Introduction to Construction Sector Workforce Issues

August 2021

Purpose

1 This report is an introduction to the current performance and challenges in the construction industry given available evidence and anecdotal information. Due to the complexity of issues in the industry and somewhat limited evidence base as at the time of preparing this report, further work is needed to understand the landscape better.

Summary

2 Overall, the construction industry has been performing well throughout the COVID-19 recovery. There have been high levels of profitability, high contribution to economic growth in the latest quarter, and strong jobs growth.

3 However, there are underlying issues within the industry. Through business surveys and anecdotal evidence we are hearing that:

- Firms are finding it difficult to find and retain skilled and unskilled labour.
- Businesses remain concerned about their ability to source workers from overseas if necessary.
- There is low inventory of materials due to supply chain disruptions.
- Firms need more certainty about the pipeline of work so they can plan accordingly.

4 From the data we can see that:

- There are around 25,000 construction workers working fewer hours than wanted. We do not know the exact reasons for this, but it could be related to there not being enough work available, particularly if the shortage of higher-skilled workers is leading to this.
- The uptake of available MIQ spaces allocated for specialised construction workers has been slow so far.
- The proportion of migrants currently in New Zealand is estimated to be at around 7-10% of the overall construction workforce.
- Wage growth has been modest in the sector given the reported skill shortages, but there are signs of this changing in the latest data for the June 2021 quarter.

5 The most significant workforce issue is the lack of available high-skilled workers. The key points relating to this are that:

- The skill shortage may have been somewhat exacerbated by the limited flow of migrant workers into New Zealand, given that the demand for construction activity has continued to increase. However, the proportion of migrant workers who are highly skilled is relatively low, so this may not be the most significant driver.

- There is a large number of domestic workers in construction and in the wider labour market, particularly women, who may be able to be better utilised in helping fill skill shortages going forward (this is not a new issue).

- There is a significant pipeline of apprentices currently training in the construction sector, but the mix of occupations and skill levels for this upcoming workforce are not entirely clear.

- The shortage of skills is intertwined with low product availability; in a skills shortage, staff might not be available to complete the project at a later date when the product becomes available.

- Going forward, there is concern about retaining staff, particularly skilled workers, given global competition for construction.

- A re-balancing of immigration settings will reduce the flow of lower-skilled migrants when the borders open, but also allow for more higher-skilled migrants to join the workforce.

6 Further work is needed to fully understand workforce issues in the construction sector. The main topics for further exploration are:

- The complexity of the labour shortage (including the mix of labour required and the training pipeline) and what further effects the immigration rebalance may have on the workforce.

- Why wage growth has been somewhat softer than expected given labour shortages.

- The extent of the product supply shortage, how long it will last or how severe it may get.

Background on the construction industry

7 Construction makes up 7% of the New Zealand economy in terms of Gross Domestic Product (GDP) and employs around 10% of the workforce (around 275,600 people)[1]. The industry's demand for workers over the last decade has primarily been driven by Christchurch rebuild, high demand for housing in Auckland, and a lift in building activity across New Zealand in the recovery of COVID-19. Most people employed in construction are located in Auckland due to the region's large population size. However, the industry is also a top employer in the Bay of Plenty, Taranaki, Canterbury and Otago.

8 Useful indicators of future growth are housing demand, certainty in future projects, and the number of building consents issued. However, building consents data does suggest that most projects do get completed, it does not give us a clear picture of when they get completed.

9 Firms' skill needs also may vary across different types of employers; larger employers tend to need more specialized workers while small businesses and contractors tend to employ more generally. Most firms are small businesses (around 96% of Auckland businesses employ under 20 people, with 72% of businesses having no employees[2]). Around half of construction workers are employed in small businesses, compared to 28% across all industries.

10 Construction has historically been male dominated, but this has narrowed slightly over the last decade. Women now make up 15% of the construction workforce (up from 13% a decade ago). Women also have a much higher likelihood of being employed part-time in the industry compared to men (though this is broadly consistent with part-time work trends in the wider labour market).

11 Although the proportion of women in construction has increased slightly over time, it is important to note that only around 2.6% of tradespeople in the industry are women[3]. The higher 15% figure for women in construction includes administrative jobs. This is an important distinction to make since female representation in the industry is more likely to increase further if more women are employed as tradespeople.

12 Construction is the 3rd largest industry for young people, but this is similar proportion for people aged over 30 (so the age distribution is not skewed in either direction). However, we have been hearing anecdotally that the ageing workforce in the industry is becoming more of an issue over time with more the skilled workers being in the older age group and younger workers being in the lower skilled/entry level.

The construction industry has been performing well throughout the COVID-19 recovery

13 Recovery from the 2020 level 4 lockdown has been swift. Construction has been the largest contributor to economic growth (in terms of GDP) out of any industry in the

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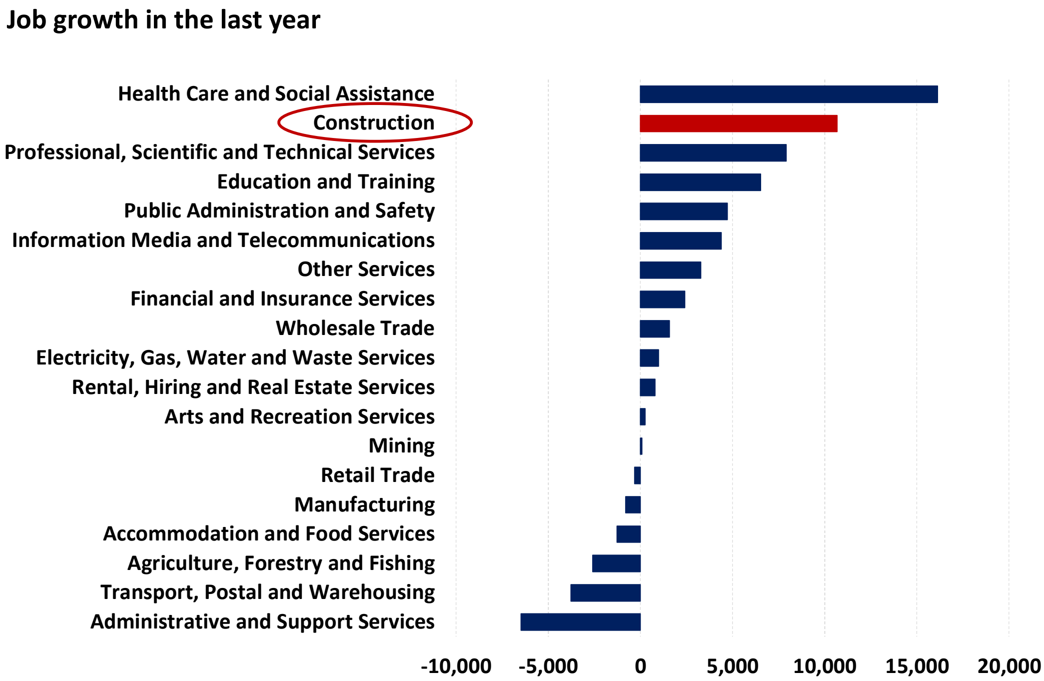
1 As at June 2021 using annual figures from the Household Labour Force Survey (HLFS).

2 Sourced from Business Demography data.

3 For Women - Trade Careers

latest quarter (March 2021 quarter). Construction has also been the 2nd largest contributor to job growth over the last year (with around 10,700 more jobs, or 6% growth in jobs, in May 2021 compared to May 2020[4], seen in Figure 1).

Figure 1 – Annual change in the number of filled jobs by industry as at May 2021 (MEI Filled Jobs data)



We have seen evidence of strong employment growth in the last decade in construction, particularly in the last two years

14 Employment in construction has been strong over the last decade, driven by population growth leading to high demand for housing and infrastructure projects, as well as the Christchurch rebuild. Employment growth slowed briefly from around 2018-2019, but this has now recovered. In the last two years, employment growth was around four times the rate of growth compared to all industries, as seen in Figure 2.

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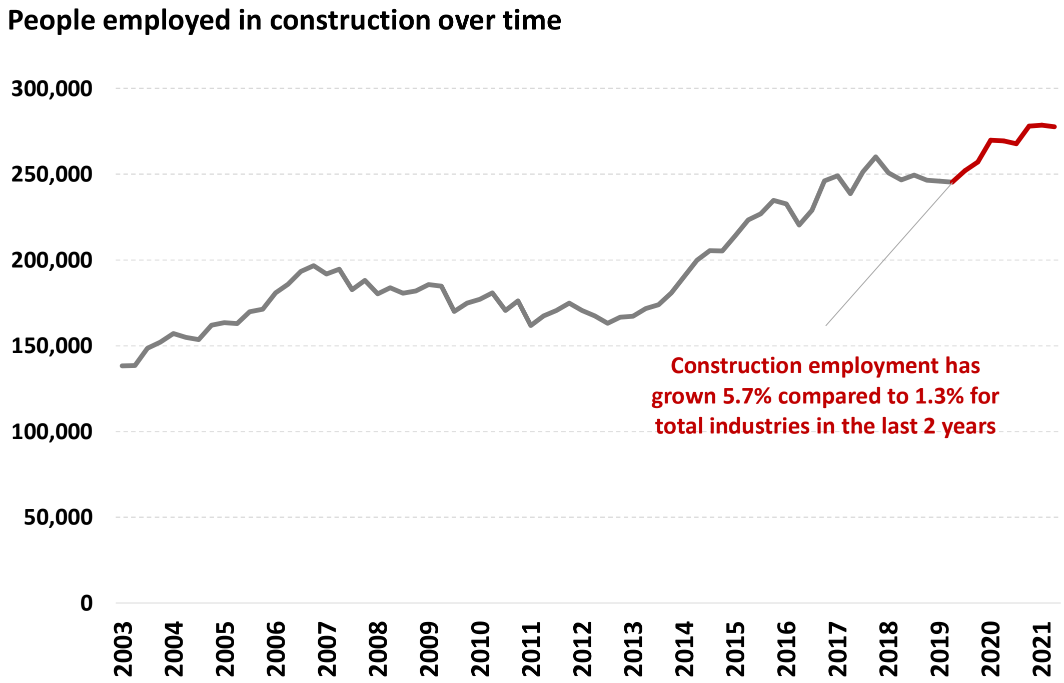
[4] Sourced from the Monthly Employment Indicator (MEI) filled jobs series from Statistics NZ Infoshare.

Figure 2 – The number of people employed in the construction industry over time (Quarterly HLFS employment)



15 The strong growth in jobs over the last year throughout the COVID-19 recovery is likely to be driven by the high-demand for housing, with more people wanting to build or renovate their homes.

16 This is supported by the increase in dwelling consents issued over the last year (an indicator of demand) which is now at record highs. In the year ended June 2021, the number of dwellings consented was 44,299 which is an increase of 18% from the June 2020 year. Around 43% of the new dwellings over the year have been in Auckland (where dwellings consented have increased by 29%). Dwelling consents have been rising steadily since the recovery of the GFC (since around 2011). There has also been a strong pipeline of infrastructure projects.

17 Part-time employment is less common in construction compared to all industries (at 7%, compared to 26% for all industries)[5]. Despite concerns that part-time employment trends are on the increase in the wider labour market, this has generally not been the case in the construction industry, where the proportion of part-time work has been falling since around 2017.

But we are still seeing underemployment of the workforce in construction, and more broadly, underutilisation in the labour market

18 There has been concern around underemployment, with an estimated 25,000 construction workers wanting more hours[6]. It is not entirely clear why there is a large number of construction workers wanting more hours, who largely say the work is not available, when there is a reported shortage of labour in the industry

[5] Source: Quarterly Employment Survey (QES)

[6] Source: HLFS supplementary tables (June 2021 quarter)

(both skilled and unskilled). The data does not tell us the root cause of staff not being able to secure more hours, but some possible reasons may be that:

- The shortage of skilled workers is limiting the amount of work that other lower-skilled staff can undertake.
- Low inventory of materials leading to projects being delayed, which could lead to less immediate work being available.
- Anecdotally we are hearing that increasing workers' hours could be a health and safety issue.

19 We do not currently have data to understand breakdowns of people who are underutilised in the industry further e.g. we cannot see whether people who want more hours are contractors or employed in large firms, or what their wages are.

20 Increasing underutilisation has been a common theme across sectors in the labour market, particularly for women. There are currently around 315,000 people underutilised (as reported in the June 2021 quarter HLFS), with 59% being female. Within the underutilized group, around 34% are people who are underemployed – these are people who are employed part-time (fewer than 30 hours a week) and who both want and are available to increase the number of hours they work (67% of which are female). A breakdown of people making up the official measure of underutilisation in New Zealand is shown below in Table 1.

Table 1 – Underutilisation statistics from the Household Labour Force Survey (seasonally adjusted)

Official Measure of underutilised people[7]					
	Unemployed	Underemployed[8]	Potential Labour Force		Total underutilised
			Available potential jobseekers	Unavailable potential jobseekers[9]	
March 2020	120,000	92,000	75,700	19,000	308,000
March 2021	133,000	123,000	85,700	21,000	363,000
June 2021	**117,000**	**107,000**	**70,000**	**22,000**	**315,000**
June 2021	37%	34%	24%	6%	100%

21 There are potentially a further 260,000 people who are not officially counted in the underutilisation measure in the HLFS that would like work or more hours[10]. These are people who:

- are working full-time and want more hours (estimated at around 160,000 people)
- were not actively seeking work or available to start work in the reference week, but reported they want a job (around 100,000 people).

22 The fact that we have underutilised people in the labour market could be an opportunity for firms to promote work in the construction industry to people not currently working in construction. In particular, for women as they may look to transition work into other sectors in the longer-term or for people who have previously worked in construction.

23 Low productivity has also been an issue in the sector. Using the building activity per person index as a proxy for productivity, we can see it has been falling over the past two years (and was relatively stable in the 10 years prior, but still lower than in the early 2000s). This may be related to the underutilisation of workers over time. The total workforce has been growing over time, but growth in high-skilled workers has been slower. A skill shortage may pull down productivity in the sector, which could in turn amplify the wider labour shortage if workers are leaving the industry due to wanting more hours. However, note that this theory is not backed by robust empirical evidence.

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7 Source: HLFS Supplementary Tables. Numbers may not add to totals due to rounding.

8 In the HLFS, the underemployed are people working part-time (someone who works 30 or fewer hours per week).

9 Unavailable jobseekers who are currently seeking work but were not able to start a job in the reference week, although they will become available shortly after.

10 Note these numbers are estimates derived from the HLFS and are not official underutilisation figures.

Labour Shortages

Firms are saying they are experiencing severe labour shortages through business surveys

24 Through a range of business surveys, there is a mixed story on the current situation in the construction industry. Building businesses are feeling the most positive out of any industry surveyed, reflecting the strong pipeline of construction work over the coming year (particularly in housing construction) [11]. Profitability in the June 2021 quarter was reported to be the strongest since December 2002.

25 On the other hand, businesses are also saying that there are significant pressures in the industry. The top five reported overall issues facing the construction sector[12] are:

- Finding skilled labour (31.9%)
- Non-wage costs (16.5%)
- Regulation or paperwork (12.6%)
- Competition (12.1%)
- High rates of pay (11.5%).

26 Although finding skilled labour in construction scored the highest among all industries surveyed, all sectors reported finding skilled labour was their largest issue.

27 Through the Quarterly Survey of Business Opinion (QSBO)[13], building firms are saying they want to increase hiring, but actual increases in employment (as reported in the survey) have been relatively muted in the last few quarters. This may be due to firms not being able to acquire the right type of skills, with a net 72% of building firms reported difficulty in finding skilled labour. This number is the highest in the survey's history going back to 1976. Notably, a net 44% of firms also reported difficulty in finding unskilled labour.

28 Although this number is high, reported difficulty in finding skilled labour has been near this level since around 2016. This means that skilled labour shortages are not necessarily related to the current border restrictions because firms have been stating this as an issue since well before COVID-19.

29 The QSBO also shows that firms reporting cost pressures have surged in the sector, now the highest since June 2008, with a net 83% of building sector firms increasing costs in the June 2021 quarter. However, firms are finding it easier to pass these costs onto customers. The cost pressures are likely to be related to building

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11 As reported in the Quarterly Survey of Business Opinion (QSBO) through the New Zealand Institute of Economic Research for the June 2021 quarter.

12 As reported in ANZ's Business Outlook Survey for June 2021.

13 Undertaken by the New Zealand Institute of Economic Research (NZIER) for the June 2021 quarter.

materials not being as readily available compared to the past; building firms' inventory of raw materials is at the lowest levels since June 1991.

30 Small business and self-employment also make up large parts of the industry. Self-employment makes up 33% of employment in construction (compared to 19% for all industries)[14]. This is important to note when considering potential workforce issues since contractors, small business owners and large firms may experience different challenges. For example, we are hearing anecdotally that occupational shortages are in higher-skilled roles such as engineers (more likely to be concentrated in larger firms) whereas smaller businesses are not likely to require these roles.

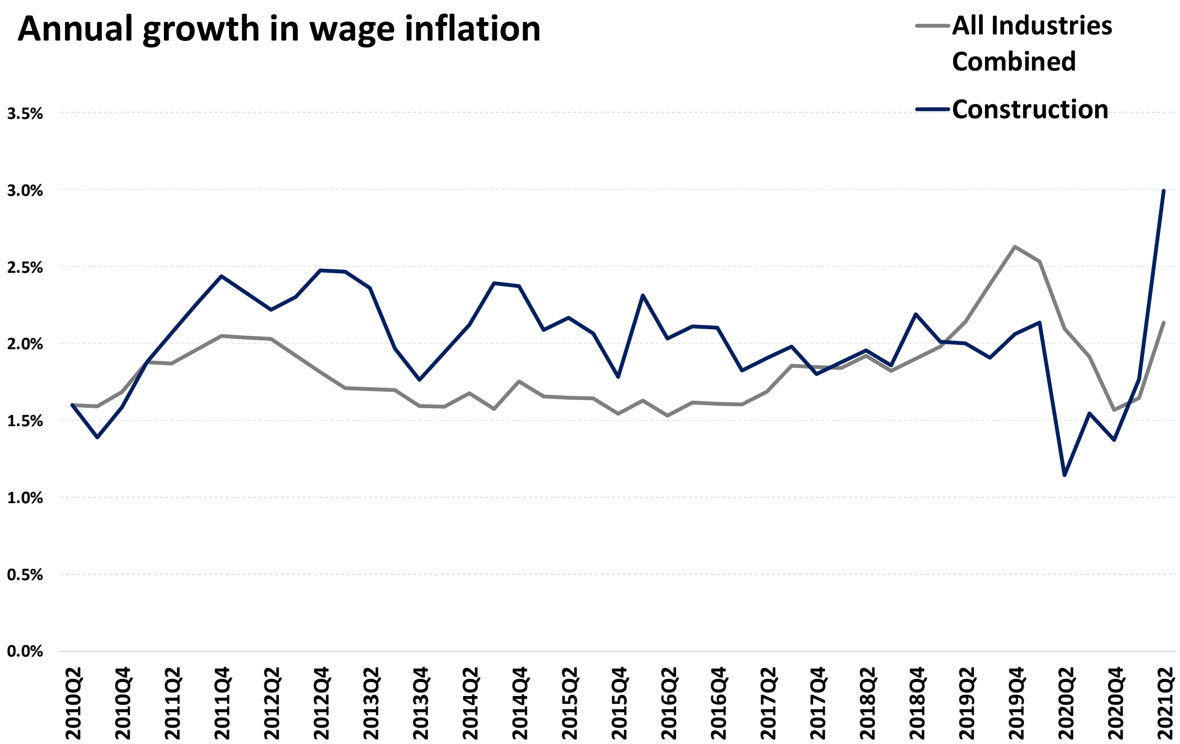
31 Furthermore, undertaking on-the-job training may not lend itself as much to business models of larger firms compared to smaller firms. However, this point is anecdotal and has not been confirmed by sector agencies. It could be that larger firms have the capacity to train on-the-job whereas smaller firms or sole traders are less likely to undertake this type of training due to the opportunity cost. We are hearing from the Building and Construction Industry Training Organisation (BCITO) that a key issue in Auckland is that employers are not supported to become good trainers. Further investigation is needed to understand what type of training is undertaken and how this varies across firm types.

Although we are hearing that industry is experiencing labour shortages, we are not seeing a strong wage growth response from firms

32 Wages in construction have been recovering since COVID-19, and are on the rise, especially compared to the growth across all industries, using the labour-cost index (LCI). The Labour Cost Index as a measure of wages is not affected by compositional changes in the workforce and is commonly used as a comparison to the Consumers Price Index. However, construction wage growth has not been particularly strong given the reported skill shortages. The latest data (for the June 2021 quarter) shows strong growth at 3% (the highest growth since 2010) but it is too early to tell whether this is the beginning of a strong growth trend.

14 Source: HLFS Supplementary Tables (June 2021 quarter) – includes people who are self-employed with no employees, and employers.

Figure 3 – Annual wage growth in construction over time using the Labour Cost Index



33 The reasons behind this disconnect are not clear, but a possible hypothesis may be that there is lower movement of construction workers between firms as workers tend to be more risk averse in big downturns, which could dampen wage growth.

34 Recent new apprentices in the industry may be bringing the average earnings down, but would not affect the LCI measure used above. This would however affect other measures of wage movement such as the Quarterly Employment Survey (QES), which is not adjusted for change in the composition of workers, as the adjusted LCI is. There has also been some variation in wages across occupations within construction. For example construction trades workers, mobile plant operators and labourers have all seen higher wage inflation compared to the national average. However, this may be due to the April 2020 increase of the minimum wage.

35 Given the current strength of the economy, it would not be surprising to see further wage growth in the industry and across other sectors. In particular, that employers will improve offerings and considering the long period of lower wage growth.

36 Further investigation is needed to pinpoint the reasons behind why the wage growth has been relatively soft given skill shortages up until now (for example the hypothesis of low prevalence of people transitioning between jobs). The upcoming Income Survey data release will show us the distribution of pay rises over the June 2021 year and we will be able to see which kinds of workers are getting the largest increases and how this compares to the reported skill shortages.

Health and safety

Construction has a higher risk of harm which may be increasingly related to the higher demand for work and labour shortages

37 Construction has high levels of harm due to the high risk nature of the work. The top three causes of harm are vehicle incidents, falls from height, and being trapped between a moving and stationary object. A greater focus on mental health and wellbeing in construction would allow for a better understanding of the impact the overwhelming nature this work can create on workers. Currently, pressures on staff can lead to new or increased reliance on substances and a greater chance of injury and suicide.

38 Residential building is the largest sector of harm in the industry. It is also likely to be the place most unskilled workers begin as new dwelling consents have been rising strongly in the last year, and demand is likely to continue to increase. WorkSafe see a lot of migrant, particularly Asian workers, in the residential sector. There is little to no knowledge of the Health and Safety at Work Act 2015 (HSWA) and general knowledge of health and safety practices are typically not considered for many immigrant workers.

39 Emerging anecdotal evidence suggests that the labour shortage in construction has also created greater risk to the sector in terms of health and safety as there are growing pressures to meet deadlines that have slipped as a result of lockdowns. Some workers are also working beyond their skills and competency, resulting in greater vulnerability to health and safety issues.

The commonly used sub-contracting model is likely to be exacerbating the issue of health and safety concerns

40 All construction has layers of sub-contracting, including in trades specialist areas. Generally, the model of sub-contracting means that the lower down the contract chain, the lower the margin of profit is. This is problematic as it leaves very little monetary support for health and safety or training. This creates an extensive reliance on on-the-job training. This creates the further issue that a shortage of workers means that increasingly low skilled or inexperienced workers are being promoted in to more senior roles and are not equipped to do the role they are required to do, and adds the responsibility of supervising and training new workers.

41 Non-residential construction has also had strong growth in the number of projects being consented, and similar issues exist to residential construction. However, the contracting model of having several layers of sub-contractors is more pronounced. On a large construction site it is likely that a large percentage of the workforce will be made up of low paid, unskilled or low skilled labour hire workers. The financial vulnerability of this work often drives fatigue type accidents, due to the need to work more hours to earn enough money to support their families. These workers tend to be Maori, Pacifica and immigrant workers. There are also language barriers to understanding the basic health and safety instructions which create greater risk.

The role of immigration

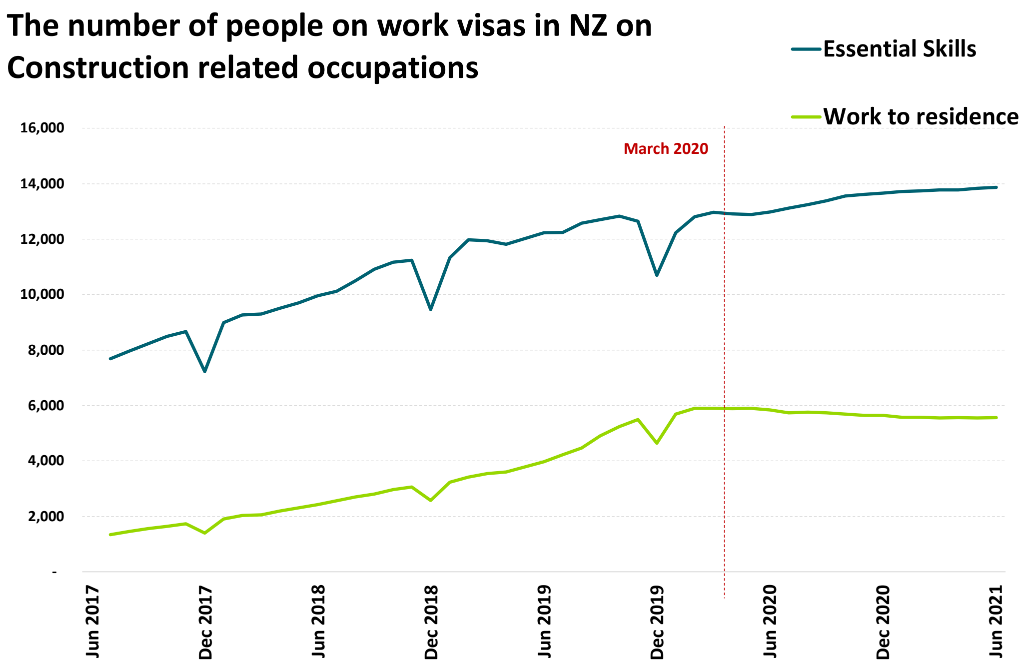
Immigration flows play a part in the composition of the workforce

42 Immigration plays a role in the construction workforce, with an estimated 7-10% of the construction workforce being temporary migrants. The construction workforce is also vulnerable to workers moving overseas for work, in particular to Australia where wages are generally higher than in New Zealand. Australian construction is forecasting housing growth of 10% in 2021 and a $110 billion infrastructure investment programme over the next 10 years[15]. However, the break in the Quarantine-Free Travel Bubble may make workers more cautious about going (this needs monitoring).

43 Many temporary migrant workers stayed onshore throughout COVID-19 so the proportion of the workforce who are migrants has stayed relatively stable. There are currently around 19,400 people in New Zealand employed in construction related occupations with Essential Skills and Work to Residence visas[16] (this number was around 18,700 people just prior to the border closures in February 2020). Most of these people are on essential skills visas (around 71%).

44 The number of people on these more than doubled between July 2017 and March 2020, but have largely plateaued since. This trend is not dissimilar to the overall trends of people in New Zealand on Essential Skills and Work to Residence Visas. People on these visas in construction have consistently made up between 20-25% of the total number of people in New Zealand on these visas since July 2017.

Figure 4 – The number of people on Construction related occupations by visa type over time



[15] https://investment.infrastructure.gov.au/
https://www.acif.com.au/forecasts/summary

[16] Note this number does not count people in New Zealand on other visa types. This source of this information is a custom dataset from MBIE.

45 Based on this data, we can also see that most people on these visas in New Zealand are in medium and low skilled occupations. Around 64% of people fall under "skill level group 3" which includes occupations such as carpenters, metal fabricators, telecommunications technicians, electricians, painters and plasterers. A further 24% of people on these visas fall within skill level groups 4 and 5, which include occupations such as truck drivers, scaffolders, steel fixers (in skill level 4) and building labourers and concreters (in skill level 5). We cannot currently see this data broken down by firm size or with wage information.

46 Additionally, while this data on people on Essential Skills and Work to Residence tells a big part of the story, this chart does not count people in New Zealand on other visa types working in construction, as they do not have occupation information recorded. There are people in New Zealand on visas with open work rights who are on temporary visas (such as partners, students and people on Working Holiday Scheme visas) who may also work in the construction sector. There are over 7,000 people in this group, which means that the skill level information stated above may not be an accurate representation overall.

The COVID-19 border restrictions have significantly reduced access to migrant labour

47 BCITO has stated that businesses remain concerned about labour supply and their ability to source workers from overseas if necessary. This is echoed by the joint report from the sector setting out the pressures of the border closure on the construction sector workforce in July 2021[17].

48 With the borders currently tightly restricted, the bar for entry to New Zealand is set high. The 'other critical worker' border exception provides a pathway to entry for workers necessary for our economic recovery.

49 Employers can apply for the 'other critical worker' border exception for a worker for up to six months where they can show that the employee(s) have unique experience and technical or specialist skills not readily obtainable in New Zealand, or they are undertaking a time-critical role for:

- an approved major infrastructure project, a government-approved event or a government-approved programme; or
- an approved government-to-government agreement; or
- work with significant wider benefit to the national or regional economy.

50 Where employees are needed for longer than six months they must also earn at least twice the previous median wage (NZD $106,080 a year) or demonstrate that the role is essential for the delivery or execution of: a government-approved event, or major government-approved programme, or approved major infrastructure project.

51 Industry feedback is that the narrow criteria is resulting in critical workers less likely to be approved when working on private projects, working at the pre-build tender stage or post-build asset maintenance stage, for trade and intermediate-level roles

[17] Skills Shortage, Recruitment & Immigration Challenges in the Construction Sector – A report from ACE New Zealand, Te Kāhui Waihanga New Zealand Institute of Architects, Civil Contractors NZ and Registered Master Builders Association, July 2021.

where they don’t meet the salary threshold or aren’t on the major infrastructure project list.

Wider changes have been made to help secure the onshore construction workforce since COVID-19 and ease access to MIQ for construction workers

52 Since the borders have closed, a lot has been done to help secure our onshore migrant workforce. Migrant workers have been allowed to stay in New Zealand and work. We have also balanced the need for essential workers against other demands on MIQ spaces through the introduction of the ‘other critical worker’ border exception.

53 When it comes to people coming into the country, MIQ capacity is a significant constraint. For this reason, since June there have been 60 spaces per month allocated in MIQ to the Construction Sector Accord, of which there has been low uptake to date. We are looking at where the exact disconnect is occurring and whether any operational improvements can be made. It could be that the uptake has been slow due to the short timeframe to stand-up a process and communicating this to the wider industry.

54 For temporary workers already onshore, one challenge for them is not being able to bring their family to join them. Many onshore temporary migrants are currently unable to support their partners/dependent children to come to New Zealand. Changes were made in April to support family reunification for some groups of temporary workers, and there is work underway to explore options to expand these settings.

55 Finally, some temporary migrant workers are considering whether they should stay in NZ, with their decision hinging on whether they are able to settle here and the rights and benefits that come with residency. The high demand in this pipeline to residency means that timeframes towards residency are currently long for people with existing applications, and uncertain for people who have not passed the expression of interest stage.

The immigration rebalance work will take account of the construction industry’s workforce needs

56 Cabinet has agreed to develop proposals for rebalancing the immigration system. The scope of this work includes the flow of low-pay or low-skill roles that employers can seek temporary migrant workers for, and the work rights of partners and international students.

57 The goal is to drive businesses to rely less on lower skilled migrants and instead lift working conditions, improve opportunities for domestic workers, innovate, invest in technology, and become more self-reliant in a world where we cannot take the free flow of labour for granted.

58 The rebalance work does not involve making it harder to bring in high-skilled or high-waged migrant workers. Specific workforce demands of various sectors will be taken into account in the way policy proposals are designed and targeted. A re-balancing of settings will reduce the flow of lower-skilled migrants when the borders open, but also allow for more higher-skilled migrants to join our workforce.

There is little empirical evidence of reduced migrant worker flows being a significant workforce issue

59 Although many migrant workers stayed onshore throughout COVID-19, there has been an increasing amount of construction work to be done. Because the migrant worker flows have previously been a source of labour for an expanding sector, it is not necessarily surprising that employers are finding it more difficult to find workers.

60 It is unclear to what extent the lower flow of migrant workers into New Zealand is impacting on the difficulty in finding skilled labour. However, it is not likely to be the most significant factor because:

- Only a small proportion of migrant workers (on Essential Skills and Work to Residence visas) are in the highest skill group (around 6% are in the level 1 skill group).
- Construction firms have been reporting severe shortages well before the COVID-19 border closure.

Skills shortages

The skills shortage story is complex and may be driven by a number of factors

61 The shortage of skills in the industry is a significant issue. The skills story is also more complex than being a labour shortage; difficulty in finding skilled and unskilled labour is different to labour not being available. There are a number of reasons that firms may be experiencing difficulty in finding skilled labour, such as:

- Firms not paying enough for the skills they need.
- Insufficient working conditions, such as low job quality or flexibility for workers.
- There may be a skills mismatch between the people reporting they want more hours compared to the skills firms require.
- The location of the available work may not be suitable to where people are living (which may be exacerbated by the high cost of housing).

62 We also need to find out more information regarding the exact type of high-skilled shortages, at a more granular level. It could be that the skill needs of firms are changing over time.

63 We do not have robust labour market statistics on the exact type of skills required, but a recent survey undertaken by ACE New Zealand, Te Kāhui Whaihanga New Zealand Institute of Architects, Civil Contractors New Zealand and the Registered Master Builders Association[18] shows that there are currently 3,229 current vacancies across 135 firms, from professional services to trade roles, across a wide range of experience levels. It shows that 90% of firms are having difficulty recruiting in New Zealand, with 66% getting no domestic applicants and 28% trying to recruit from overseas (normally 81% would recruit from overseas). The survey shows that for technical staff required:

- Around 52% of vacancies are for people with 5-10 years of experience.
- The largest number of vacancies are for engineers at 26%, most of which need 5-10 years of experience.
- The next highest number of vacancies are for tradespeople, plant operators (including cranes), project/contract/construction managers, technicians and team/site managers.

64 However, the shortage of more experienced labour in the industry is not necessarily new. Over the last five to six years there have been reported issues of shortages of more senior workers in the industry who are able to undertake training and mentoring of less experienced people. Over time this had led to a missing "middle" layer of workers in the industry. This issue may have been supplemented by migrant workers to augment the domestic supply of people with this skill level and experience.

[18] 2021_4 August_Industry Partners MIQ survey Report_V6_FINAL.pdf (not yet published).

Anecdotally, we are hearing a similar story of skill and product shortages limiting growth

65 The Construction Accord and the Ministry for Housing and Urban Development are hearing from the industry that supply chain issues are also a significant issue. Due to changes in COVID-19 restrictions globally, coupled with the high demand for construction overall, New Zealand construction firms are finding it more difficult to access materials they need for projects. Examples of the supply chain issues are freighting issues, port logistics, domestic timber processing capacity, and lower overseas product supply. We are hearing anecdotally that in some cases, these supply chain disruptions can have flow-on impacts to project completion dates and may be interfering with the utilisation of labour and cost of construction projects overall.

66 The story of low product availability and the shortage of skill staff is intertwined. Not having the right materials can contribute to project delays, but delays are not always a matter of finishing a project at a later date. In a skills shortage, staff might not be available to complete the project at a later date when the product becomes available, creating further delays. This is particularly important for contractors whose future employment is more dependent on having certainty in a strong pipeline of work. These issues combined are creating additional complexity to the current state of the sector.

67 In response to the skill shortages, some firms are increasing investment in labour-saving technology such as plants, machinery, and buildings. Investment intentions have increased for a net 51% of firms, which is a sharp contrast to the 33% of firms who had planned to reduce this type of investment a year ago.

Demand for building apprentices is at record levels, signalling the future composition of the workforce

68 In the medium to longer term, we do have an idea of what the upcoming workforce may look like due to the strong demand for apprenticeships over the past year. The number of building field apprentices have reached record high levels; at the end of June there were 23,310 active learners, an increase of 9,070 people (64% higher) compared to the year prior.

69 This growth has been supported by a cross-agency government response to help employers retain and bring on new apprentices while dealing with the effects of COVID-19, such as the Apprenticeship Boost Initiative (ABI) and the Targeted Training and Apprenticeship fund (TTAF). ABI was designed to be a short-term response to COVID-19 to support employers to keep first and second-year apprentices employed and training throughout the economic shock, and will end after two years, in August 2022.

70 While this has been very effective in the short-term; given the current strength of the economy, the approach of directly funding employers may not be the most effective use of funding over a longer duration. MSD also runs a number of programmes under the Construction Accord Expanding Skills for Industry. As at the end of June 2021 there have been around 4,200 participants, exceeding the target of 3,500.

71 Since we are hearing that the specific skill needs now and into the future are more to do with hiring and developing people in the medium-high level skill group, and

acquiring people who can undertake that training, further support for businesses to retain apprentices does not seem appropriate.

72 Waihanga Ara Rau Construction and Infrastructure Workforce Development Council (WDC) has now been established, and will develop and maintain a strategic view of the skills its industries require now and in the future and set requirements for the delivery of skills industry needs. BCITO's arranging work-place based training role will transfer to Te Pūkenga in late 2021. These changes will give industry a stronger voice in training, and more flexibility for learners including in continuing training and upskilling while in employment.

73 While current apprentices will be fully qualified at the end of their training, it is not currently clear whether these skills will meet the specialised needs of firms in the future. Over time with work experience, apprentices may be able to fill some of the specialist skills required. However, this needs to be considered with the context of the net gain or loss to the industry in terms of how many people will leave the industry over that time period. More work needs to be done to fully understand this granularity in the upcoming workforce.

74 The Construction Accord is progressing work in partnership with industry to develop a diversity roadmap by early 2022 to encourage greater participation and retention of women, Māori and Pasifika across the construction sector. The Accord is also working with CanConstruct (led by Massey University)[19] as well as the Workforce Development Council on a long term workforce plan to provide greater insights on workforce needs for the construction skills to support training and workforce development.

Uncertainty and competition

Global competition for construction workers is likely to be more of a concern

75 Going forward, there is concern about retaining current onshore workers (both migrant and non-migrant workers at all skill levels) given the global competition for construction workers, including apprentices.

76 Throughout the recovery of COVID-19, there has been high demand for housing and home improvement projects globally (driven by low interest rates) leading to high demand for construction workers. Given the potential for higher wage rates overseas, there is a risk of not retaining the higher skilled workers that we do have in New Zealand. We do not have data showing whether this has happened yet, or whether the Quarantine Free Travel Bubble has had any effect on the flow of labour yet.

77 A key retention issue that has been raised is around split families. While critical workers entering NZ through a border exception are able to bring family, most onshore temporary migrants are currently unable to support their families to come to NZ due to the COVID-19 border restrictions.

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[19] In 2020, Massey University was funded via MBIE's Endeavour Fund for a five year programme called CanConstruct. Five research teams from Massey University, Victoria University of Wellington, University of Canterbury, Auckland University and BRANZ are working to understand the forward pipeline, capacity and capability of the construction sector.

Another issue in the construction sector is a lack of certainty in some government driven programmes

78 The wider government programme drives perceptions on pipeline certainty and confidence to invest. The Three Waters reforms is an example of a programme that is a key investment in infrastructure by local government. However, until the reforms transition is clearer, there is a degree of uncertainty as to how the water infrastructure investment would be made across the regions.

Further work

Further investigation and analysis is needed to address construction workforce issues

79 Given the strategic importance of the construction industry to some of the government's key objectives, it is important for the construction industry's workforce issues to be addressed. However, more work is needed before drawing conclusions about what type of support may be needed.

80 Some areas we need to understand more about are:

- The types of workers and skills that are needed with more granularity, and what the main barriers are to acquiring those people.
- What the wider migrant workforce looks like (excluding people on Essential Skills and Residence to Work visas).
- What the mix of occupations and skill levels are for the upcoming workforce, given the large number of apprentices in the pipeline (including whether they are likely to fill skill shortages in the medium term).
- The breadth and depth of on-the-job training available to the current construction workforce and how this might vary across different types of employers.
- The reasons behind the relatively soft wage response from firms until the June 2021 quarter.
- The reasons behind the relatively large number of underemployed workers in the industry, and more broadly across the labour market (and whether these people can be upskilled or transition into the construction industry).
- What more could be done to encourage women into the workforce (including the visibility of available work and training pathways in construction).
- Whether securing specialized workers who can undertake training is being prioritised.
- Whether working conditions are improving over time to encourage and retain workers in the industry. In particular, in terms of flexibility (which could attract women to the workforce) and wage growth (which could encourage highly-skilled workers to stay in New Zealand).

- Better understanding issues regarding residency and partner visas, as well as supporting industry to effectively optimise the 60 space MIQ group allocation for high-skilled workers.

81 Some of the workforce issues discussed in this report are not unique to the construction sector. Further work is needed to understand information gaps.. This includes considering how far we can draw inferences about issues in the construction industry from one source or type of information. There will also be extra information we can draw upon in the future to better understand the situation (such as income survey data to better understand wages in the sector, workforce transition research, and development of the Migrant Employment Data).

82 The Construction Accord is progressing further work to understand current workforce constraints alongside industry partners. Longer-term workforce analysis and forecasting needs to be progressed with cross-agency input (as well as input from Accord industry partners) to support this understanding.