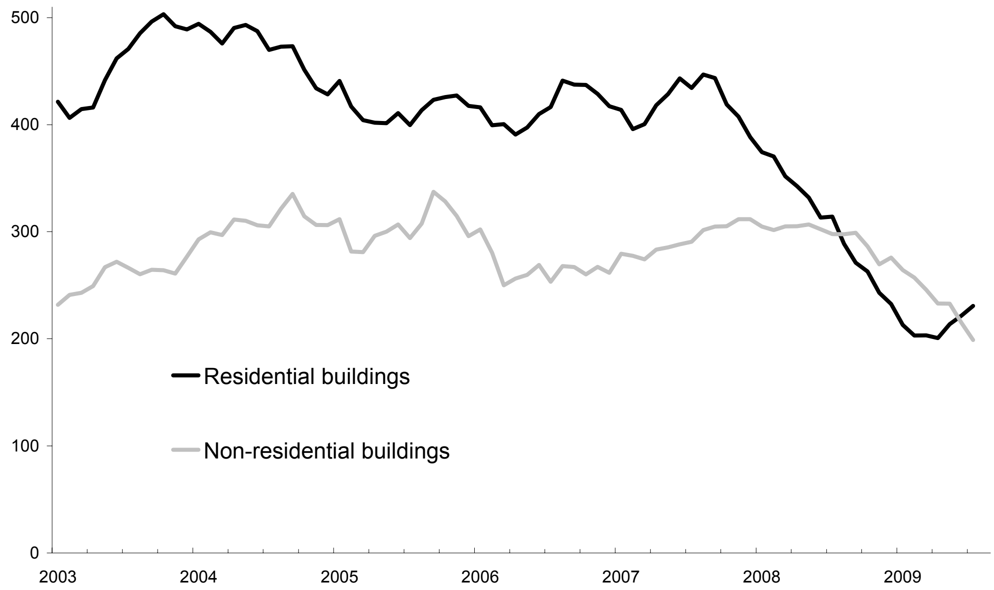
- Building consents issued today provide a good indication of construction activity in six to nine months. While still considerably below the peaks seen earlier this century, consents have recently increased for residential buildings and appear to have stabilised for non-residential buildings (as measured by floor area).

- This suggests that residential construction activity will increase somewhat over the next few months and that there will be little change in non-residential construction demand. On the other hand, NZIER's Quarterly Survey of Business Opinion suggests that output and new orders are still negative.

- The decline in residential building consents was due to a combination of factors - lower net inflows of migrants, an extended period of high mortgage rates, and arguably, excessive building (relative to demand) during the boom.

- Many of these factors have reversed, with a gradual lift in net migration and rapid falls in interest rates. On the other hand, unemployment is rising and is expected to continue to rise for another two years. A greater number of people will be concerned about future job losses, encouraging saving rather than borrowing or spending. This in turn will lead to caution in building or improving houses.

Figure 3: Building consents issued
Floor area, 000 m^2 per month: six month moving average



Source: Statistics New Zealand

5. 2010 and beyond: building investment picking up

- The key positive factor in housing, and in economic prospects generally, will be migration, with fewer Kiwis leaving (given limited job prospects in Australia and the UK), and resilient inward migration. Annualised net migration will lift to a peak of around 27,000 in late 2009 (from around 17,000 in early 2009) before stabilising at around 10,000 per annum.

- Following a quiet year to March 2010, residential building activity is expected to increase over the next five years to keep pace with demand from a growing population. Growth in residential building tends to move with or lead economic activity.

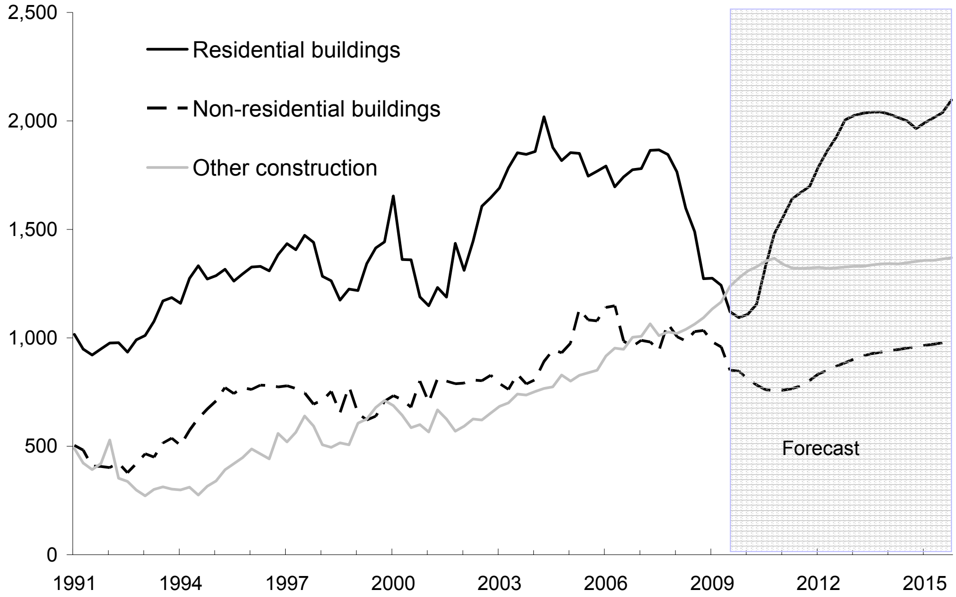
- There is little excess supply of non-residential buildings so the decrease in construction activity in 2009/2010 will be minor. Overall non-residential building construction activity is forecast to recover in 2010 (non-residential building tends to lag changes in economic growth). Some additional demand will come from the Rugby World Cup and government spending on health, education and prisons.

- Other (non-building) construction investment has been driven upwards by the expansion in road building (bridges, motorways) which consumes significant volumes of concrete, and this is expected to continue until 2011.

- Near the end of 2007 about half of all construction investment was in residential buildings, with non-residential and other construction (largely infrastructure construction) each accounting for about a quarter of construction activity.

- For most of 2009/2010, other construction will account for about 40 percent of total construction investment. Slightly more than a third will be in residential buildings with the remainder in non-residential construction.

Figure 4: Building and construction investment
Gross fixed capital formation: $million, 1995/96 prices: quarterly, seasonally adjusted



Source: Statistics New Zealand, NZIER *Quarterly Predictions* June 2009

Clearly, nimble concrete companies will take advantage of the shifts in relative demand across construction related activities.

6. Industry Specific Data

6.1 Ready Mixed Concrete Outputs

Figure 5 (page 8) highlights that RMC production has fallen significantly in 2009.

The rolling 12 months production at 2.82 million cubic metres to September 2009 is down 18% on the previous year. Outputs in the second quarter of 2009 were, however, slightly higher than those in the first quarter. Figure 6 (page 8) presents the information by region.

6.2 Precast Outputs

Figure 7 (page 9) suggests precast sales have been relatively robust through the recession to date, anecdotal evidence suggests the market is weakening somewhat with many precasters predicting softening future order books.

This is particularly associated with the decline in commercial construction activities.

Figure 5: All New Zealand RMC Production

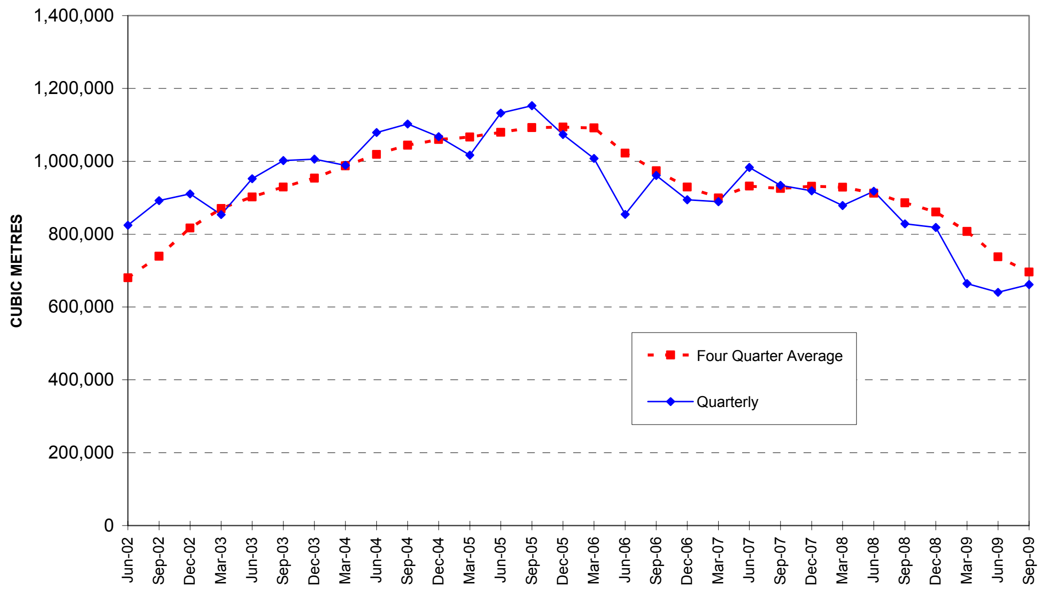


Figure 6: Regional Ready Mixed Concrete Production

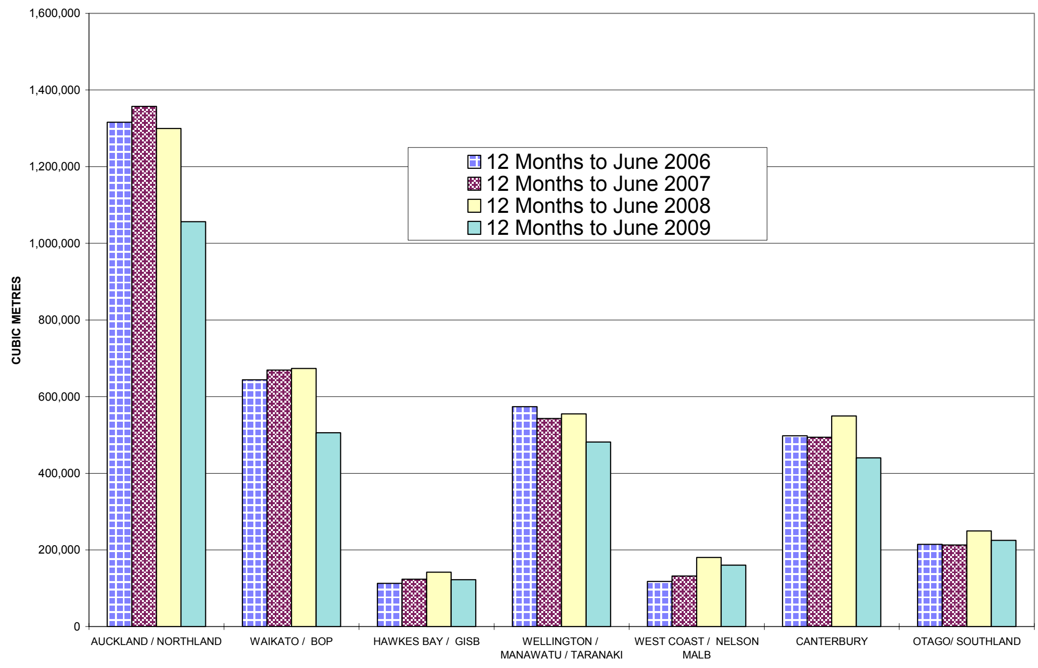


Figure 7: Precast New Zealand Quarterly Sales

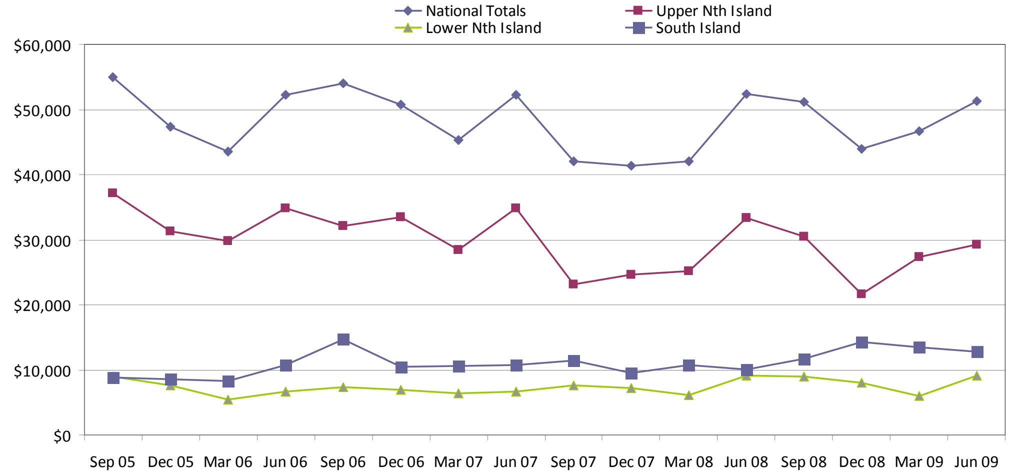
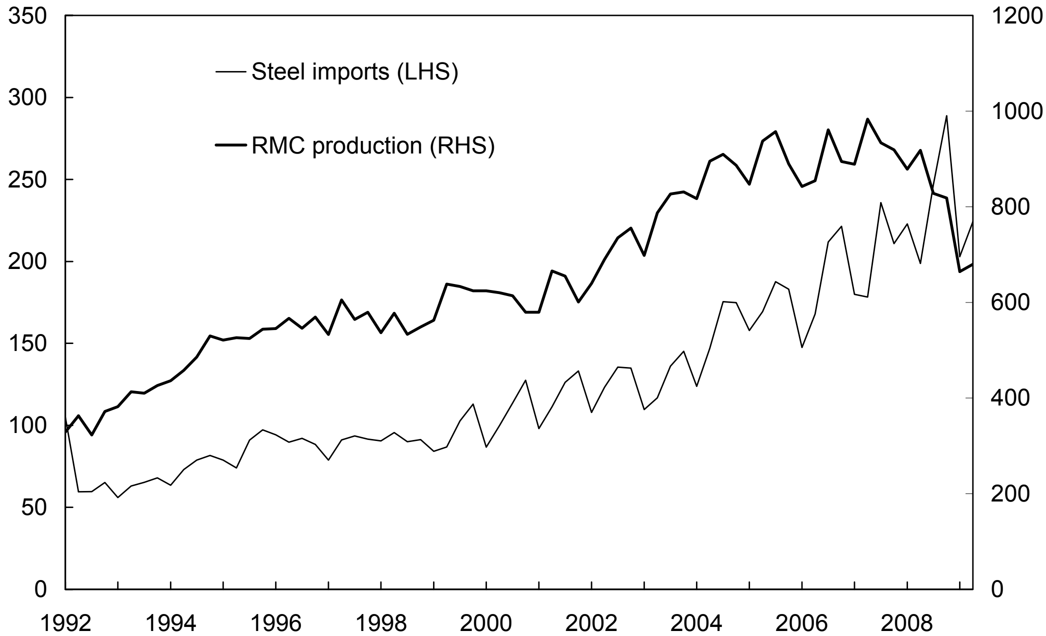


Figure 8. Steel imports vs RMC production

HS73 Iron and steel articles, $m, CIF (LHS): 000s m^3 (RHS)



Source: Statistics New Zealand

7. Steel Import Data

There are no good data to measure the use of steel in non-residential building construction, so as a proxy, Figure 8 compares imports of steel (by value) with RMC production.

This suggests that there has been no major shift between concrete and steel over most of the last decade – both materials have benefited from construction growth and economic expansion generally. But RMC production started falling from mid 2007, whereas it was only in late 2008 that a downturn in steel imports became apparent[4].

Another reason is because over the last decade RMC prices have consistently been rising more slowly than other construction costs and the prices of new buildings and structures.

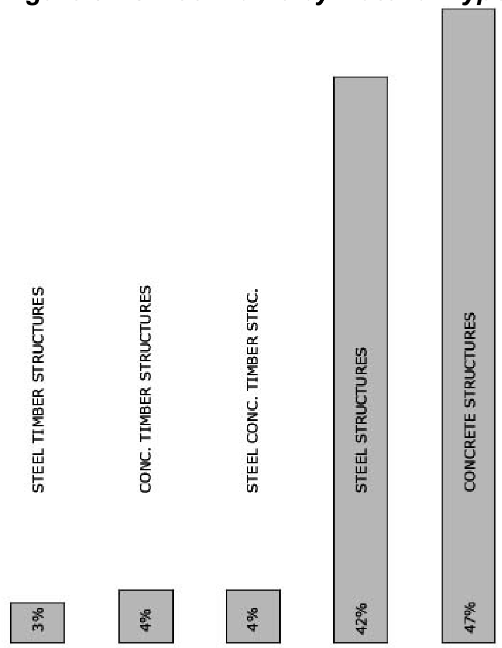
8. Steel and Concrete Office Frames from Building Consents September 2009 for the Industrial, Civil, Commercial and Community Sector

The following data is based on interviews from a sample of architects and engineers involved in the projects identified in the latest building consents. Pro rata figures for selected structural materials are shown in Table 1 and Figure 8 respectively and are interpolated from these interviews.

Table 1: Breakdown of office frame build by construction materials

Construction material	Proportion %
Concrete	47
Steel	42
Timber	11
- Timber/concrete	3
- Timber/steel	4
- Hybrid	4

Figure 8: Office Frame by Material Type



4 But note that "total steel imports" is a very rough proxy of construction steel use. The data include steel for other uses, e.g. industrial, so the total value may be affected by changes in the mix of steel imports. And the price per tonne of imports will also be affected by factors such as global prices during the recent commodity boom, and the New Zealand dollar exchange rate.

Anecdotally, steel was considered ahead of concrete for low-rise buildings for agriculture, retail and storage because of weak foundation ground, perceived economics and speed. Concrete was chosen ahead of steel in buildings for education, offices and hotel projects. Reasons given for the selection of concrete were durability, thermal mass, fire protection, economics, security and acoustic performance.

9. Building Consent activities seen in Regions in September 2009

A breakdown of building consent activities by region are shown in Tables 2 and 3 respectively.

Table 2. All consents including dwellings

Region 1	Region 2	Region 3	Region 4
Northland Auckland Coromandel BOP Waikato East Coast	Taranaki Central Plateau Hawkes Bay Wanganui Wairarapa Wellington	Nelson Marlborough Canterbury West Coast	Otago Southland Fiordland Steward Island
37 %	24 %	29 %	10 %
of building consents of September 2009 including dwellings *Total No.: 185*			

Table 3. Only industrial, commercial and community sector (incl. alterations)

Region 1	Region 2	Region 3	Region 4
Northland Auckland Coromandel BOP Waikato East Coast	Taranaki Central Plateau Hawkes Bay Wanganui Wairarapa Wellington	Nelson Marlborough Canterbury West Coast	Otago Southland Fiordland Steward Island
32 %	23 %	31 %	14 %
of building consents of September 2009 only industrial, commercial, community, civil *Total No.: 111*			

Building Consent data is shown in Appendix A.

Appendix A

Building consents issued

Total floor area consents issued m^2 (000) and percent change

	Residential buildings				Non-residential buildings			
	Floor area	MoM	6m moving average MoM	YoY	Floor area	MoM	6m moving average MoM	YoY
Sep-07	409	-16.4%	-2.0%	-15.5%	360	31.9%	0.9%	50.6%
Oct-07	413	1.0%	2.9%	-7.4%	312	-13.3%	3.8%	21.4%
Nov-07	450	9.0%	-0.7%	1.8%	305	-2.2%	1.0%	-0.3%
Dec-07	331	-26.4%	-5.6%	-11.5%	329	7.9%	0.1%	21.0%
Jan-08	353	6.6%	-2.7%	-1.1%	291	-11.6%	2.1%	21.3%
Feb-08	374	5.9%	-4.7%	-6.7%	273	-6.2%	0.0%	6.6%
Mar-08	325	-13.1%	-3.6%	-29.8%	319	16.8%	-2.2%	-7.5%
Apr-08	389	19.7%	-1.1%	15.1%	293	-8.2%	-1.0%	19.1%
May-08	339	-12.9%	-5.0%	-27.9%	325	10.9%	1.1%	13.6%
Jun-08	275	-18.9%	-2.7%	-42.6%	330	1.5%	0.1%	0.9%
Jul-08	290	5.5%	-3.1%	-31.1%	301	-8.8%	0.5%	19.4%
Aug-08	261	-10.0%	-5.7%	-46.6%	246	-18.3%	-1.5%	-9.9%
Sep-08	331	26.8%	0.3%	-19.1%	292	18.7%	-1.5%	-18.9%
Oct-08	236	-28.7%	-8.1%	-42.9%	292	0.0%	-0.1%	-6.4%
Nov-08	233	-1.3%	-6.1%	-48.2%	333	14.0%	0.4%	9.2%
Dec-08	226	-3.0%	-3.0%	-31.7%	254	-23.7%	-4.2%	-22.8%
Jan-09	171	-24.3%	-7.5%	-51.6%	201	-20.9%	-5.8%	-30.9%
Feb-09	198	15.8%	-4.3%	-47.1%	284	41.3%	2.3%	4.0%
Mar-09	214	8.1%	-8.4%	-34.2%	222	-21.8%	-4.2%	-30.4%
Apr-09	176	-17.8%	-4.7%	-54.8%	249	12.2%	-2.7%	-15.0%
May-09	234	33.0%	0.1%	-31.0%	265	6.4%	-4.4%	-18.5%
Jun-09	211	-9.8%	-1.2%	-23.3%	177	-33.2%	-5.2%	-46.4%
Jul-09	250	18.5%	6.6%	-13.8%	200	13.0%	-0.1%	-33.6%
Aug-09	245	-2.0%	3.7%	-6.1%	177	-11.5%	-7.7%	-28.0%
Sep-09	269	9.8%	4.1%	-18.7%	126	-28.8%	-7.4%	-56.8%

Notes: (1) MoM is month on month - change in value from previous month to this month
(2) 6m moving average is the change from the average of the six months ending in previous month to the average of the six months ending in current month - values used in Figure 3
(3) YoY is year on year – change in value from 12 months earlier to current month

Source: Statistics New Zealand and NZIER