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Presentation to the Construction Clients' Group

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Opening comments (slide 1)

Improving productivity

Katrina Bach, CEO of DBH
Construction Clients' Group Forum
30 March 2011

**Building and Construction Sector
Productivity Partnership**



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Thank you for the invitation to participate in the Construction Clients' Group Forum.

As Chief Executive of the Department of Building and Housing I am pleased that the Department is able to participate in the Construction Clients' Group. The aim of the Group "to achieve a step change in construction productivity by encouraging the sharing of knowledge amongst suppliers and clients" should be lauded.

Purpose of the Productivity Partnership (slide 2)

Purpose of the Productivity Partnership

- Partnership of industry and government (multi-party team approach)
- Raise productivity in the build sector
- Contribute to increased economic development
- Goal: 20% increase in productivity by 2020
- 20%/2020 \approx 2% GDP \uparrow \approx \$3.6 billion p.a.

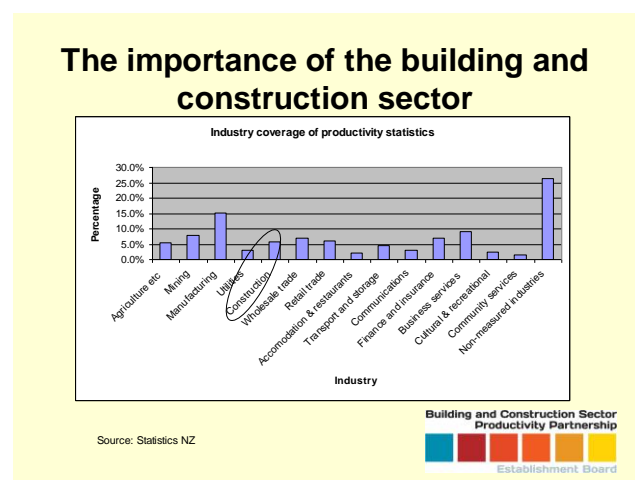
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The aim is complementary to that of the Building and Construction Sector Productivity Partnership, which the Department helped set up in November last year. Bill Smith, the Chair of the Productivity Partnership will be talking about the Partnership in more detail following my presentation. By way of introduction the Partnership has the specific purpose “to help facilitate the enhancement of productivity in the building and construction sector, and to contribute to economic development in New Zealand, for the long-term benefit of consumers and participants in the sector.” The goal is to increase productivity by 20% by 2020. That would translate into a 2% higher GDP or \$3.6 billion per annum.

The importance of the building and construction sector (slide 3)

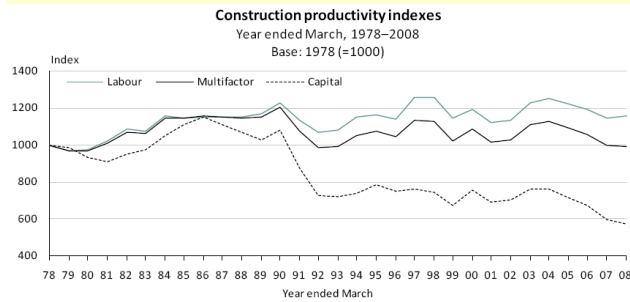


The construction sector accounts for around 5.7% of New Zealand’s GDP. This is roughly equivalent to the agriculture, forestry and fishing sector. It is important to New Zealand’s overall economic performance that such a significant sector of the economy performs well.

The productivity challenge (slides 4 – 9)

Unfortunately, the following set of slides make for grim reading regarding the building and construction sector’s performance. They show that the need to achieve a step change in productivity is well-founded.

The productivity challenge

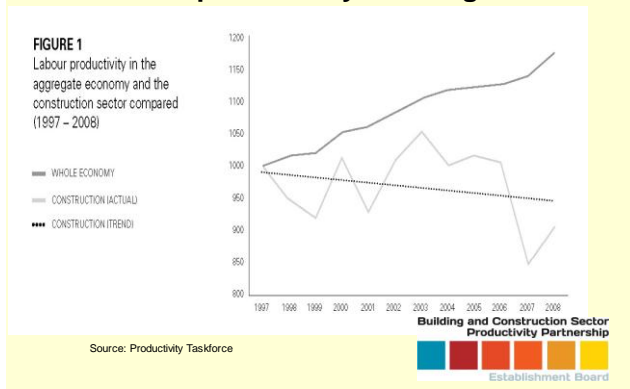


Source: Statistics NZ

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The first graph shows that productivity, regardless of which measure is used, has been declining since 1990.¹

The productivity challenge



Source: Productivity Taskforce

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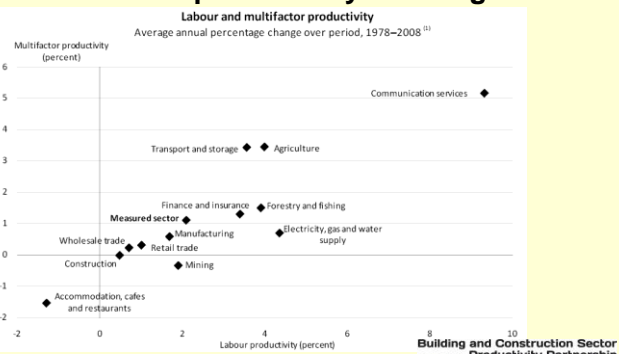
The second graph contrasts the trend in labour productivity for the construction sector with the rest of the economy.

Some care needs to be taken with the data for any particular year-on-year changes. Changes in the prices charged for construction can show up as productivity changes but this averages out over time.

Regardless, the clear message is that labour productivity has been declining for the sector over the last decade, while labour productivity for the NZ economy has been steadily improving.

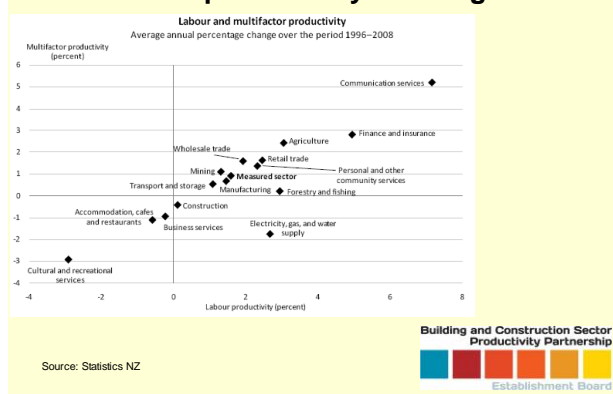
¹ **Labour productivity** measures involve dividing total output by some measures that reflects the amount of labour used in production e.g. total number employed or hours worked.
Capital productivity is measured by dividing total output by a measure reflecting the total amount of physical capital used in the production process.
Multifactor productivity can be measured by dividing total outputs by total inputs. This requires an aggregation of all inputs, such as physical capital and labour. When all inputs in the production process are accounted for and properly measured, multifactor productivity growth can be through of as the amount of growth in real output that is not explained by the growth in inputs.

The productivity challenge



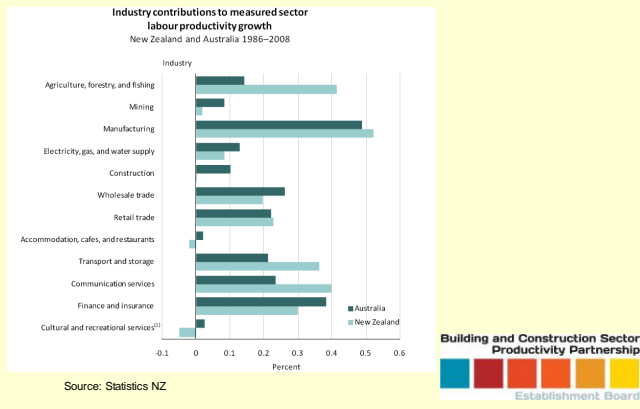
The third graph compares different sectors of the economy. It shows that between 1978 and 2008 only the accommodation, cafes and restaurants sector had poorer productivity growth than construction.

The productivity challenge



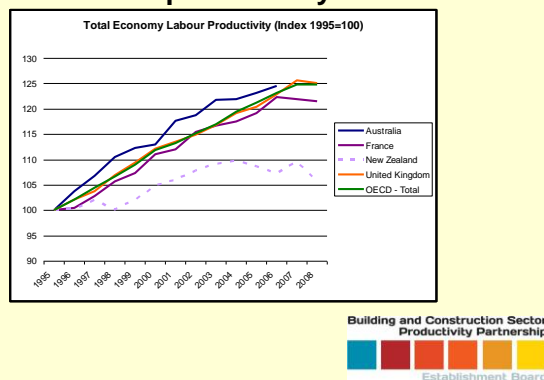
The fourth graph repeats the third graph but for the period 1996 to 2008. Again it makes for poor reading with negative multifactor and labour productivity for the period.

The productivity challenge



The fifth graph compares different sectors of the economy with that in Australia between 1986 and 2008. The New Zealand construction sector has been stagnant over this time (there was some growth before the decline from 1990 onwards) while the Australian construction sector has surged ahead. It is no wonder so many New Zealanders in the construction sector find immigrating to Australia an attractive option. Higher productivity translates to higher wages and a better standard of living, before we even start comparing the weather in the two countries!

New Zealand's challenge is to lift our productivity



When considering the declining trend in productivity in the construction sector and how this compares to other parts of the economy, and the New Zealand economy overall, it should be born in mind that New Zealand is progressively falling behind our trading partners.

New Zealand labour productivity rate is now about 30% below that of Australia.²

² http://www.stats.govt.nz/browse_for_stats/economic_indicators/productivity/taking-on-west-island-nz-labour-productivity.aspx

Clearly there is substantial room for improvement. "Productivity growth," wrote Nobel laureate Paul Krugman "is the single most important factor affecting our economic well-being."³ Productivity is the major focus of the Government, in improving New Zealand's economic performance. Labour productivity in the construction sector will need to improve if the sector is to contribute to the Government's aspiration of narrowing the gap in economic performance between Australia and New Zealand.

Importance to NZ Inc (slide 10)

Importance to NZ Inc

- 90% of NZ household wealth is held in housing
- 31% of building work (\$50k+) results in disagreements and/or disputes (DBH Research, 2010)
- Leaky building syndrome has damaged the reputation of the sector
 - PwC estimate ≈ **\$11.3 billion** cost to repair
- The collapse of 50 finance companies since 2006 ≈ **\$6 billion**

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While considering productivity from a national perspective, we must not lose sight of what it means to customers.

For most people, purchasing a home is by far their biggest investment. New Zealanders' household wealth is more heavily concentrated in housing than most other developed countries. It is estimated that approximately 90 percent of New Zealand households' net assets are held in housing.

Research carried out for the Department in 2010 found that among a large, representative sample of consumers who had purchased "significant building work" in 2005 (work valued at over \$50,000 and for which a building consent was needed) 31% had a "disagreement" with their building contractor. 60% of these disagreements resulted in a major dispute. That's nearly one in five customers.

PricewaterhouseCoopers estimated leaky building syndrome will cost \$11.3 billion to remedy though it could be more, affecting between 22-89,000 houses. This translates to a cost of remediation is approximately \$270,000 per household. To put this in perspective, the average net worth of home owners is approximately \$350,000 and the average wealth of someone approaching retirement age (55-64) is \$409,259.

³ *The Age of Diminished Expectations*, 1990, The Washington Post Company.

To put these figures further in perspective, leaky building syndrome losses are far greater than those from financial company collapses. About 50 finance companies have collapsed in New Zealand since 2006 with accumulated losses of \$6 billion.

So what can we all do about this? As I mentioned earlier, Bill Smith will be talking to you shortly about the initiatives the Productivity Partnership is taking to turn the sector's performance around.


I also mentioned the Partnership's target of 20% improvement in productivity by 2020.

Case Study 1: Roothing Sector (slide 11)

Case Study: Roothing Sector

- Productivity of the roading sector increased by 23% from 2000/01 to 2008/09
- Driven by a small number of key industry changes:
 - More emphasis on delivering value for money and quality, not just lowest price
 - Development of a contractor prequalification system
 - Shift from prescriptive specifications to performance based
 - Greater adoption of bundled contracts (construction and maintenance)

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The roading sector provides a useful case study for what can be achieved.

The roading sector has a lot of parallels with the building and construction sector. Both focus on building long-term critical infrastructure for New Zealand and the community.

The roading sector has, and continues to face, a number of challenges. No matter how efficiently roads are built there will always be pressure for more investment; be it transmission gully out of Wellington, a new harbour bridge or tunnel in Auckland or many of the long list of other prospective initiatives. Inefficiency and cost overruns simply translate into longer queues for other prospective investments.

Productivity in the roading sector has improved by 23% from 2000/01 to 2008/09. This was also a period of the biggest increase in road construction since the 1960s. If the roading sector can achieve this, I can see no reason why our sector can't do the same over the next decade.

There were a small number of key industry changes that drove these productivity improvements, which can be adapted by other sectors.

First there was a shift from lowest price conforming evaluation to an emphasis on achieving best value price-quality trade-offs. The focus on lowest price was not conducive to quality outcomes and resulted in lots of cost blowouts, variations and disputes. Many contractors also simply went bust.

Secondly, there was development of a contractor prequalification system. Contractors were required to have Quality Assurances and Management Systems, which resulted in them dramatically upskilling and improving their productivity.

Thirdly, there was a shift from prescriptive specifications to performance-based contracts.


Finally, there was a move to greater adoption of bundled contracts (construction and maintenance).


There are presently 6 – 7 contractors that tender nationally for bundled roading contracts compared to only 2 in 2000.

Case Study 2: Wellington Indoor Sports Centre (slide 12)

**Case Study:
Wellington Indoor Sports Centre**

- Great – Procurement, Practice, People (client and providers)
- Objectives included sustainability and whole-of-life performance
- Clients and providers worked as a team and with the community
- “Value Management and Engineering” approach led to innovations to stay in budget but deliver objectives
- Design and build will save \$200K a year in operating costs
- Use of Building Information Model (BIM) allowed for better team work and client relations, and real time project management



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On a smaller scale, the Wellington Indoor Community Sports Centre highlights the improvements that can be made by doing things better. The Sports Centre will be familiar to anyone that has driven between Wellington Airport and the city.

Embedded in the development of the brief for the centre were impact on environment, sustainability and whole of life of the structure as well as early

community consultation and engagement. It wasn't simply about building the centre at the lowest cost.

A requirement was to demonstrate how the design and sustainable features incorporated in the centre would deliver value to the client over the life of the building.

A Value Management and Engineering approach was utilised to maintain the sustainability aspects of the brief within the available project budget. Use of Building Information Model (BIM) allowed for real time project management

The design and build of the centre will save \$200,000 per annum in operating cost. This translates to \$14 million over the life of the building.

Final comments (slide 13)

Final comments

- The building and construction sector needs to be mindful of its poor performance and not stuck in the past
- Improvement in performance can and must happen
- 20% improvement in productivity by 2020 is very achievable
- The DBH is fully committed to making this a reality
- But it will take work and commitment from industry stakeholders through the likes of the Construction Clients' Group and the Productivity Partnership

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I started my talk today with a focus on the negative; the faults of the sector in the past. I passionately believe the sector can turn its performance around and contribute to the prosperity, growth and economic well-being of New Zealand.

The challenge for the sector and organisations such as the Construction Clients' Group and the Productivity Partnership is to match the gains made in the roading sector, and translate individual best practice examples like the Wellington Indoor Community Sports Centre into standard industry practice. I, and the Department of Building and Housing, are fully committed to helping make this a reality. It will take commitment and work by all stakeholders to make the gains a reality.