

RoVE: Potential impacts for the building and construction sector

For BCITO

March 2019



Infometrics

Economics put simply

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Executive summary

Infometrics believes the proposals outlined in the review of vocational education (RoVE) could potentially have far reaching implications for the building and construction sector.

However, a lack of detail around proposed changes makes it difficult to estimate the exact impact on the building and construction sector.

Strong demand for trade qualified workers to continue...

- While construction activity is close to a peak, we expect demand conditions to remain strong, continuing to place pressure on capacity and the supply of workers and skills in the industry.
- Across the wider construction industry, we forecast total construction job openings to hold over 19,000pa throughout the next five years.
- Relevant vocational training within a robust framework is therefore vital in enabling the industry to meet skilled worker demand over the next five years.

...yet RoVE changes are likely to reduce apprentice sign-ups in the short-term...

- In the short-term, we believe that employers will reduce formal workplace-based training as they disengage with vocational education, find other sources of labour, or do their own training.
- We have estimated the potential short-term (2019-2023) impact of a decline in building and construction apprentice sign-ups, relative to BCITO's business as usual forecasts, under three scenarios: modest, moderate, and significant employer reaction. The largest impact is expected to occur in 2020 and 2021.
- Under these scenarios we estimate:
 - A reduction in apprentice sign-ups over the period ranging from 1,200 to 5,300.
 - An overall drop of between 700 and 3,200 completions after 5 years.
- Drawing on return on investment work commissioned by BCITO, we model the overall drop in value-add to employers due to the reduced sign-ups. These impacts are:
 - After 5 years, a reduction in employer value-add of between \$34.3 million and \$148.6 million.
 - A reduction in employer value-add over a 10-year period ranging from \$105.1 million to \$455.6 million.

Table 1

Summary of impacts

Potential impact of RoVE on BCITO sign-ups relative to BAU forecast

	Apprentice sign-ups	Apprentice Completions	Reduced employer value-add (\$m)	
			After 5 years	After 10 years
Modest employer reaction	-1,230	-732	-34.3	-105.1
Moderate employer reaction	-2,460	-1,463	-68.6	-210.2
Significant employer reaction	-5,332	-3,172	-148.6	-455.6

...impacting building quality.

- Quality issues have been evident in New Zealand during boom periods in the construction cycle. Research indicates a lack of appropriate skills among construction workers and supervisors has been a contributing factor during boom periods.
- A reduction of 3,200 building and construction apprentice completions is likely to result in employers taking on unskilled labour, exacerbating quality issues.

ISBs with less engagement from SMEs and smaller trades...

- New industry skill bodies (ISBs) for industries are proposed under the RoVE to provide industry skills leadership and set industry standards.
- Without strong linkages with 'on the ground' workplace-based training, organic feedback from employers and apprentices under the current industry training system that is incorporated in standards setting and skills leadership is unlikely to occur.
- SMEs are critical to the construction sector, making up 92% of businesses in BCITO's coverage, while 81% of businesses that BCITO arranges training for have 2 or fewer apprentices. With construction conditions forecast to remain strong, small businesses will not, unless incentivised, engage with ISBs.
- Larger trades, and businesses who have dedicated HR functions will engage with ISBs and are likely to skew the voice of SMEs and smaller trades. This criticism has been laid in Scotland, which is broadly like the one proposed.

... with a range of other long-term impacts.

- Infometrics believes over the longer-term that the proposed RoVE changes could have significant benefits and weaknesses for the building and construction sector. The overall likely long-term impacts are discussed but are only likely to be truly known once more detail is known.

Purpose

The proposals outlined in the review of vocational education (RoVE) have far reaching implications for tertiary education organisations, learners, employers and wider industries.

The Building and Construction Industry Training Organisation (BCITO) has asked Infometrics to look at potential impacts on employers in the sectors it represents. Infometrics has provided building-specific commentary to BCITO for over 10 years and has a good understanding of BCITO's sector and industry training. We also attended BCITO's VET (vocational education and training) summit on 5 March, attended by 120 building and construction representatives, to better understand the views of industry.

In this report we set the scene by providing an outlook for the building and construction sector and what this means for the demand for trade qualified workers. We then focus on two of the key areas identified at the BCITO VET summit:

- the potential short-term impact of the RoVE proposals on employer engagement in formal workplace-based training.
- Engagement of industry and SMEs with the proposed industry skills bodies (ISBs).

We then conclude with a high-level assessment of the potential strengths, weaknesses, opportunities, and threats of the proposed changes on the building and construction sector over the medium to long term.

Outlook for the building and construction sector

Activity in the building and construction sector is close to a peak, yet the need for skilled workers is strong and will remain so for several years. The following is a summary of the outlook for the building and construction sector that Infometrics provided to attendees at the BCITO industry summit.

We still need more trades-qualified workers

Construction activity is close to a peak...

Since mid-2011, the construction industry has enjoyed a sustained period of strong growth. Over this period, total activity has increased by 48%, with growth averaging 5.6%pa. This expansion was initially underpinned by rebuild work following the 2011 Christchurch earthquake. However, strong population and economic growth have also boosted activity in Auckland and, subsequently, throughout most other regions.

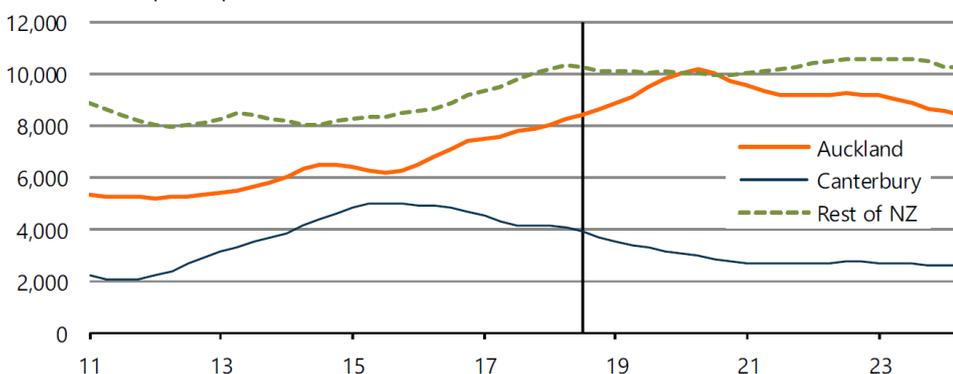
We believe that construction activity is now close to its peak and will start declining from mid-2020. However, that broad-brush nationwide outlook masks significant variation in regional prospects.

Activity in **Canterbury** has retreated from post-quake highs and is expected to decline by a further 32% by the end of 2021. Further construction growth in **Auckland** is required to address the undersupply in housing, yet capacity constraints will continue to make further growth difficult. For the **rest of the country**, a softer housing market, declining net migration, and slowing economic growth will lead to a drop-off in building work, although this decline will be mitigated by increased infrastructure spending.

Graph 1

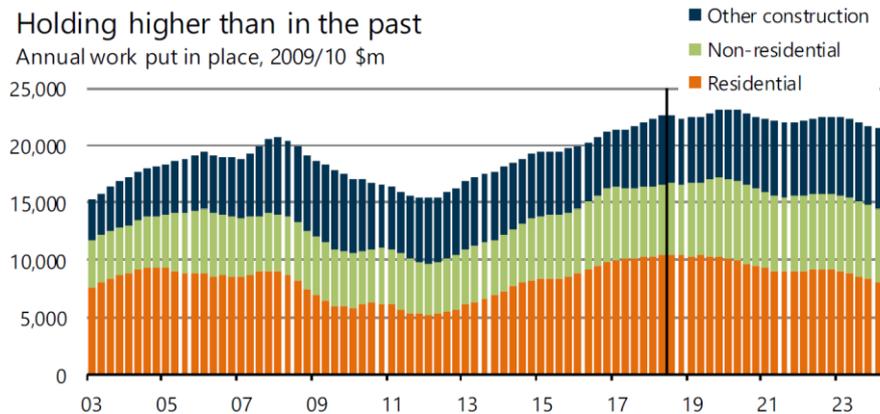
Construction volumes by region

Annual work put in place, 2009/10 \$m



We forecast a 9.5% decline in total construction activity over the next five years. In the context of the industry's growth in recent years, this decline is relatively small and would still leave activity 9.0% above the previous high recorded in 2008. **Put simply, demand conditions will remain strong, continuing to place pressure on capacity and the supply of workers and skills in the industry.**

Graph 2



Key issues faced by the industry

Housing affordability has become a major concern, with the inability of potential buyers to pay the asking price for properties in Auckland. Declining property values in Auckland in response to affordability issues will make conditions less attractive for developers, threatening residential construction activity and hampering any improvement in the region's housing shortage.

Financial difficulties and failures of several large construction companies have undermined capacity in the vertical construction space. The next tier of firms will be reluctant to expand into the void that has been created, which could lead to the presence of more overseas-based firms operating in New Zealand, potentially bringing in their own contractors, subcontractors, and materials.

Projections of healthy growth in infrastructure activity are subject to **the timing of central government spending and the availability of funding and resourcing for local councils**. Given rapid population growth over recent years, the need for more investment in infrastructure is obvious. But the intent demonstrated by both central and local government is only part of the puzzle, with challenges posed by planning timelines and resourcing issues.

... but there is no end in sight for the demand for skills

We expect employment growth in the construction industry will slow from an average of 5.8%pa between 2013 and 2018 to 3.2%pa on average between 2019 and 2024. Although these figures represent a significant slowdown, construction employment

growth over the next five years is still predicted to be twice as fast as employment growth across the wider economy.

Furthermore, even with this slower employment growth outlook, the industry's aging workforce means that the number of replacement job openings over the next five years is expected to be up 45% on the last five years. As a result, total construction job openings are forecast to hold above 19,000pa throughout the next five years.

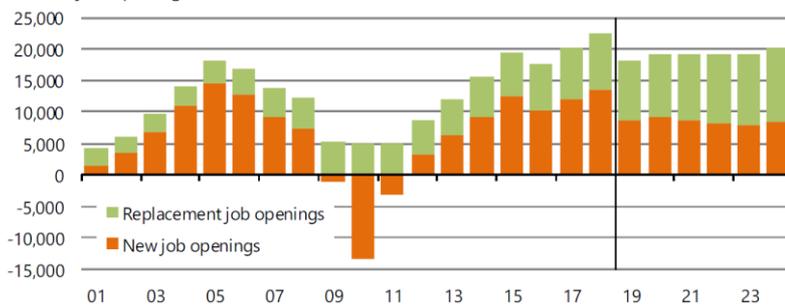
These figures make it clear that demand for trades-qualified workers is not going to disappear any time soon – particularly when the capacity constraints that have already been limiting the industry's growth are also considered. The ability of the construction industry to attract apprentices remains paramount, and with New Zealand's unemployment rate expected to hold around 4%, competition for workers will continue to be intense. Rising labour costs also mean that businesses will want to get the best out of their staff.

In an environment where automation is already affecting workplaces, this recipe is conducive to greater use of capital investment and the concentration of labour in higher-skilled and higher-value roles. **Relevant vocational training within a robust framework is vital in enabling the industry to meet future demand.**

Graph 3

Plenty of job openings in the construction industry

Annual job openings, Infometrics estimates and forecasts



Potential short-term impacts of RoVE on employers

The RoVE proposals are light on detail and even lighter on costings. This was highlighted by the Treasury, who showed concern that Cabinet was being asked to agree to a significant in-principle decision without a clear indication of the likely overall financial implications of the changes proposed, including short-term transition costs and enduring funding changes. In many respects this lack of clarity is understandable, given the overall direction is still being developed and a genuine consultation around the direction of the vocational education sector is taking place. However, the lack of detail has created confusion and uncertainty amongst learners, employers and other parties such as parents, careers advisors and prospective learners.

Confusion and uncertainty manifest themselves in various ways. Until more details are known about the RoVE proposals, there is a sense among industry representatives that some employers and employees will hold off engaging in workplace-based training until a clear transition process from the current vocational education model to a new model is known. Further, there is a risk that confidence in any new system introduced is low for a period until employers and learners engage with the system and tangible outcomes are observed. In the longer-term, it is unclear without further details, whether employers and employees will react positively or negatively in their engagement with vocational education.

What we know from the past

Since 1984, there have been two periods of significant change that can be drawn on when looking at potential impacts of uncertainty or structural change on workplace-based training. The first relates to the introduction of the Industry Training Act in 1992 and the creation of Industry Training Organisations. The second relates to the Review of Industry Training during 2010-2012. Anecdotal information suggests that there was uncertainty over both periods, but the overall impact is less clear given large economic changes occurring at the same time.

- The number of building apprentices declined by an average of 17%pa between 1988 and 1992. A key driver for the decline included changes to New Zealand's economy over the period, with unemployment increasing from 4% in 1987 to 11% in 1992.
- The recession that started in 2008 and the subsequent slashing of trainee numbers across the sector resulted in BCITO learners (trainees and apprentices) dropping by an average of 12%pa between 2008 and 2011. The Canterbury earthquakes further complicated trends in later years, with demand for building and construction workers increasing.

Put simply, due to various other factors at play during and immediately after significant change in industry training in New Zealand over the past 35 years, it is hard to definitively pinpoint the impact of significant changes on employers' and employees' training behavior. The same is likely to also apply over the next couple of years if changes in the order of magnitude of those proposed proceed, especially given the

current tight labour market and continued shortage of skilled labour in the building and construction sector (see: [We still need more trades-qualified workers](#)).

What could happen?

Despite the lack of historical evidence to draw on, we can look at broader international research on the impacts of merging organisations, which is essentially the proposal set out in the RoVE for arranging the training function that ITOs currently perform.

There is a body of evidence in the private sector suggesting that the estimates of potential gains from merging need to be treated sceptically. In their report to the Tertiary Education Commission (TEC), Mischewski and Kitone note that an average merging company loses 2-5% of its combined customers, with a similar trend found among higher education institutions in Brazil.¹ Given the size and magnitude of the changes proposed in industry training, it is possible that the losses of building and construction employers and employees engaging in industry training could be much larger.

In terms of workplace-based training we believe that one or more of the following behavioural changes will occur over the 2019-2022 period until the proposed changes are fully bedded in:

- **Substitution:** Employers switch from workplace-based training and get skilled labour from elsewhere – either from immigration or provider-based training via the proposed New Zealand Institute of Skills and Technology (NZIST) or a private training establishment. We believe the likelihood of employers, particularly SMEs, switching their training preferences to a provider-based, largely off-job (classroom-based), model is very low over the next couple of years during a period where there is a shortage of workers, as employers seek to retain workers to ensure they can deliver on deadlines.
- **Disengagement:** During periods of uncertainty and change, such as mergers or system-wide change, research shows that customers can disengage with either the merging organisations or the system as a whole while change is occurring. Although there is no reliable evidence of this occurring in a workplace-based training setting in New Zealand, disengagement by students (and presumably employers) can be seen in provider-based mergers. For example, in the lead-up to the establishment of Toi Ohomai, student numbers in the two merging ITPs (Waiariki and Bay of Plenty Polytechnic) dropped off for a while.
- **Employers do their own training:** Employers engage in formal workplace-based training for a range of reasons, including receiving industry-relevant qualifications that are quality assured and subsidized by the taxpayer. Government in turn subsidizes workplace-based training as it has positive externalities beyond the individual learner and employer, as it also provides learners with transferable skills that can be used in different contexts across the industry. It is possible that during the period of uncertainty and transition, employers become frustrated and move away from formal industry training and instead train their employees in areas only relevant to their role in the business. This in turn harms employees' future development prospects (for example,

¹ Mischewski, B. and Kitone, L. (2018). "ITP ROADMAP 2020 - Mergers of tertiary education organisations – approaches and implications" (<https://conversation.education.govt.nz/assets/RoVE/05b-B-18-00652-Attachment-C-Mergers-of-tertiary-education-organisations-....pdf>).

learning is of variable quality or not transferable to other jobs). It also increases the risk that employers looking for new workers will not benefit from the broader transferable skills of formal qualifications. Employers many also find it more difficult when looking to hire experienced staff if the currency of a formal qualification is reduced.

Employers and industry representatives at the BCITO VET summit provided feedback that in the short-term that they would continue to engage with BCITO and industry training as they are happy with the service that BCITO provides and have little other alternative given current skills shortages in the sector. For employers firmly entrenched in the current system, this make sense, however we note that this may not be the case for new or potential employers, particularly SMEs.

Future scenarios

Drawing on the above analysis and feedback from industry representatives, Infometrics believes that it is likely that employers' and employees' engagement in industry training with formal qualifications will decrease. This section looks at three potential short-term employer reactions in terms of building and construction sign-ups if the RoVE proposals proceed.

- **Scenario 1- Modest employer reaction**

There is a modest drop off in apprentice sign-ups relative to current forecasts out to 2023, but sign-ups continue to grow strongly each year. By 2024 employers are fully engaging with the new system.

- A modest (2%) drop in apprenticeship sign-ups occurs in 2019, relative to BCITO's forecasts, as a small number of new or potential employers do not engage with workplace-based training due to uncertainty with the vocational education system.
- A drop off in apprentice sign-ups in both 2020 and 2021, relative to BCITO's forecasts, as some employers adopt a 'wait and see' approach in terms of taking on apprentices.
- The drop off in apprentice sign-ups in 2022 and 2023 (2% and 3% respectively) is smaller as employers become more familiar with the new system.

- **Scenario 2 – Moderate employer reaction**

Overall apprentice sign-ups are down on BCITO forecasts but continue to grow year-on-year.

- Apprentice sign-ups are down 4% for the rest of 2019, relative to BCITO's forecasts, with some employers not engaging with workplace-based training due to uncertainty with the vocational education system.
- Apprentice sign-ups are a further 10% lower in 2020 and 2021, relative to BCITO's forecasts, with a notable number of employers choosing not to take on apprentices.

- The drop off in apprentice sign-ups in 2022 and 2023 (4% and 2%, respectively) are smaller as employers become more familiar with the new system.
- It is unclear whether by 2024 there will be a continued impact of the RoVE changes on employers' willingness to take on apprentices.

- **Scenario 3 – Significant employer reaction**

A large number of new and existing employers engaged in industry training choose to no longer engage in formal workplace-based training.

- For the remainder of 2019, a number of potential new employers do not take on apprentices, while a number of existing engaged employers who regularly take on apprentices do not, resulting in a 10% fall in apprentice sign-ups, relative to BCITO's forecasts.
- In both 2020 and 2021, there is a further 20% drop in apprentice sign-ups, relative to BCITO's forecasts.
- The drop off in apprentice sign-ups in 2022 and 2023 (10% and 5%, respectively) are smaller as some employers become more familiar with the new system.
- It is likely that the proposed ROVE changes will have a continued impact on employers' willingness to take on apprentices in 2024 and beyond.

Table 2 summarises the impact on BCITO apprentice sign-ups under each of the employer responses outlined above.

Table 2

Scenario summary

Potential impact of RoVE on BCITO sign-ups relative to BAU forecast

	Change in apprentice sign-ups				
	2019	2020	2021	2022	2023
Modest employer reaction	-2%	-5%	-5%	-2%	-1%
Moderate employer reaction	-4%	-10%	-10%	-4%	-2%
Significant employer reaction	-10%	-20%	-20%	-10%	-5%

Under each assumption, we have chosen to take a conservative approach and only look at the potential impact of a drop off in engagement in workplace-based training. We have assumed no change in students in provider-based vocational education, which is also likely. This said, workplace-based learners with BCITO at Levels 3 and 4 on the New Zealand Qualifications Framework represent over 75% of vocational education learners in the building and construction sector, meaning the bulk of any drop off in vocational education is likely to come from the industry training system.

Potential impact of scenarios

This section looks at the potential impact of each of the three scenarios on the supply of trade qualified building and construction workers, and the value add provided to employers.

Impact on skills supply

BCITO's business as usual (BAU) forecasts for apprentices shows building and construction apprentice numbers will continue to grow strongly in 2019 before dropping back to a more moderate rate in 2020 to 2023, in line with overall conditions in the sector. To support this growth, apprentice sign-ups are expected to grow from around 6,900 in 2018 to just over 9,000 in 2023.

Apprentice sign-ups for 2019 have been provided by BCITO. Beyond 2019, we have estimated apprentice sign-ups by using the average relationship of apprentice sign-ups to total apprentices over the past three years.

Table 3 shows the potential reduction in building and construction apprentice sign-ups, relative to the BAU BCITO forecasts, range from over 1,200 under the 'modest employer reaction' scenario to just over 5,300 under the 'significant employer reaction' scenario.

Table 3

Forecast building and construction sign-ups

BCITO business and usual forecast and scenarios

	Apprentice sign-ups					Change in apprentice sign-ups relative to BCITO forecasts					
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023	Total
BCITO BaU forecasts	7,436	8,015	8,336	8,669	9,016						
Modest employer reaction	7,287	7,615	7,919	8,496	8,926	-149	-401	-417	-173	-90	-1,230
Moderate employer reaction	7,138	7,214	7,502	8,323	8,836	-297	-802	-834	-347	-180	-2,460
Significant employer reaction	6,692	6,412	6,669	7,802	8,565	-744	-1,603	-1,667	-867	-451	-5,332

We can look at what the likely reduction in building and construction apprentice sign-ups means for the supply of trade qualified apprentices after a five-year period by drawing on current BCITO 5-year cohort completion rates. It is assumed, as is the case currently, that it takes around 4 years on average to complete a building and construction apprenticeship.

Table 4 shows the overall reduction in completions, relative to BCITO's BAU forecasts, range from 700 to almost 3,200. The overall reduction in apprentice completions is likely to be understated as current 5-year BCITO cohort completion rates have been used. Completion rates have improved in recent years and are likely to continue to do so over the forecast period.

Table 4

Forecast reduction in building and construction completions

Reduction in BCITO completions relative to BCITO's forecast under each scenario

	Change in apprentice completions relative to BCITO forecasts					Total
	2024	2025	2026	2027	2028	
Modest employer reaction	-88	-238	-248	-103	-54	-732
Moderate employer reaction	-177	-477	-496	-206	-107	-1,463
Significant employer reaction	-442	-954	-992	-516	-268	-3,172

To put the reduction in completions under each scenario in context, the workforce that BCITO has coverage for is expected to require an average of 15,400 additional workers each year over the next five years.²

Impact on overall employer value-add

Industry training and apprenticeships provide value to employers (eg, greater value-add), trainees and apprentices (eg, formal qualification and while getting paid) and the government (eg, reduced likelihood of welfare dependence, increased civic engagement).

Various studies, both in New Zealand and internationally, have been undertaken in a range of sectors and industries to try and quantify the benefit of workplace-based training for employers over various time-periods. Generally, the return on investment of training workers is negative in the first couple of years of training as time is spent learning skills to become proficient and add value, which in turn result in large growth in return in investment in the three to ten years after starting training in particular. The growth curve for an unskilled employee who does not undertake training is typically a lot flatter.

In 2015, Scarlatti and Kevin Bryant Consulting undertook a structured approach to understanding the returns of training in a range of sectors within BCITO's coverage.³ In each sector, a small cross-section of employers was interviewed using a 'valuing investment in people-economic returns' (VIPER) approach that creates a quantitative link between the impact of training on individual productivity and measures of return. Focusing the VIPER analysis on four value drivers, the return on investment work was able to quantify, in each workplace interviewed, the return on investment over time of two workers who start out with similar skills, with one undertaking training while one does not. The four value drivers are:

- volume of work
- charge rate
- quoted job size
- hours worked per job.

Using the information from the VIPER approach, we can estimate the productivity gain to an employer by taking the difference of the return on investment to the employer from someone in training and someone not in training. This productivity difference can then be applied to the reduced number of apprentices completing under each scenario, relative to BCITO's BAU forecasts, to estimate the overall impact on value-add to employers.

The above approach carries some limitations, which have been mitigated where possible:

² Annual average total job openings in BCITO's sector for the 2019-2024 period of 15,400 is lower than forecast annual average total job openings in the construction sector outlined in Outlook for the building and construction sector' as, while the sectors have significant overlap, the construction sector also includes wider industries such as plumbing and electrical.

³ Barker, A. & Bryant, K. (2016). 'A summary of key findings for the return on training for six construction sectors including five subsectors'.

- **Sectors interviewed:** not all BCITO sectors were examined as part of the return on investment work. The sectors measured represent around 80% of BCITO's workforce and includes large sectors, such as Carpentry. For sectors that were not measured, a conservative two stage approach was taken:
 1. where a sector is very similar to another, that return on investment data was used.
 2. if an unmeasured sector is not very similar to one that is measured, we used the sector with the lowest productivity difference.
- **Small number of employers interviewed:** in each of the nine sectors or sub-sectors where interviews were undertaken, only around 10 employers were interviewed. While this is a relatively small sample size, Scarlatti and Bryant outline that inputs provided by different individuals were similar enough to give us confidence that their analysis is a fair reflection of overall sectors interviewed. Further, BCITO have confirmed a cross section of employers of different sizes were interviewed to reflect the makeup of sectors.
- **The counterfactual:** given data availability and a lack of modelling done on the potential RoVE changes on building and construction completions from providers we have assumed that the most likely counterfactual to employers taking on an apprentice is to take on an unskilled worker. Data from Scarlatti and Bryant imply that unskilled workers provide value to employers relative to not taking on anyone. However, after five or more years the counterfactual could change if the RoVE proposals result in more building and construction completions from providers.
- **Focus on completions:** when looking at the impact on overall employer value-add we only focus on sign-ups likely to complete. This approach is likely to be conservative as the return on investment work by Scarlatti and Bryant show productivity to be higher for a worker who trains but who doesn't complete than workers not in training after three years. For example, a worker could start out as an apprentice and withdraw yet still add value.
- **Value-add is in 2015/16 dollars:** The return on investment work undertaken by Scarlatti and Bryant occurred over 2015/16. As a result, the current day, and forecast additional, value-add of someone in training is likely to be higher. As observed previously, prices and charge out rates can rise significantly in the building and construction sector during booms and skills shortages. Although we examined converting the return on investment into current prices, we felt it would imply a false level of accuracy to the modelling taken. Impacts should therefore be considered conservative as a result.

Estimated results

Table 5 shows the estimated overall value-add that is lost to employers under each scenario after five and ten years. The overall lost value-add to employers after five years ranges from \$34.3 million under the 'modest employer reaction' scenario to \$125.7 million under the 'significant employer reaction' scenario. The likely impact of increased students enrolling and completing with providers over this period, and thus, reducing the estimated lost value-add to employers, is expected to be marginal. It often takes 4 years or more to complete a building and construction qualification, find employment and then become familiar with organisation-specific processes.

Over a ten-year period, overall lost value-add to employers is likely to range from up to \$105.1 million under the 'modest employer reaction' scenario to up to \$455.6 million under the 'significant employer reaction' scenario. The ten-year estimated overall lost value to employers is likely to be at the upper end of the spectrum but could be lower if employers take on more building and construction provider graduates over the ten-year period.

Table 5

Forecast impact on employers value add

Impact on employers value add under each RoVE scenario

	Change (\$m)	
	After 5 years	After 10 years
Modest employer reaction	-34.3	-105.1
Moderate employer reaction	-68.6	-210.2
Significant employer reaction	-148.6	-455.6

Impact on employees

There are numerous studies of the benefits of industry training and apprenticeships to employees. Besides the direct benefit of having the opportunity to obtain a formal qualification while earning a wage, the following are also some of the broader benefits to employees:⁴

- increased confidence
- a sense of achievement
- increased self-worth
- improved literacy and numeracy (including being able to read to family)
- increased civic engagement.

Many of the above benefits are unfortunately difficult to directly measure.

A reduction in employers taking on apprentices relative to BCITO's BAU forecasts will reduce the above benefits to employees.

Impact on building quality

Shortages of trade qualified labour in the building and construction sector will continue to occur over the coming years. This is likely to be exacerbated by the reduction in apprentice completions, especially if a reduction in 3,200 completions is realised.

In periods of strong labour demand and skills shortages, businesses can either turn down work (and extra money), take on unskilled labour, or decrease supervision. The former costs the employer, while the latter two often result in significant quality issues.

Quality issues have been evident in the past in New Zealand during boom periods in the construction cycle. However, quantifying and isolating skills shortages as the key cause is

⁴ Ministry of Education (2012). 'INDUSTRY TRAINING REVIEW: Results of the employer interviews & survey' (<https://www.education.govt.nz/assets/Documents/Ministry/consultations/Review-of-industry-training/ResultsOfEmployerInterviewsSurvey.pdf>)

fraught, as in recent boom periods there have been a range of factors at play. For example, between 1990 and 2004 an estimated 42,000 homes were built in New Zealand vulnerable to leaks.⁵ Although the main problem has been attributed to the use of new, unreliable designs for the New Zealand environment, a lack of appropriate skills among construction workers and supervisors has also been identified as a contributing factor.⁶

Taking on unskilled labour

In a period of strong demand, there are typically periods of labour and skills shortages. This is particularly the case given the boom and bust nature of the building and construction sector. During bust times, employers typically look to shed untrained workers while in boom times, employers often need workers in a hurry in order to respond to demand and are willing to compromise on the skills of people they take on. Small or large gaps in skills of people taken on can result in the quality of workmanship being variable, and in some instances poor. If picked up by supervisors in the quality control process, this can result in rework and ultimately ends up costing the employer.

Poor supervision

In periods of severe skills shortages, work is more rushed and often there is less rigorous checking of work undertaken as supervisors are stretched across a larger number of projects. In these instances, it is possible that quality issues, both small and large, are not picked up by supervisors and inspectors, often resulting in significant costs for home owners.

When engaging with clients about our quarterly building forecasts, we have increasingly been hearing anecdotes of quality issues creeping into building work being undertaken or completed in New Zealand. Most of the anecdotes shared with us have picked up in quality assurance and required rework. If shortages of trade qualified workers get worse, we expect some instances of poor supervision to start to creep through and have a real impact on home owners.

⁵ Gordon, G. & Curtis, M. (2018). "BRANZ Study Report - Building-quality issues: A literature review" (https://www.branz.co.nz/cms_show_download.php?id=8748debf21c48edf999affc9f484b99a190010d9).

⁶ Mumford, P. (2010). "Enhancing performance-based regulation: Lessons from New Zealand's building control system" (PhD, Victoria University of Wellington, Wellington, New Zealand).

SME and industry engagement with proposed ISBs

The RoVE proposals outline the establishment of industry skills bodies (ISBs) for industries to:

- provide skills leadership, coordinating industry efforts to identify and plan to address future skills needs;
- set skill standards and approve programmes in vocational education across the entire vocational education and training system;
- set or moderate end of study assessments;
- support high-quality programmes, core curricula, and teaching and learning resources, working with Centres of Vocational Excellence where appropriate; and
- advise and guide the TEC's priorities for purchasing vocational education.

The proposed ISBs have several benefits over the status quo, specifically giving specific groups (ISBs) responsibility for skills leadership. It is fair to say that since the early 2000s, industry skills leadership has been somewhat of a political football. ITOs were given the responsibility for skills leadership in the early 2000s and it was then removed from ITOs as part of the review of industry training in 2012, with the responsibility for skills leadership broadly diluted across a range of industry stakeholders (including ITOs). Ironically, since 2012 some ITOs have improved skills leadership, but significant variability is still evident across ITOs.

A further key benefit of a potential ISB for the building and construction sector is the potential it creates for the broader sector to plan and market itself in a more coherent manner. In our view, the current building and construction trades coverage is fragmented, with most of the sector with BCITO but other parts, such as electrical, plumbing and air-conditioning with other ITOs. While much of the fragmentation of parts of the building and construction sector across ITOs is historical, we see the proposed ISB model as an opportunity to create a united building and construction trades sector which would not only have a unified voice but also a stronger skills leadership approach. Industry representatives at the BCITO VET summit welcomed the idea of re-examining the industry coverage of a vocational education body for the building and construction sector, regardless of whether the proposed changes go ahead. This view was conditional on existing smaller sectors and trades not losing their voice in any larger building and construction vocational education industry group.

ISBs could be increasingly disconnected

We believe there is a significant risk to the building and construction industry of the ISBs becoming out of touch with the needs and views employers due to:

- reduced 'organic feedback' relative to the current ITO model; and

- increased transaction costs, particularly for SMEs, which are likely to reduce employer engagement with ISBs, meaning ISBs could become 'captured' by larger employers that do engage.

The above concerns are not new. Similar concerns have regularly been raised in relation to Sector Skills Councils (SSCs) in Scotland, which the proposed ISBs largely appear to be modelled off. For example, a criticism often levelled at SSCs is that they do not reflect the wider needs of business as not enough employers, particularly SMEs, are involved in the framework.⁷

Reduced 'organic feedback'...

One of the key benefits of the current industry training arrangement is that ITOs not only arrange training but also set standards and are involved in skills leadership (although not exclusively). This provides multiple mechanisms for ITOs to gain feedback, both formal and informal, from employers.

Under the proposed changes, ISBs will not arrange or deliver training and therefore are likely to find it significantly harder to gather informal feedback or observations through regular engagement with employers. This includes ad-hoc feedback that training advisors pick up from employers, apprentices and other staff when visiting the work site.

A common theme from industry representatives at the BCITO VET summit is that the current system provides the ability for employer feedback to training advisors to be directly fed-back into the relevant part of BCITO, whether it be in the area of standard setting, workforce development and skills leadership, or moderation.

Uncoupling the arranging training from the other roles and functions ITOs currently perform would significantly reduce the ability for organic 'on-site' feedback, and for these observations to be fed to the appropriate area for consideration or action. We believe that providers under the proposed new system, where providers have the responsibility for workplace-based training but not the standards setting and skills leadership functions, will not pass feedback on to the ISB as there is no direct benefit to them in doing so. Instead providers are likely to focus on ensuring they deliver on their core roles. A similar situation occurs now, whereby providers provide ITOs little feedback from students on the standards set or workforce development and skills leadership.

...Increased employer transaction costs...

Under the proposed arrangement, employers will be expected to engage with multiple organisations including:

- providers for workplace-based training
- ISBs for skills leadership, standards setting and moderation
- regional leadership groups for regional needs.

Given expected tight labour market conditions over the coming years and a shortage of trades-qualified workers, we anticipate employers will increasingly focus their time and

⁷ Ministry of Education. (2011). "Review of Industry Training: Industry training systems in other jurisdictions" (<https://www.education.govt.nz/assets/Documents/Ministry/consultations/Review-of-industry-training/InternationalComparisons.pdf>); The Scottish Government. (2009). "The Scottish Government's Apprenticeship Summit Report".

resources on areas that are related directly to core business: delivering to clients. As a result, employers are likely to only engage with areas of the vocational education system that provide direct value to them. This means that employers will primarily only engage with tertiary providers in the vocational education system. We expect only employers that are firmly embedded in workplace-based training or who have dedicated HR functions will likely engage with ISBs and regional skills leadership groups.

The risks associated with the above occurring are high. We believe there is the strong possibility that ISBs come to only reflect the interests of a small group of employers and not the wider building and construction sector. Capture by a small group of employers could result in the functions performed by a building and construction ISB not representing the needs or interests of the wider sector. This concern has also been raised in Scotland, where industry representatives believe there is not enough involvement by employers in framework development, resulting in it not reflecting the wider needs of business.⁸

...with SMEs and smaller trades likely to be the most affected

SMEs

SMEs play a key role in the New Zealand economy, employing around a third of New Zealand's workforce. In the building and construction sector, SMEs are critical. Of the 54,561 businesses in sectors covered by BCITO in 2018, 98% were SMEs (having less than 20 people).

Information about the number of SMEs that ITOs engage with across the board is light, and this is also the case at BCITO. However, we can use the number of apprentices at each business as a proxy for the number of SMEs that BCITO engages with. As at the beginning of March 2019, 81% of businesses engaged in industry training in the building and construction sector had two or fewer apprentices, with 58% of businesses having one apprentice. Although only a proxy, this administrative data again highlights the importance of the SME sector to vocational education in the building and construction sector.

As noted above, we believe there will be increased transactional costs for employers when engaging with the proposed new vocational education system. This will be particularly the case for SMEs, who are a large part of the building and construction sector and are often more susceptible to economic cycles in the sector than large businesses. We therefore expect SMEs to have minimal involvement with ISBs and regional leadership groups over the medium-long term. This is most likely to result in a building and construction ISB that only reflects the interests of larger employers.

Smaller trades

The building and construction sector is made up of large and medium sized trades, such as carpentry, as well as several smaller trades, such as stonemasonry or resin flooring. As with SMEs, there is a risk the voice of smaller trades is not heard as loudly as larger trades given fewer overall employers as well as larger employers in these trades.

⁸ Ibid.

4. Other potential long-term impacts of RoVE proposals

The RoVE proposals have a potential broader long-term impact for the building and construction sector. The following provides a high-level overview of the potential long-term strengths, weaknesses, threats, and opportunities to the building and construction sector relative to the status quo. Many of the potential impacts could go either way (that is, be a potential strength and weakness). In these situations, we have drawn on our understanding of the sector to allocate likely impacts.

Strengths

- An integrated vocational education system that enables employers to take on and withdraw from training without compromising learner progress.
- A dedicated and funded voice for skills leadership.
- A unified vocational education voice for school leavers, parents and careers advisors.



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Weaknesses

- Reduced formal and informal engagement in industry skills leadership and standard setting, especially from SMEs and small industries. Both functions are likely to be compromised.
- A more complex system for employers to navigate.
- A system that is more complex to employees to engage with.
- Added layers of bureaucracy to engage with.

Opportunities

- Improved regional responsiveness.
- Potential increased engagement in workplace-based training by underrepresented groups (eg, female, Māori, Pasifika).

Threats/Other

- Homogenisation of industry training engagement models as current industry-specific approaches are diluted by providers streamlining processes across industries.
- Government agencies don't adjust to the new system, resulting in a very flexible system that is not used in the way it was designed (like NCEA).