

RESEARCH NOTE

Hands-on: New suggestions to reform the vocational sector in New Zealand



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Abstract

The opportunities of industry-based qualifications are highly underestimated in New Zealand. It is therefore laudable that earlier this month, Minister of Education Chris Hipkins proposed reforms to the vocational sector that include industry-based education.

In his analysis presented on 1 August, Minister Hipkins rightly pointed out that the vocational sector in New Zealand today is overly complex and not attractive enough for neither students nor employers. His proposal to merge school-based and industry-based pathways under one monolith institution, however, not only fails to provide solutions to those problems but also undermines successful institutions within today's environment.

This research note aims to provide new ideas for the ongoing reform project. To complement the Minister's all-embracing ambitions, we include proposals for both the structure of vocational education in general and for the future of industry-based education in New Zealand.

We propose three measures:

1. Make Institutes of Technology and Polytechnics (ITPs) self-sufficient to help them find matching partners, if necessary.
2. Clearly distinguish between industry-based and school-based vocational pathways to help students and employers alike to know what to expect from the respective courses.
3. Strengthen industry-based training in the sense of dual education where students split their time between work and education to increase the long-debated proximity between learning content and employer's needs.

Introduction

It is telling that Steve Jobs was invited to give the commencement speech to Stanford's 2005 class. Think about it: One of the most prestigious universities in the world decided that the most suitable person to inspire and advise their graduating scholars was a university drop-out.

Indeed, one does not always need a university degree to be successful. Even with a degree, success is not guaranteed.

"You have to find what you love," Jobs advised the graduating class.

It would have also been good advice for them (and other students, too) before entering university. Industry-based qualifications could just as well be the start of a successful career as a university degree. They also provide options for those who do not want to be stuck in lecture halls for years before entering the labour force, and instead want to establish themselves early in life.

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Education provides us with the tools to understand the world. But it also aims to prepare students for future jobs, vocations and scholarly pursuits. Sometimes we can connect the dots of individual educational pathways only in hindsight. Jobs, for example, praised a calligraphy lesson he took after quitting studies at university as one of the main factors in Apple surpassing Microsoft.

Teaching practical skills and being able to adapt classroom knowledge to a workplace is what dual education offers. Students split their time between training in a company and classroom instruction to obtain the advantages and skills offered by both sectors. It even comes without student debt. A study based on IRD tax records of a cohort of 19-year-olds who left school between 2003 and 2007 found that by the age of 28, apprentices earned \$165,000 more than BA, BCom and BSc graduates.¹

Educational pathways outside of university have worked well abroad. For example, more than half of the young students in Austria, Germany and Switzerland choose some vocational pathway. They do so not for lack of alternatives, but because they see vocational training as the best option for kickstarting their professional career.

In New Zealand, there is not much societal trust in being successful without a university degree. The lacking reputation, for example, is evident in our students' education choices. Out of 60,606 school leavers in 2015, only 1,435 had signed an apprenticeship contract by the following year (i.e. 2.4%).² An average entry age of over 25 for Institutes of Technology and Polytechnics (ITPs) indicates that vocational training here is not the first of all choices.

Vocational education is not new in New Zealand. There are already different well-established institutions and pathways covering both school-based and industry-based training opportunities. But contrary to countries like Austria, Denmark, Germany or Switzerland, vocational pathways here are not embedded in the education landscape in a way that offers students equal opportunities as university study. Industry-based training is neither set up to be the start of a learning track that leads to higher education by default (as it does abroad), nor does it include an equally extensive field of jobs, including white-collar jobs.

Dual education could offer alternative opportunities for some of today's university students in New Zealand: one in three do not complete a bachelor's degree,³ and only 40% go for further studies after their bachelor's degree.⁴ For them, a more hands-on career pathway might be a better fit than university.

With over 90% of all Kiwi business leaders identifying lack of skills availability as a threat to future economic growth,⁵ New Zealand cannot afford to overlook any of its precious pool of talent.

With these structural deficits in mind, the government should be commended for initiating reforms in New Zealand's vocational education system. Its proposal included plans to merge all school-based and industry-based pathways under one monolith institution.

Unfortunately, the accurate analysis of today's challenges has not been coupled with equally accurate reform proposals.

This research note aims to provide much-needed inspiration for achieving the government's large-scale reform agenda proposed earlier this month. To cover Minister of Education Chris Hipkins' all-embracing goals, we include proposals for both the structure of the vocational education generally and the future of industry-based education specifically. Solving further challenges for vocational pathways or even an in-depth discussion about New Zealand's education system in general is a task for future reports.

To that end, we propose making ITPs self-sufficient so they can start looking for possible partners themselves; clearly distinguishing between different vocational pathways, and strengthening industry-based education pathways by adapting experience from dual education abroad.

A reform with good intentions

The value of vocational education, especially industry-based training, is not always acknowledged by politicians, educators or the public. An American professor of education economics, for example, once told his audience at an international conference in Switzerland that he was puzzled, to put it politely, why it should take three years to train as a baker. The United States, he explained, completed the necessary training in just three months.⁶

When Minister Hipkins presented his reform proposals on 1 August,⁷ he proved he did not believe in the erroneous thinking behind the American professor's. Hipkins knows that praxis-oriented education is more than just training for specific tasks needed do a job.

The Minister's attempts to strengthen the vocational system are laudable. However, as we argue below, his accurate analysis of today's challenges has not been coupled with equally accurate reform proposals.

One of the reasons for the lack of trust in vocational training is its nebulous structure, including numerous private providers. Currently, New Zealand has 11 Industry Training Organisations and 16 Institutes of Technology and Polytechnics (ITPs).

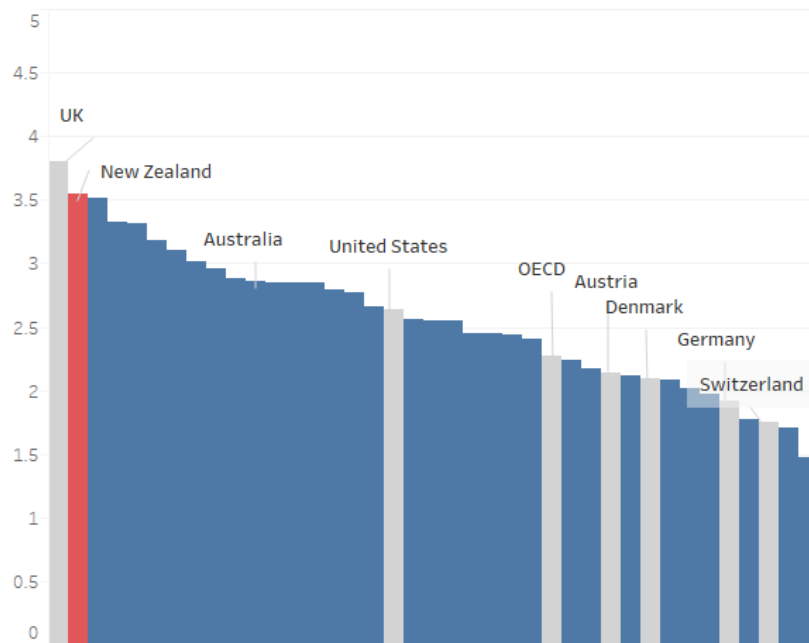
As things stand, the roles of school-based and industry-based education pathways are unclear, and they overlap at times. As a result, gains from specialisation are sometimes lost, and students, schools and employers alike end up confused about what to expect from one another.

The Minister has heard industry concerns about poor skills-matching for both industry- and school-based pathways. One example is the poor labour market integration for the youth in New Zealand; This can be measured by comparing unemployment rates of young people with those of middle-aged people. Simply comparing youth unemployment in different countries without putting them into perspective would just mirror different levels of unemployment in different countries and not help us learn more about labour market integration of the youth.

Of all the OECD countries, only the United Kingdom has higher youth unemployment (15- to 24-year-olds) relative to unemployment among the middle-aged (25- to 54-year-olds) than New Zealand (see Figure 1). Youth unemployment in New Zealand is 3.5 times higher than middle-age unemployment. Not having a strong vocational system is one reason for this. Another is the high minimum youth wage.

Just by reaching the OECD-average of youth unemployment relative to middle-age unemployment, New Zealand could provide life opportunities for an additional 28,000 young people.⁸

Figure 1: Ratio of youth to middle-age unemployment in OECD countries (2018)



Source: OECD.

Further, the Minister was right to say the government would no longer accept the structural deficits of certain publicly owned institutions. Having already injected an extra \$100 million into these institutions, the government needs to think of a better business case or a shutdown procedure for them.

Unfortunately, some of the core reform proposals are standing on shaky ground and do not address the main difficulties identified by the government.

Take, for example, the government's plans for creating a monolith New Zealand Institute of Technology in 2020. Merging the 16 existing ITPs into one is meant to deliver substantial economies of scale. Running one back office instead of several is expected to be cheaper and reduce duplication. Overall, efficiency gains from the merger are estimated at \$224 million–\$386 million.⁹

But the government's Regulatory Impact Statement warned that those efficiency gains have only a low probability of being achieved. The Minister has been advised by a review panel that the RIS numbers are indicative at best. Moreover, the heroic attempt to calculate possible gains over a 30-year period does not make it more trustworthy.

Any gains from the proposed merger might quickly be nullified by costly side-effects. Policymakers and their advisers need to consider managerial diseconomies of scale, too.

Management tasks in a big institution can grow disproportionately; controls and accounting procedures become more difficult; and decision-making gets more complicated. Sound strategies become difficult to work out, let alone implement.

The Minister also proposed that the head office of the new institution need not be based in one location. This will make it even more difficult to obtain economies of scale.

Furthermore, factors that helped vocational training succeed abroad do not seem to have been appropriately considered in the reform proposal.

One reason for the popularity of vocational pathways abroad is the broader range of jobs available there, including white-collar jobs.

Another is that the different institutional pathways have to constantly prove they can satisfy all stakeholders. Companies, for example, work hard to compile curricula that enable apprentices to progress in their chosen occupation, encourage further studies after apprenticeship, and open up promotion opportunities. Only then are they able to convince the best students to work for them.

The current proposals in New Zealand ignore the purpose (and value) of competition between different types of vocational education. By unifying all our various types of vocational education institutions under one umbrella organisation, we are moving further away from a dynamic system that matches the needs of students and industry alike.

Before showing better ways to reform New Zealand's vocational sector, we illustrate below some international best practice in industry-based education (i.e. dual education). The examples show how industry-based pathways are organised elsewhere and the role of public authorities in facilitating it.

Dual education in Europe

For New Zealand to find its own version of dual education, experience from abroad might offer useful evidence and inspiration. It is in that sense the following countries with their long history of successful dual education should be understood.

Austria

In Austria, four out of five youth aged 16 years are either in a school-based vocational education programme or in a dual track system.¹⁰

The governance structure in the Austrian dual education model involves several bodies at the federal, regional and local levels:¹¹

- At the **federal level**, the Ministry of Science, Research and Economy is responsible for the enterprise-based part of apprenticeship training. The Federal Advisory Board of Apprenticeship submits expert opinions to the Ministry on structural reforms, for example. The Ministry of Education and Women's Affairs is responsible for the school-based part of apprenticeship training.
- At the **provincial level**, apprenticeship offices, which are located in the economic chambers of the provinces, act as vocational training authorities on behalf of the Ministry of Economy. They are responsible for examining and recording apprenticeship contracts, and also the suitability of training companies to provide training and handle exams and subsidisation schemes. The Regional Advisory Boards on Apprenticeship provide counselling services in their respective regions. Provincial governors are responsible for enforcing the *Vocational Training Act*. They, for example, decide on the withdrawal of the authorisation of a training company. Regional Education Boards are responsible for part-time vocational schools within their respective provinces and also finance half the teacher salaries.
- At the **local level**, training enterprises with their authorised apprenticeship trainers are responsible for ensuring apprentices are trained appropriately.

The dual-education programmes are financed jointly by training companies and public authorities. The school-based part is funded by the provinces (the federal government refunds half the costs). Company-based costs, including remuneration of workers and trainers, and the cost of training

equipment, are borne by the respective companies.¹² Remuneration increases with every apprenticeship year. In the final year, apprentices receive around 80% of a regular worker's wages.¹³

On average, companies spend around 15,000 euros annually per apprentice. However, companies are subsidised by the federal government in several ways.

For example, costs of apprenticeship training can be deducted from a company's taxable profits. Non-wage labour costs are reduced as health insurance contributions are waived for employers and apprentices in the first two years; accident insurance premiums are waived for the entire duration of their education; and unemployment insurance is paid from the public purse except in the last year.

Page | 6

Companies can apply for refunds for parts of the apprenticeship remuneration at the end of every apprenticeship year. Further state support is possible for quality-based measures (e.g. training for trainers, distinctions, work placement abroad, or support for apprentices with learning difficulties); guidance and counselling; and apprenticeship posts designed to provide equal access by young women and men to different apprenticeships.

Denmark

The general Vocational Education Training (VET) programmes in Denmark are split into the following fields: care, health and pedagogy; office, trade and business services; food and agriculture; and tourism and recreation. On average, the programmes last for three and a half years and consist of two-thirds training in the workplace and one-third in a college. Graduation through these tracks provides access to academy profession programmes and professional bachelor programmes.¹⁴

There are several alternative routes to VET qualifications:

1. Combined vocational and general upper secondary education (four years) is for highly motivated students to achieve higher education along with a vocational education;
2. *Ny Mesterlære* (or new apprenticeship) is for students who prefer to have their entire learning process in companies with no school time involved;
3. Combined post-compulsory programmes are for people between 15 and 24 years who do not have the vocational, personal or social skills to complete a regular VET program; and
4. Basic VET for young unemployed (three to four years with 75% work-based learning).

Besides these, other programmes are available for adults over 25 years geared towards specific sectors and jobs.¹⁵

The various options in Denmark are provided by more than 100 institutions offering 106 vocational education and training programmes.¹⁶ Three out of the 106 programmes are taught entirely at school and do not need a signed training agreement (building montage technician, health service secretary, and web integrator).

The share of young people opting for a VET education has decreased in recent years: from 30% in 2000 to 18.5% in 2015.

In Denmark, the responsibility for VET programmes is split between different partners. The Ministry of Education oversees the overall breadth of programmes based on advice from an advisory council, which tracks the main issues and developments in VET education. Trade committees are responsible for the main structure of the programmes and courses. As is to be expected, a company's responsibility is to educate apprentices to the best of its ability.¹⁷

The government and employers both contribute to bearing the financial burden. There are no tuition fees for students. The school-based part of the dual education is financed by the Ministry of Education. Public payments for schools are based on a basic grant for every school and different indicators (including number of students, rates of completion, and common costs).¹⁸ The company-based costs consist of wages to the apprentices (between 9,500 and 12,500 Danish krone (NZ\$2,200–\$2,900) per month) and are regulated by a minimum salary scheme.¹⁹ The companies are reimbursed through the Employers' Reimbursements Fund for most of the salaries they pay to their apprentices for the time they spend in school. The reimbursements fund is financed by all companies in Denmark, regardless of whether they employ apprentices.²⁰

Germany

Two-thirds of all people in Germany have received their education and training qualifications through the country's dual education system.²¹ In 2018, nearly 520,000 people signed up for dual-education contracts (up by 4,000 from 2017). All in all, 1.3 million people were on a dual education track in 2018; of those, 58% were in industry and trade.²²

Overall, Germany's dual education system includes more than 320 different occupations. Most of them take three years to accomplish. Usually, apprentices spend three to four days per week in the companies and fit in school-based education in the rest.

As in other countries, dual education in Germany is a collaboration between public and private institutions. The federal Ministry for Education and Research is responsible for enforcing the *Vocational Education Act*, where most policies are set. The federal states run vocational schools. Social partners (i.e. trade unions and employer associations) are involved at all levels of decision-making.²³

In general, the government does not subsidise companies. Under certain conditions, however, companies can receive a grant from the employment agency to finance part of the training allowances for disabled apprentices and for disadvantaged young people. Additionally, the federal state offers grants to companies that train disadvantaged people, single parents, or apprentices who lost their job due to company closures. Companies also receive grants to send their apprentices for inter-company training.²⁴

The latest available data based on a representative survey for the 2012/2013 training year shows that for the majority of companies, training came with a cost. On average, net costs per year were around 5,400 euros.²⁵ Results differ vastly for different pathways and different points in the education process. For 3.5-year apprenticeships, net costs are nearly 13,000 euros in the first year but decrease to 5,000 euros in the third year. Three occupations show net costs of approximately 5,500 euros in the first year and less than 2,000 euros in the third year. Only the costs for two-year pathways slightly increased from the first to the second year (from 5,262 euros to 5,395 euros).

Companies can profit if they hire their former apprentices: 60% do so, which saves employers expenses in human resources. In large companies (>500 employees), over 80% of former apprentices are hired as regular employees after their training.²⁶

Switzerland

In 2018, approximately 64% of Swiss pupils chose a dual-track education.²⁷ This makes dual education by far the predominant pathway in Switzerland. Dual education is not seen as an easy way out but as a start to a promising career; companies actively try to recruit the best the students in the country. Holders of a VET qualification can specialise in a given field to prepare for higher technical and

managerial roles. Those who hold a federal vocational baccalaureate can enter any of the universities of applied sciences and work towards their bachelor's and later master's studies.

The dual-track VET programmes mirror the distribution of jobs among the occupation sectors.²⁸ Over 20% of all newly signed contracts are for commercial employees, around 7% for health care workers and retail clerks, around 5.6% for social care workers, 3.2% for IT technicians, and 2.4% for draughtsman. Overall, there are around 230 different occupations, with the top 10 signing nearly 60% of all new contracts.

Vocational education and training is a joint responsibility of the public and private sectors. At the federal level, the State Secretariat for Education, Research and Innovation (SERI) is responsible for the strategic management and development of the system. At the regional level, the cantons are responsible for enforcing the national legislative framework, and overseeing apprenticeship contracts and vocational schools. Professional organisations (i.e. trade associations and industry organisations) are responsible for developing new training opportunities and revising processes in their branch. Companies are usually involved and represented through their respective umbrella organisation.²⁹

Learners receive a monthly wage from the host company. Salaries vary between regions and sectors, with raises offered along the education pathway. There are no minimum salaries, and each branch usually has its own salary structure.³⁰ Vocational schools are funded up to 70% by the cantons (regions), and the remaining by the central government. Branch courses organised by professional organisations are financed through course fees paid by the companies, public subsidies, and professional organisations. On average, total costs per day are around 220 Swiss francs, of which 150 Swiss francs are covered by companies.³¹

Even after taking on a substantial portion of the costs, the benefits make it worthwhile for companies. The latest substantial study dates back to 2009. The overall net benefit from all apprenticeships stood at 474 million Swiss francs. The high net benefit was the result of the increasing productivity output of learners and the decreasing costs for companies, with the need to educate reducing over time. Three-year apprenticeship costs were slightly higher than benefits in the first year. In the first year of four-year apprenticeships, costs on average exceeded benefits by more than 5,000 Swiss francs, but the net outcome became positive by the third year. Latest estimates published in 2018 showed net benefits for all of three years. The data that was being used, however, only covered a subset of companies.³²

Even within companies and fields where costs were higher than benefits over the teaching period as a whole, most companies were able to recover their investments shortly after the apprenticeship since they were able to hire the apprentices they had trained. Continuing to work with people they already knew led to lower recruitment costs and costs associated with orienting new employees.³³

New Zealand: Strengthening our vocational education

Our politicians are facing several critical challenges in improving education and employment opportunities for the nation's wellbeing. Preparing New Zealand students for an unknown future while still supporting companies with a better-trained workforce is one such challenge.

Advice from Nobel laureate Jan Tinbergen can help deal with complex challenges. Whenever possible, policymakers should aim for only one goal per policy measure, the Dutch economist said in 1952.

Unfortunately, Hipkins' reform proposals do not follow that advice. With his proposal to totally reshuffle the vocational sector in New Zealand, Hipkins wants to solve in one big political move every single problem he has rightly identified. So far, his attempt has not been convincing. The government's

own Regulatory Impact Assessment paper has classified Hipkins' proposals as highly risky and cost-intensive.

For that reason, The New Zealand Initiative offers recommendations based on the specific needs of New Zealand and international best practice to make the government's reform proposals work. Three tasks should be the focus of the Minister's future actions but through different measures:

1. Offer a viable option to restructure the stumbling ITPs;
2. Clarify the different roles in New Zealand's vocational sector; and
3. Foster industry-based pathways by adapting experience from dual education abroad.

Enable structural changes

The government has rightly pointed out that several ITPs are facing financial stresses. In 2016, four ITPs (Northtec, Tai Poutini Polytechnic, Unitec Institute of Technology, and Whiteria Community Polytechnic) suffered financial losses. Second, financial dependency varies in the sector. Three schools received additional support in 2018. Third, the income sources vary between schools. For example, Tai Poutini Polytechnic could procure only 22% of its income from student fees. The Whiteria Community Polytechnic on the other hand collected 47% of its total income from student fees. With more income coming from international students than from domestic students, its business model heavily depends on development elsewhere, though. Merging all of these institutions into one unit would make it even harder to find matching and appropriate strategies.

The 2017 merger of Aoraki Polytechnic and the Christchurch Polytechnic Institute of Technology showed that a merger can be done. However, it also showed that dealing with different cultures, unique identities, diversity, and leadership vacuums after centralising leadership functions is complex, even for just two institutions – let alone all institutions under consideration.³⁴ While the number of students in industry-based training has increased between 2011 and 2017, the opposite is true for ITPs.³⁵

It might well be that the sector needs *some* restructuring. Contrary to the current proposals, however, change should be initiated by the institutions themselves. As soon as they have to take responsibility as independent institutions, they will have the incentive to look for matching partners as needed. This not only frees the Minister from dealing with regional interests across New Zealand, but it also ensures the mergers are approved by all parties involved.

Clarify different roles in the vocational sector

New Zealand has a long history of different institutions covering different aspects of vocational education, be it industry-based or school-based. Over time, the different roles have blurred. Contrary to the Minister's proposal to merge different pathways under one roof, we propose the opposite. Polytechnics and technical institutes, industry-training organisations, and training providers should focus on their core capabilities. Josh Williams, an expert on vocational education in New Zealand, says polytechnics and technical institutes should largely leave degrees to universities and foundational skills to private providers, and instead focus on their core business of working with the industry to improve skills and build productivity in the workforce.³⁶

Sorting these different roles is the biggest task for the Minister. As the descriptions of Austria, Denmark, Germany and Switzerland have shown, there is a role for public authorities in moderating and structuring different pathways. Providing school-based and industry-based training possibilities is

essential to respect the different preferences and abilities of different students. Companies too would benefit from knowing the nature of the educational background of their future employees.

Proposals for dual education

With different school-based and industry-based pathways New Zealand has all the basic ingredients that have made dual education so successful elsewhere. However, we have not been able use them in the right order or combination.

One way to foster the industry-based education pathway is to broaden the range of jobs available for hands-on education, including white-collar jobs.

Another is to embed new and old industry-based education programmes in the existing wider curriculum. New Zealand does not prevent students from going to university after having completed vocational training, but the current curriculum also does not encourage them enough to do so. For example, no specialised and hands-on studies for students with a working background are available, unlike in other countries.

Even with these two measures, dual education will not be easy to realise. Companies will hire based on the number and quality of apprentices; the latter will choose a dual education pathway based on the number and quality of jobs available to them.³⁷

Reforming our industry-based training structure would be a way out of the current stalemate. Future students would benefit from learning more general knowledge as well as receiving industry-based training. Dual education can help them prepare for the next few steps in the educational system. As the international examples show, longer apprenticeships would help companies profit more from their initial investment, and hence increase their willingness to hire apprentices.

Conclusion

Dual education pathways abroad have established a successful record of putting young people to work by creating an educational pathway outside of university.

The government's proposals could be a timely opportunity to reform New Zealand's vocational education system.

But not the way it is set up now.

Vocational education in New Zealand can play a key role similar to systems abroad only when three major changes are implemented:

1. Existing institutions are made independent and self-sufficient so they can look for partners early on and not count on the government to step in to fix a deteriorating business model that has been dysfunctional for decades;
2. The roles of different educational institutions in the vocational sector are clearly distinguished; and
3. Industry-based training is made more attractive for both students and employers.

We hope Minister Hipkins will put further thought into the details of his planned reform. If not, the reform proposal may not just be a colossal waste of time and effort but also make it even more difficult for our youth to find what they love in life.

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ABOUT THE INITIATIVE

The New Zealand Initiative is an independent public policy think tank supported by chief executives of major New Zealand businesses. We believe in evidence-based policy and are committed to developing policies that work for all New Zealanders.

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