# The challenge ahead: transition to an innovation-driven high-income economy

By Scott Perkins

The recent Global Competitiveness Report was a timely reminder of the challenge ahead for New Zealand if it wants to achieve a successful transition to an innovation-driven economy. Public policy has to provide an internationally competitive business environment in which private sector enterprises can excel. Co-operation of all stakeholders in the domestic economy is required to lift New Zealand's economic performance and its ranking on the international prosperity scale.

## IMPROVEMENT OF MEDIUM-TERM GROWTH PERFORMANCE HAS TO REMAIN THE KEY FOCUS

It is the Government's intention to reverse New Zealand's slide on the international income and wealth scales. The target is to lift economic performance and to return New Zealand into the top half of the OECD league table within the next 10 years. The "Catching the Knowledge Wave" conference in Auckland in August 2001 demonstrated that the business community, academics and other interest groups are firmly behind this goal. The discussions focused on how to improve the structure of the economy and achieve stronger productivity growth, which is the key to enhanced wealth creation.

Following the conference, global economic developments have threatened to push the debate about medium- and long-term growth strategies into the background. The United States has been in recession, while Europe and Asia are in no position to assume the role of locomotive for the world economy. New Zealand is particularly exposed to these international developments through its comparatively large export sector. As

FIGURE 1

Global competitiveness ratings in 2001 (rankings for 2000 in brackets)

| Rank | Current competitiveness | Rank | Growth competitiveness |
|---|---|---|---|
| 1 (1) | Finland | 1 (5) | Finland |
| 2 (2) | United States | 2 (1) | United States |
| 3 (4) | Netherlands | 3 (6) | Canada |
| 4 (3) | Germany | 4 (2) | Singapore |
| 5 (5) | Switzerland | 5 (11) | Australia |
| 6 (7) | Sweden | 6 (15) | Norway |
| 7 (8) | United Kingdom | 7 (10) | Taiwan |
| 8 (6) | Denmark | 8 (3) | Netherlands |
| 9 (10) | Australia | 9 (12) | Sweden |
| 10 (9) | Singapore | 10 (19) | New Zealand |
| | | | |
| 20 (19) | New Zealand | | |

(SOURCE: GLOBAL COMPETITIVENESS REPORT)

a result, recent economic debate has unfortunately been dominated by concerns about cyclical developments rather than medium-term challenges. But New Zealand cannot afford to be distracted by these conditions and the pace of reform needs, if anything, to accelerate.

Most global forecasters expect the US economy to recover by the middle of this year, which should lead to buoyant global growth conditions in 2003. As in the 1990s, it is likely that other countries will again outperform New Zealand in terms of economic growth rates during the forthcoming upturn. Our comparatively low "speed limit" at that point – due to disappointingly low productivity growth – is likely to be another strong reminder of the structural weaknesses of the New Zealand economy.

## GLOBAL COMPETITIVENESS REPORT 2001

The latest Global Competitiveness Report by the World Economic Forum, published in October 2001, provided a timely piece of information for economic decision-makers in New Zealand. The report measured the comparative strengths and weaknesses of 75 economies and identified drivers of growth, as well as impediments to better performance. The assessments were based on an Executive Opinion Survey, which recorded the views of 4600 business leaders around the globe. Respondents were asked to compare their local business environment with global standards.

The 2001 Report recorded two separate competitiveness rankings:

1 **Current Competitiveness Index**
This index focuses on factors that determine current productivity performance, largely from the perspective of microeconomic settings. It assesses economies' effective utilisation of available resources. Key determinants, captured by sub-indexes, are the "quality of the business environment" and "company strategy and operations".

2 **Growth Competitiveness Index**
This measure analyses factors that determine the future growth potential of an economy through the improvement of productivity growth, focusing on a five-year time horizon. Three sub-indexes capture the key driving forces of productivity performance: the quality of public institutions, macroeconomic conditions and the level of technology in an economy. One of the purposes of this index is to identify the challenges facing governments and businesses on the way to the next stage of economic development.

While the indexes reflect different analytical approaches to the analysis of competitiveness, they are complementary as they both focus on

FIGURE 2

| Development phase | Characteristics |
|---|---|
| Stage 1<br>Factor-driven economy (low income) | Growth is primarily determined by primary production factors (land, commodities, unskilled labour). The economy has a low degree of integration into the world economy. |
| Stage 2<br>Investment-driven economy (middle income) | The investment-driven economy relies heavily on the importation of global technology for local production processes. Funding of the capital imports increases dependency on foreign capital. At this development stage, the economy becomes increasingly integrated into the global economy. The development of local financial markets for raising of debt and equity is important, as is the reduction of bureaucratic hurdles to development and the increase in labour market flexibility. |
| Stage 3<br>Innovation-driven economy (high income) | At the innovation-driven stage, the economy's focus is on continued technology generation rather than predominant reliance on foreign technology. High rates of innovation and commercialisation of new technologies characterise this stage. Human resources and flexible organisations that can rapidly respond to a continually changing global environment are the key to continued innovation and maintenance of a position on the technology frontier. The innovation-driven stage requires flexible organisational structures, strong research institutions and a high degree of venture capital availability. |

productivity as the key driver of economic performance.

In 2001, Finland, a country with a population not much larger than New Zealand's, scored first place on both competitiveness criteria **(Figure 1)**. Finland's experience of a turnaround over the past decade from mediocre economic performance to world leader demonstrates that economic transformation can be achieved with reasonable speed if policy-makers, businesses and other stakeholders in an economy share a common focus on the use of technology and on improving the business environment.

## REPORT HIGHLIGHTS NEW ZEALAND'S PERFORMANCE GAP

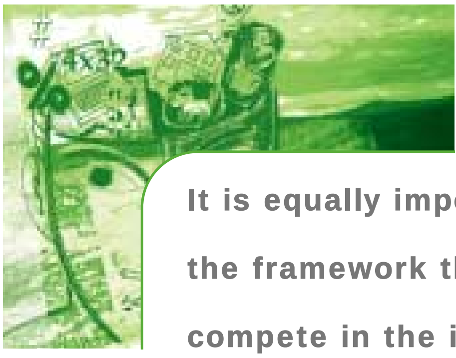
The most notable feature of New Zealand's assessment in the Global Competitiveness Report is the large gap between its rankings on current and growth competitiveness. Regarding "current competitiveness", New Zealand continued its ongoing slide on the international scale by placing 20th, down from 19th last year. The latest report shows New Zealand ranked 19th on the sub-index of "company operations and strategy" and 20th on the "national business environment" criterion.

Contrary to the assessment of current competitiveness, New Zealand took a huge leap forward on the "growth competitiveness" measure, from rank 19 to 10. The rankings on "public institutions" (4th) and "macroeconomic environment" (14th) improved somewhat from last year, but the key driver of the improvement was a significant jump in the "technology" sub-index to rank 11. The latter was mainly the result of a change in methodology applied in the latest report, however, with New Zealand benefiting from its relatively high share of the population in tertiary education. An offset was provided by a poor score on turning acquired knowledge into innovation and, ultimately, into a stronger productivity performance – two criteria that are of crucial importance to measuring the potential for faster economic progress.

The Global Competitiveness Report highlights the large gap between the actual performance of the New Zealand economy and what could be achieved over the next five years if policy-makers, business leaders and other stakeholders in the economy focus on unlocking the economy's potential.

### Stages of economic development

In assessing the right approach forward, it is helpful to assess New Zealand's state in the economic development process. The **Figure 2**



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framework is used by the authors of the Global Competitiveness Report.

## THE PUBLIC POLICY ROLE IN ECONOMIC DEVELOPMENT

It is principally the role of the private sector to drive the process of economic development. But it is equally important that the Government provides the framework that enables companies to successfully compete in the international marketplace. Through variations in policy settings, countries compete on offering the most productive business environment. The various stages of economic development require different policy settings and levels of Government involvement. At each stage of development, it is the Government's role to provide the background for the private sector to excel.

Stable government, a functioning legal system and macroeconomic stability are basic requirements at all stages of economic development. In addition, the reduction of market distortions and direct intervention by government in the economy has been a characteristic of New Zealand's reform process over the past 15 years. However, while these steps were necessary, they are not sufficient to ensure a successful transition to an innovation-driven economy and the maintenance of that status through ongoing commercialisation of new ideas and products. Within limits, the Government has the scope to play a bigger role in order to achieve this transition.

In seeking to optimise the framework for businesses going forward, policy-makers have to realise that the settings in our competitor economies are constantly being adjusted. In many areas, New Zealand is starting from behind and policy changes may simply put us on a par with global trends, before further advances offshore re-open the gap to New Zealand's disadvantage. That suggests that bold steps are required to attain and maintain a competitive advantage.

## THE CHALLENGES AHEAD

The structure of the sub-indexes to the current and growth competitiveness measures included in the Global Competitiveness Report has been outlined above. Against those criteria we have outlined various initiatives that should accelerate New Zealand's transition to an innovation-driven high-income economy.

### Current competitiveness

**Company strategy and operations**

An improving performance of the New Zealand business sector depends, among other things, on the quality and availability of skilled management, access to capital, as well as the overall level of risk-bearing or entrepreneurship in the economy. Initiatives for improving company performance should include:

1. *Foreign investment.* A comprehensive policy programme for attracting foreign direct investment (FDI) to enhance the availability of capital and international expertise.

2. *Venture capital.* Focusing the research activities of Universities and Crown Research Institutes to accelerate the development of intellectual property. Ideas capable of commercialisation are the key to a thriving venture capital and angel network sector that fuels innovative start-up companies.

3. *Immigration.* An immigration policy that attracts expertise and entrepreneurs to New Zealand, as well as a concerted approach to attract New Zealand businesspeople living offshore back to this country.

4. *Business schools.* A significant upgrade of the quality of business schools and management courses through the creation of no more than two centres of excellence, with ongoing close co-operation between academics and business leaders to ensure

that the focus of teaching reflects the needs of modern business management.

**National business environment**

Extensive economic reforms led to significant progress in generating an internationally competitive business environment. However, initial gains were soon matched by competitor nations while New Zealand's reform process stalled. Correspondingly, our international ranking has deteriorated since the mid-1990s.

Some structural problems will be hard to overcome, including the relative lack of domestic competition in a small market or the fact that New Zealand is dominated by small to medium-sized companies. However, the following initiatives could have a significant positive impact:

**1** *Skill shortages.* Lifting the economy to the next stage of economic development requires widespread up-skilling of the New Zealand labour force, with the effort extending across the whole education spectrum. Challenges for the tertiary sector will be discussed below. As far as the non-tertiary sector is concerned, close co-operation between government and the private sector is required to intensify efforts to establish a broadly based high-class system of non-academic training and qualifications. Increased immigration of skilled labour plays an important role in developing a better-qualified labour force, but it will be no substitute for a serious domestic training effort.

**2** *Infrastructure development.* The under-development of certain key elements of infrastructure – roads, in particular – is a serious impediment to business operation. The issue is most critical in the Auckland region. Lack of decisive political leadership has been a key limiting factor to increased investment in the Auckland transport network. Private-public sector partnerships, used extensively in other countries, would be an efficient way of shifting the capital-raising burden from the public to the private sector, as well as achieving more efficient risk sharing.

**3** *Red tape and compliance costs.* Notwithstanding successive administrations' efforts to reduce the burden of regulations and the cost of compliance with taxation rules, compliance costs remain high, with particularly adverse effects on the small to medium-size business sectors. Further progress in this area is imperative. Another step that carries significant potential for improvement is a review of the economic impact of the Resource and Environmental Management Acts as part of an ongoing assessment of the economic costs and benefits of the legislation. Changes resulting from such reviews should aim to achieve a better balance between the rights of individuals and environmental concerns on the one hand and the economic benefits from more dynamic business development on the other.

## Growth competitiveness

**Public institutions**

New Zealand's high ranking on this issue is a reflection of political stability, our well-

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developed legal system, as well as an efficient public sector as a result of reforms over the past 15 years. The Government's intention to further streamline public sector agencies should help to maintain our competitive position on this front. However, initiatives in two other areas would further improve performance:

1. *Local government consolidation*. Decision-making by a fragmented local authority sector is far from optimal, with adverse consequences for economic development. Transport issues in the Auckland region are the most prominent example. Reforms should focus on streamlining and, possibly, centralising decision-making processes.
2. *Legal system*. The legal system is seriously under-resourced in areas of particular relevance to business and economic development. Courts dealing with resource management and other environmental issues should receive extra funding in order to significantly reduce the time required to process cases. Year-long delays for new business ventures due to an under-resourced court system pose an unacceptable burden to the business community.

### Macroeconomic environment

Despite extensive reforms since the mid-1980s, New Zealand scored only 14th on this criterion, with exchange rate volatility and size of government some of the factors impacting negatively on the ranking. There are limits to the extent to which exchange rate volatility can be reduced, considering that New Zealand is a small open economy with continued high exposure to commodity markets. However, stronger growth in value-added products should tend to reduce relative exposure to volatile commodity markets over time. Furthermore, the shift of the monetary policy operating mechanism to a cash rate-based system in 1999 has led to less interest rate volatility, which should dampen exchange rate fluctuations over the cycle.

Of key importance to the ranking going forward will be the course of fiscal policy and the level of the corporate tax rate in particular. Corporate tax rates are an important means of international competition between nations for attracting and retaining businesses. Following the reduction of the Australian corporate rate to 30 per cent last year, New Zealand now has one of the highest corporate tax rates in the Asia-Pacific region. There is an inexorable trend in OECD countries toward lower taxes. This implies that a tax reduction programme, over time, should be on the fiscal policy agenda.

Despite the reduction of public debt to below 20 per cent of GDP – a ratio that compares very favourably in the international context – and a projected rise in fiscal surpluses over coming years, this Government has rejected calls for tax reductions in the near future. Instead, it is planning to invest budget surpluses in a savings fund for the future provision of state pensions. Tax reductions and pension fund contributions could both be achieved at the same time if more efficient outcomes are sought from current fiscal expenditures. Increased private sector involvement in the delivery of core services would be a key ingredient to such a strategy. Private-public sector partnerships have been implemented in the health, education and transport sectors of other countries, resulting in increased cost efficiency and quality of service delivery. Furthermore, due to the release of public sector funding constraints as a result of private sector involvement, the timing of public sector investment projects could be advanced significantly, thereby contributing to a national growth strategy.

### Technology

The Global Competitiveness Report gives New Zealand good marks for the share of the population participating in tertiary education. However, we are scoring relatively poorly on the key areas of turning knowledge into innovation and of commercialising innovation. Three areas are crucial for an improving performance:

*Education*

While a relatively high share of the population goes through tertiary education, participation in mathematics, science, technical and engineering education – subjects that provide many of the skills needed to succeed in the knowledge economy – is relatively low by international comparison. A rebalancing of education resources toward science-based learning is required, in addition to a general increase in funding for the tertiary education sector. As with business and management studies, the establishment of centres of excellence is required, as a lack of scale does not enable the large number of New Zealand universities to provide across-the-board world-class education.

*Research*

Turning knowledge and skills into innovation and staying at or close to the international innovation frontier requires a higher degree of research and development. New Zealand suffers from a significant deficit in private sector R&D spending, consistent with our development stage that is characterised by the importation rather than the creation of technology. Not only is New Zealand's overall spending on R&D as a percentage of GDP below the international average, the private sector share is only around 30 per cent of total R&D expenditure. That compares with up to 70 per cent in other OECD countries.

But the Government cannot simply "turn on the tap" of private and public sector R&D. With R&D activity by multi-national companies extremely mobile, there is an international market for R&D spending. Unfortunately, fiscal incentives for undertaking R&D in New Zealand have been less attractive than those in other countries, which has made it difficult to attract foreign capital for R&D activities. Apart from the need to improve the incentive structure further, it is important that the approach to support R&D becomes integrated with a targeted and flexible strategy to attract foreign direct investment.

At the same time as incentives for R&D activity are increased, efforts have to be made to improve the wider research infrastructure in order to achieve maximum benefit. That includes the promotion of clusters, which have led to thriving research communities in other countries, and the fostering of close relationships between private sector researchers, universities and Crown Research Institutes.

*Commercialisation of ideas and products*

Turning research into successful products requires a thorough understanding of product markets and access to funding. It appears that, at this stage, there is no real shortage of capital in New Zealand, but a shortage of propositions that are considered viable by venture capitalists. The lack of high-quality business plans and mentoring services is a key problem for small companies and start-ups. It is essential that private sector business organisations and universities develop such advisory networks. The activities of The University of Auckland's ICEHOUSE and Uni Services are prime examples of this strategy at

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## The next phase of development requires policies that generate an internationally competitive business environment

work. Again, the encouragement of start-up clusters would aid the process.

The Government has the opportunity to demonstrate its commitment to turning research into economic benefit by unlocking the value of the vast amount of knowledge generated by Crown Research Institutes over the past decade. Those organisations are key providers of research and the lack of commercialisation of their outputs constitutes serious under-utilisation of New Zealand's innovative capacity.

## CONCLUSION

The Global Competitiveness Report provides an excellent framework for the analysis of New Zealand's strengths and weaknesses in its attempt to move up to the next level on the economic development ladder. A strong focus on innovation requires a stronger research effort, supported by science-based education. Steps have to be taken to enrich the local business environment through promotion of FDI, increased R&D, a path of reducing tax rates and government spending, and importing talent through an active immigration policy.

Public policy has to adapt to the different stages of economic development. Following a period during which the focus was on reducing the role of government in the economy, the next phase of development requires policies that generate an internationally competitive business environment. The Government has made some steps in the right direction by, among other things, increasing the scope for tax deductibility of R&D spending, by adding to the availability of venture capital, and by supporting the revival of an apprenticeship system. Furthermore, the decision to allow field trials for genetic modification and the policy of attracting more skilled migrants were moves in the right direction. The Prime Minister's address to Parliament in mid-February and the accompanying policy documents under the heading "Growing an innovative New Zealand" demonstrated the public policy focus on realising the economy's full potential and a useful framework for achieving that goal. Many concerned New Zealanders are eagerly anticipating the policy action plan that will give real meaning to this policy framework.

As overseas experience has taught us, bold leadership from the Government is a critical element of the wider public and private sector challenge to transition to the knowledge economy. This Government's OECD goal is the right one. Its next steps are critical.

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