



**Regional
Economic
Bulletin**

FEBRUARY 2001

**Ecommerce
and Bandwidth...
Is the Waikato Region
Disadvantaged?**



The
University
of Waikato
*Te Whare Wānanga
o Waikato*

Environment
Waikato

REGIONAL COUNCIL

Regional Economic Bulletin

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Ecommerce and Bandwidth – Is the Waikato Region Disadvantaged?

Deborah Ryder¹

Introduction

The largely rural nature of the Waikato region with its abundance of small townships has often been muted as an area of disadvantage when it comes to the availability and quality of Internet connections. As the importance of ecommerce has risen each year so has the intensity of discussions on issues relating to infrastructure and bandwidth. Many people in the region are calling for government assistance in modernising the technology while others seem content to let the market come to the rescue. Although no substantive research has been conducted on these issues, this study provides a collection of data that reveals some factors that may affect the levels of participation in ecommerce in the region.

Estimated levels of connectivity in the Waikato region

Area	Population	Connections	%
New Zealand	3,828,000	800,000	20.9%
Waikato region	370,500	77,434	20.9%

These predictions are based on the estimated connections to the Internet from Telecom Xtra, the largest Internet Service Provider in the country. However, as other providers do exist it can be assumed that connectivity levels are slightly higher. The estimate for the Waikato region comes from qualitative information provided by Telecom Xtra and indicates that connectivity across the regions does not differ greatly in percentage from the whole of New Zealand.

Telecom Xtra estimates that the split between the business and household connection ratio is approximately 25%/75% respectively. On this basis we could predict the following:

Connections in the Waikato region	Businesses	Households
77,434	19,358	58,076

Source: Telecom NZ

Business use of the Internet in the Waikato region

In the March 2000 quarter, a sample of 84 Waikato businesses were asked by the Waikato Management School's Small to Medium Enterprises Survey about their use of the Internet. Below is a table of the questions asked and the responses given.

Businesses	Count	Yes	No	Don't know
Does your business currently purchase goods/service via the internet?	84	11.9%	88.1%	n/a
Does your business currently sell goods/services via the internet?	84	11.9%	88.1%	n/a
If No, is your business planning to buy and sell goods/services via the internet within the next year?	74	29.7%	64.8%	5.4%

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These figures are below the predictions of connectivity from Telecom Xtra, but they may indicate that only 11.9% percentage of businesses using the Internet use it to buy and/or sell goods (others may be connected but not using the Internet for these purposes). The results also reveal that 29.7% of businesses that are not using the Internet to buy and sell goods may do so within the next year.

Connectivity of dairy farmers in the Waikato/Bay of Plenty region

There are an estimated 5,943 dairy farms in the Waikato and another 1023 in the Bay of Plenty that contribute significantly to the local regional economy. The *MAF Dairy Monitoring Report* revealed the following connectivity statistics for dairy farmers in the region. These statistics were derived from a survey sample of 100 farmers nationwide.

<i>Dairy farmers in the Waikato/Bay of Plenty</i>	<i>%</i>
Have a computer	75%
Are connected to the Internet	65%

Household use of the Internet in the Waikato region

Data supplied by CM research reveals the following statistics on home usage of the Internet in the Waikato region.

The region included Hamilton, Huntly, Matamata, Morrinsville, Otorohonga, Paeroa, Te Aroha, Te Awamutu, Te Kuiti, Thames, Waihi, Whangamata, Tokoroa, and Putaruru. The sample size was over 700 people, aged 13 and above. All data was collected throughout the year 2000.

<i>Households</i>	<i>%</i>
The % of people connected/have access to the Internet at home	31%
The % of people who have used a computer at home in the last 30 days	45%

These results indicate that just under a third of consumers at home are connected or have access to the Internet.

Narrowband versus broadband infrastructure in the Waikato region

Narrowband can be described as a standard phone line connection. When used for the Internet it is a single dial up system that runs up to the typical modem speed of 56 Kilobits/ps. Broadband is a system that allows for high-speed data access. Broadband services such as JetStream are capable of operating between 2 - 8 Megabits/ps. (There are 1000 Kilobits in a Megabit). A broadband service is limited by how close consumers are situated to their local exchange. The service has been known to break up for consumers who live over three and a half kilometres from their exchange.

Rural areas are not equally disadvantaged in the uptake of both email and website applications. However, the Waikato region may be one of the rural areas at greater disadvantage. There is no doubt that bandwidth (or the amount of data that can be sent) on rural lines within the region is limited.

One reason for this could be the makeup of the region that includes many small townships that are just below the profitability level for Internet providers to set up the services that are currently available in larger centres. The region's fixed wire technology is limited by the type of lines set up to service small towns and farmers. Typically the copper wiring is unable to have its bandwidth extended and the distance some of these lines have to travel affects the quality of the service. Factors such as the electric fences and machinery on farms can cause "noise on the line" that again affects the quality of service.

It is also unprofitable for providers such as Telecom to invest large sums of money to supply services such as JetStream (Asymmetrical Digital Subscriber Line) in low population rural areas and small towns in the Waikato region. Consequently, Hamilton city is the only area within the region that has access to JetStream or other Telecom broadband services.

The advent of new or alternative technology may come to the rescue of regions such as the Waikato. For example, Ihug has an a-symmetrical satellite service that is available to the rural users in the region and may provide a better quality of service than the narrowband dial up option provided via their phone lines. Ihug is also developing a two-way satellite system that may be available later this year. The drawback of an a-symmetrical satellite service is that it is susceptible to bad weather and tends not to be as fast as other broadband services such as JetStream. Other useful technology about to become more readily available in this area is the radio signal service and the Indranet (a network of individual transmitters).

Broadband service in the Waikato region

Estimations supplied by Telecom reveal that their broadband coverage in the Waikato region is similar, albeit slightly less, than the levels throughout New Zealand.

Availability of Broadband in NZ

Business Customers	64%
Residential Customers	48%

Availability of Broadband in the Waikato

Business Customers	50%
Residential Customers	45%

The availability to business customers may be slightly lower in the Waikato because of the abundance of small business located further out in the region that are unprofitable areas for broadband technology to be installed. However, the satellite service from Ihug is still available to these businesses.

Conclusion

The information gathered so far gives us a background picture of some issues that may affect the supply and uptake of more sophisticated IT technology within the region. Limits to broadband services such as JetStream will continue to affect the speed with which small town and rural consumers can process transactions on the Internet. However, if they embrace the satellite technology provided by Ihug this problem may be somewhat eliminated. The advent of a radio signal service and/or the Indranet may also improve the quality and type of service available within the region.

How all these factors affect the process of e-commerce regionally is yet to be measured. Some procurement and sales are easily transacted through narrowband technology and in this case, rural users may only be limited by the speed they can process the data. Broadband technology may be faster but is much more costly to obtain. However, there is no doubt that the issues surrounding connectivity and available technology within the region will play an important role in the potential growth of e-commerce activity.

A NZ Dairy Industry for the New Millennium

Warren Hughes

The current farmer plan for restructuring New Zealand dairying is a huge gamble New Zealand simply cannot afford. It turns the New Zealand dairy industry into a monopoly with nowhere to turn if it does not succeed. The rather bland name of GlobalCo says it all. This is something Ian Fleming may have dreamed up in the 1950s before settling on the equally bland Universal Exports as a cover for James Bond. Unfortunately, many New Zealand farmers continue to live in a similar outdated fantasyland that bigger is always better.

The New Zealand dairy industry can be segmented into three different businesses. The first two are farm production and large-scale basic processing, followed by niche production and marketing of final products. New Zealand is very good at the first and our comparative advantage of the combination of climate, animal husbandry and support services makes us unbeatable in this segment for maybe the next 20 years. Firms like Waikato based NZDG and Taranaki based Kiwi should concentrate on this activity as separate companies and there should be (at least) one South Island firm close to farmers there concentrating on production problems unique to that region. This gives New Zealand at least three large-scale processing companies allowing annual efficiency comparisons with payouts in dollars per kilogram of milk solids. With a monopoly, there will be no comparisons for companies of similar scale. There seems no compelling reason at this time to force this type of firm to exchange its existing cooperative/farmer-shareholder structure for that of a publicly listed company. One particular problem they should concentrate on is developing all-year round production of milk solids to eliminate peaks and keep plants working near capacity.

In the second segment we have companies like New Zealand's Tatua and Swiss newcomer Movenpick. These companies may process directly from New Zealand milk solids as Tatua does, or like Movenpick, take basic product from firms like NZDG or Kiwi and turn this into consumer products like cheese, ice cream etc. Any sustainable competitive advantage for these firms lies in their patentable processes and brand name marketing. Nestle, Mars, Kraft, Unilever etc. could quickly augment this segment of the New Zealand industry. This could see the location of specialty plants in smaller regional towns reversing the mega-site trend in recent years followed by NZDG and Kiwi in search of production economies for basic products. Clearly this would be a significant plus for New Zealand regional development.

The final segment of the industry in which New Zealand has developed some expertise is the global marketing of dairy produce, not all of which is produced in New Zealand. The New Zealand Dairy Board (NZDB) has 9,800 employees worldwide of which 620 are based in Wellington. The fragmented nature of global dairying (due to the limited life of milk and a history of misguided government intervention worldwide) has opened up opportunities for organisations like NZDB to buy and sell in different markets. Freed from the constraints of always putting the New Zealand farmer first, the NZDB could become a profitable company in its own right. It may have its own brands commissioned from New Zealand firms, Australian firms like Bonlac and perhaps eventually from firms outside Australasia. However, it could also supply marketing and financial services to New Zealand based processors, expanding the reach of such firms beyond their main markets serviced by their own personnel. As a

global middleman, they would also provide the same services to foreign firms. Of course, the New Zealand export monopoly currently enjoyed by the NZDB will need to go. Ideally, NZDB with a new name should list in its own right on the New Zealand stock exchange with existing farming organisations limited to at most a 15% shareholding. That is, this public company should not initially be New Zealand farmer-controlled as this could undermine its middleman role in the eyes of overseas clients.

That a farmer-controlled GlobalCo could efficiently accomplish all the above tasks given their past record boggles belief. The existing NZDG and Kiwi plus one or two South Island basic processors could retain their New Zealand subsidiaries marketing milk, cheese etc. in New Zealand, as well as overseas. Expanding the current supplier situation with new entrants such as Movenpick makes for an excellent outcome for the NZ consumer and the Commerce Commission. Such an array of varied production and marketing expertise should also make the New Zealand dairy farmer very secure. Eventually, international firms such as Nestle would commission research from New Zealand universities, CRIs etc. further developing New Zealand research expertise in dairying. New Zealand could well become the Silicon Fen of dairying, leaving overseas competitors shaken if not curdled.

Allocating Waikato Region's Water

Amanda Milne and Dan Marsh

Introduction

For many years water was regarded as plentiful and cheap and issues of water allocation tended to stay out of the headlines. But as land use has intensified and population increased there has been a marked increase in consumption. Between 1988 and 1998 the volume of surface water allocated to users in the Waikato region increased by 450 percent (Environment Waikato, 1998) and there are now a number of water resources that have been fully allocated, but where new or existing users would like access to more water. It was against this background that Environment Waikato recently sponsored a University of Waikato student to undertake a study of water allocation options for the Waikato Region. This article outlines the economic approach to water allocation and draws together some of the work carried out under this and other recent studies. It starts with a review of the existing system of water allocation before moving on to describe three alternatives. The article finishes with some conclusions and suggestions for further work.

When water becomes scarce, there is much to be gained from treating it as an economic good. "Like any other good, water has a value to users who are willing to pay for it. Like any other good, consumers will use water so long as the benefits from use of an additional cubic metre exceed the costs so incurred... welfare is maximized when water is priced at its marginal cost; and water is used until the marginal cost is equal to the marginal benefit" (Briscoe, 1996). Based on this economic approach, an ideal method for allocating water would ensure that limited supplies are allocated so as to maximise net benefits. Water would continue to be allocated for consumption as long as the benefits exceeded the costs and would be priced at its marginal cost so that users are forced to consider whether the benefit they gain from use of additional units of water exceeds the cost of so doing.

However, it is important to recognise that many people believe that water has some characteristics of a public good. "They contend that safe water is a basic need that should be available at reasonable levels to everyone... Others believe that water serves important ecological, environmental and aesthetic benefits in many cases, and should not be allocated to other uses simply on grounds of willingness to pay" (Perry, Rock, & Seckler, 1997). Any method of allocating the Waikato Region's water will have to take account of both views if it is to gain the broad community support that will be essential for success.

The Current Method

Environment Waikato uses a system of resource consents to determine the quantity of water allocated to different users. Taking of limited quantities of water (15 cubic metres per day) for domestic needs and for stock drinking water is generally permitted without a resource consent as long as there are no adverse effects. Other users must apply to Environment Waikato for a resource consent. The initial cost depends partly on the quantity applied for and the source (groundwater or surface). Simple applications that contain all the information needed generally cost between \$300 and \$1000. More complicated applications e.g. those that have significant environmental effects, or that require public meetings or hearings can be much more expensive.

In order to calculate the proportion of a water source that can be allocated Environment Waikato first determines "Q5". This is the minimum flow value that a water source could be expected to naturally fall to in a five-year period. Total allocable flows are then defined for each catchment as a percentage of Q5 in order to ensure that enough water is left in the source to support the natural ecosystem. The allocable flow varies from zero e.g. some catchments on the eastern side of Mount Pirongia, to 40% of Q5 on the Mangatawhiri. A default value of 10% is used when insufficient data is available to determine otherwise.

Before a consent is given, Environment Waikato (EW) determines whether the quantity of water applied for is appropriate for the land and purpose required. Consents, once granted, can in theory be transferred from one user to another. Such transfers are only allowed under certain conditions and have only taken place on a handful of occasions. EW also has a monitoring programme to ensure that consents are neither exceeded nor under utilised.

So What is Wrong with the Current Method?

The current method can be criticised on grounds of economic efficiency and is not popular with some users; particularly those who are told that their local water source is fully allocated; or that they will have to go through a lengthy and expensive process in order to obtain a resource consent. EW report that the public seem to be happier with the water allocation policy since it became part of the Draft Regional Plan. However, users in fully allocated areas such as Pukekohe are naturally not pleased with it, particularly when they see water flowing past their property but are unable to gain a consent. These users may receive consents to use deep groundwater sources. However, this is expensive as wells around 100 metres deep must be drilled with no guarantee that water will be reached.

Another area of dissatisfaction is the system of determining allocable volume based on the conservative default value of 10% of Q5. It is certainly true that determination of the amount of water that can be taken without causing adverse environmental effects has been based on limited information. However cost is a major influence here. It is currently prohibitively expensive to undertake major studies on the exact rate that water can be taken from a site before environmental degradation occurs. It would also be expensive to undertake further investigations into the best trade-off between the benefits of water use and environmental harm. However, if the value of water increases then more detailed studies will be justified in order to identify cases where allocable volumes can safely be increased.

From a regional perspective there are two main areas of concern. Incentives to ensure that water is used efficiently are fairly weak and there is no mechanism to make sure that limited water is distributed in order to maximise economic benefits to the region. For example, a resource consent to take water for high value horticultural crops would be refused if a resource was fully allocated – even if existing consent holders were using water for less productive purposes (or possibly not using their consent at all). Studies of the actual and potential gains to more market based water allocation systems have been conducted both overseas and in various parts of New Zealand. In a study of 37 dairy farms in the Waikato's Waihou catchment, Dahm (1998) found that a market-based system would have the potential to induce efficiency gains generating an additional \$0.6 million per annum on-farm profit.

Alternative Water Allocation Methods

Proportionality

Proportional water allocation is a variation on the existing system of resource consents. Applicants receive the right to take a certain percentage of the allocable volume of a particular source. The allocable volume is determined on a regular basis thus allowing water levels to vary naturally through

the year. This can have significant environmental benefits especially in comparison to the environmental bottom-line method. The method is equitable as each user receives the same percentage of allocable water throughout the year with the burden of droughts being shared equally among all users.

Proportionality would have similar requirements as the existing system in terms of determining allocable volumes, granting of consents and monitoring, but could have some benefits in allowing more flexible use of water at different times of the year. It might also be associated with a different system for allocating consents. In some parts of the world the proportion of water allocated is based on the area of land owned in the catchment; sometimes this is subject to a cap e.g. no user can take more than 10% of the total water supply.

However, there are some disadvantages to this method. Water users can never be sure of the quantity of water they will receive, only of their percentage share. Allocation of a fully allocated source to new users would require a reduced share for existing users (as with the present system). Proportionality would be no better than the present system at encouraging efficient water use and delivering water to those who would use it most productively.

Charges Based on Metering

The 'cost' of water can be said to include not only the cost of extraction, treatment and distribution, but also the opportunity cost (in this case the benefit that could have been gained from using the water in the best alternative use) and the cost of any adverse impact (e.g. on the ecosystem or on recreational users). One way of ensuring that users face the full cost of water is to introduce a system of charging based on volume used, which would take account of all of these costs. Under the 'pure form' of such a system there might be no limit on the amount of water that could be drawn from any particular source – but users would face a water charge that would fully reflect any adverse effects. An alternative system might involve the determination of allocable volumes based on non-market criteria. Water prices would then be set periodically with the aim of selling the allocable volume. Prices would vary through the year from zero during periods of high flow to a maximum during droughts. Allocation of water between different users would then take place in the market, based on willingness to pay.

This method could, theoretically be used on any water source. It would be economically efficient in allocating water to the most productive users and encouraging efficient water use. It would also cope easily with new users; anyone who is willing to pay the going price would be able to buy water.

There are, of course, some significant disadvantages. There would be substantial monitoring and enforcement costs; in determining allocable volumes, setting prices, recording metered consumption and collecting water charges. Users might be very resistant to the idea of market based water charges; particularly since very high values might be reached during droughts. Environment Waikato would be collecting a resource rental reflecting the scarcity value of water. Users might question whether it was fair or reasonable for Environment Waikato's water charges to exceed the cost of administering the water allocation system.

Transferable Water Permits

A system of transferable water permits (TWP) can be used to put value on scarce supplies of water and encourage efficiency. The water manager estimates the total amount of water that can be sustainably extracted from each source. Permits are then allocated (or sold) to users up to this amount. Users are free to transfer any permits they are not using to others. The Resource Management Act requires planners to consider a range of means for achieving the environmental outcome being sought. This part of the Act was intended (among other things) to encourage the use of economic instruments, which it is claimed are able to deliver environmental outcomes (such as sustainable resource use) in a way that is

economically more efficient than the regulatory approach. TWP are an example of an economic instrument whereby the rights to own and trade water are separated from the rights to own and trade land.

Transfer of resource consents to take water is allowed in the Proposed Waikato Regional Plan, under certain conditions. After first gaining a consent for water in the usual manner, water user *A* can trade their water permit to water user *B*. This can only be done without a resource consent change if water user *B* lies downstream of *A*, on the same water body, and not on a tributary that flows into the water source at a downstream point. Water users *A* and *B* must also be in the same catchment region. They are required to pay a fee to Environment Waikato to make a transfer, and can negotiate among themselves for a transfer fee from the buyer to the seller. Transfer of consents between sites is estimated to have occurred less than ten times to date, but is reported to be on the increase as users become more aware and open to the idea. Transfers may prove popular with users of fully allocated sources who would otherwise have to forego production possibilities or undertake expensive drilling to try to access alternative water sources.

A system of TWP could be introduced to cover sources which are already fully allocated or will be within the next few years. Holders of existing resource consents would be issued with permits that would give them the same right to take water as they currently hold. Any unallocated permits could be sold by auction or allocated in some other way after appropriate community consultation. A periodic auction, or some similar mechanism would be organised to make it easier for potential buyers and sellers make contact and strike deals. Any new user, or an existing user wanting access to additional water would attend the auction and buy additional permits; assuming they were willing to pay the market price. Holders of existing units would be aware of the opportunity to sell at the market price and so would have a strong incentive to make efficient use of their permits and sell any surplus; either permanently – or for defined periods. Existing users might well find it profitable to install new technology e.g. micro irrigation systems, so as to reduce their expenditure on permits. During times of drought some permits holders would sell units to those willing to pay the highest price thus allocating water to the most productive users.

The system could be made more responsive to droughts by defining each permit as a percentage of the allocable volume (rather than a defined quantity). This would allow EW to adjust the allocable volume over time to take account of drought or other environmental factors.

Where To From Here?

The present system of resource consents has widespread community acceptance and allows the benefits of water use to be balanced against adverse environmental effects. It works fairly well except when a water source is fully allocated. Once this point is reached it is important that efficiency is encouraged and that scarce water supplies are allocated to those will put them to the most productive purposes. One of the most effective ways of doing this is through increased use of economic incentives. A system based on charging for the volume of water used could in theory meet both of these objectives but would be hard to implement and might meet with substantial consumer resistance.

Introduction of transferable permits, where each permit allows use of a percentage of the allocable volume, would allow a more gradual evolution from the present system of consents. Under this system the regional authority could easily adjust allocable volumes, leaving it to the market to determine the resultant changes in price. This is a significant advantage over a metered system where the authority would have to adjust prices in order to match supply and demand at different times of the year.

TWPs are allowed under the Proposed Waikato Regional Plan but much more could be done to encourage

their use. Environment Waikato could establish a mechanism to put buyers and sellers in contact with one another e.g. a monthly auction or a website for on-line transfers. The transfer process could be streamlined and EW could investigate whether current rules should be relaxed to allow upstream and temporary transfers.

Introduction of a broader method of transferable permits could bring substantial benefits to the region in areas where the available water has been fully allocated. More information on the transfer of consents should be provided to current and potential users. If more consent holders are aware of their ability to transfer consents, more transfers may take place resulting in a more efficient allocation of water. TWPs are only suited to areas where water is fully allocated and so would not need to be introduced on a large scale. This could provide an opportunity for Environment Waikato to implement tradable permits on a trial area e.g. in Pukekohe. This would enable Environment Waikato to carry out further investigations and thoroughly test the concept before other parts of the region become involved.

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Employment Growth in New Zealand 1991-2000:

Rogernomics and the Aftermath

Warren Hughes

A recent *Economist* article concluded a review of the New Zealand economic reforms by responding to the current government's attempted repeal of the Rogernomics revolution with the comment:

If anything, NZ should do the reverse: press on with reform, as most other countries around the world are now doing.

The main legislative planks of Rogernomics include the Reserve Bank Act of 1989, the Employment Contracts Act of 1991 and the Fiscal Responsibility Act of 1994. As noted in the *Economist* article, economic reforms need time to gel before any payoffs can be realised. Furthermore, business and consumer confidence that drives economic decision making derives from the policy direction of the government of the day.

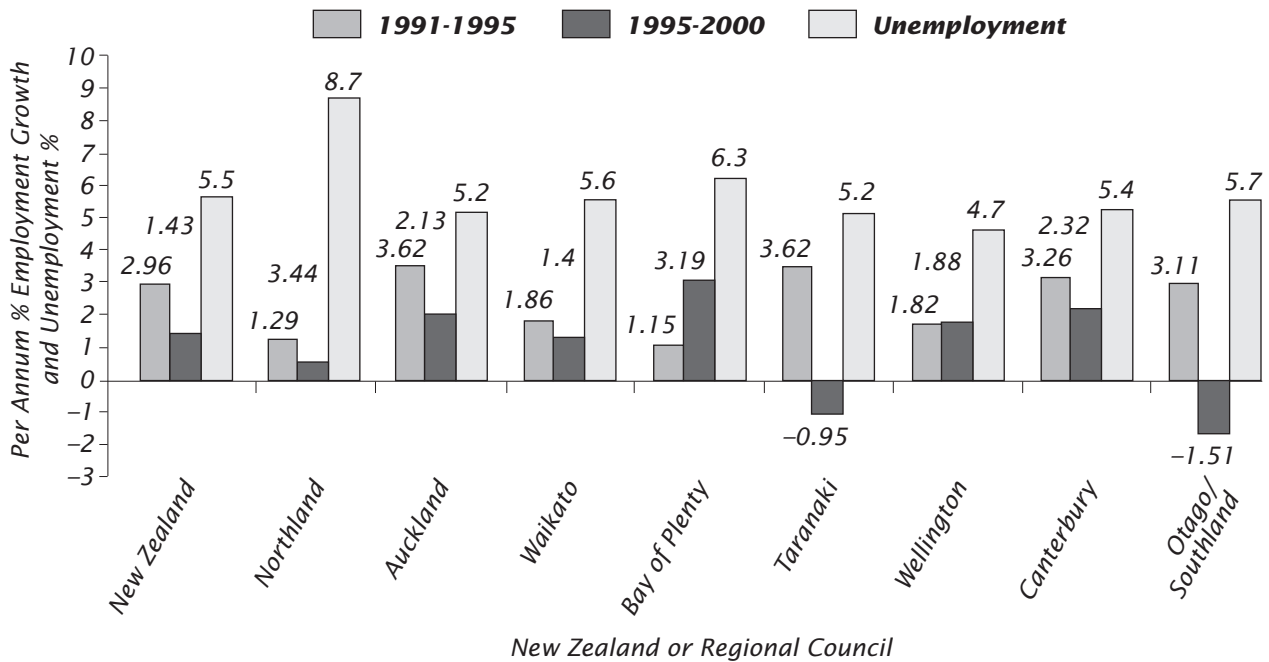
We now have a consistent employment database for 1991 - 2000 (September years) with which to evaluate the relative impacts of Rogernomics and the Aftermath, or should it be the tea break? We can designate the four-year period 1991 - 1995 as Rogernomics, and the five years 1995 - 2000 as the Aftermath. Clearly, the second Bolger government of 1993 had no stomach for further reform and the first MMP government in 1996 was similarly impotent. The current Labour/Alliance minority government regularly talks of reversing Rogernomics (although no longer closing the gaps) with the Employment Relations Act and a higher tax rate for the "rich".

The graph on page 13 shows per annum growth rates in persons employed over the Rogernomics period of 1991 - 1995 and the Aftermath period of 1995 - 2000. It also shows the current unemployment rate (December quarter) for New Zealand and those major regions covered in the database.

The overall result for New Zealand shows the employment growth race to be a clear win for Rogernomics. An annual 3% growth rate in persons employed for New Zealand under Rogernomics more than halves to 1.4% in the Aftermath period. The only regions to reverse this result are the smaller regions of Northland and the Bay of Plenty with Wellington about the same. Paradoxically for the Rogerphobic champion of regional development, Taranaki (including Manawatu/Wanganui) and Otago (including Southland) would have been much better off in the Aftermath period with their Rogernomics growth rates. Over 1991 - 1995, world real GDP grew at a 3% rate. This advanced to 3.6% in the Aftermath period so Rogernomics was also the handicap winner in the employment growth stakes.

Politicians often try to explain away small percentage losses in measurable economic phenomena such as employment, prices, etc, by claiming that non-measurable intangibles more than balance the ledger. However, if over the period 1995 - 2000 New Zealand had been able to maintain the 2.96% Rogernomics growth rate in employment, 138,000 more Kiwis would be employed today than is currently the case. Quite possibly, many of these people are now working in Australia and elsewhere overseas. The intangibles would have to be immensely valuable to balance this job loss and other losses from family separations.

Employment Growth 1991-2000 and Unemployment Rate 2000



Of course, the Asian crisis of 1997 - 99 (with a particularly severe impact on forestry) together with higher interest rates imposed by the Reserve Bank in 1997 were twin blows for employment growth in the Aftermath period. Despite these problems, a major forestry region such as the Bay of Plenty showed significant employment growth in this period compared to the rest of New Zealand.

Unfortunately, the high growth regions in the Aftermath period of Northland and Bay of Plenty currently show the highest unemployment rates for the September quarter. Both regions were among the slowest growers in the Rogernomics years. For the Bay of Plenty, the swelling ranks of job seekers and retirees have engendered a building boom in recent years. This now shows signs of levelling off and this may have contributed to the current high unemployment rate in the region.

While individual regions experience differing fortunes, the above data constitute yet more evidence in support of the *Economist's* conclusion. Supporters of Rogernomics can only look forward to objective data from apologists of current government policy that negates this result. As an economist, I predict it will never arrive.

Postscript

After completing the above analysis, data on two other regions became available. For Gisborne/Hawkes Bay, the employment growth rates were 3.34% p.a. under Rogernomics and -0.42% p.a. for the Aftermath years. For Tasman/Nelson/Marlborough/West Coast, the rates were 4.75% p.a. and 1.1% p.a. respectively. This is yet more evidence as to how the "repeal" of Rogernomics, as foreshadowed by the present government since 1995, has harmed regional development in New Zealand.

Waikato Regional Indicators and Outlook

Warren Hughes

Table 1 below shows that our projections for Waikato economic activity in the previous Bulletin were right on the money for Retail Sales. However, projections for Building Consents were again too optimistic by a wide margin. In light of our continued over-projection for Hamilton Building Consents, we have drastically revised downward our outlook for this sector. However, with the significantly increased payout for dairy farmers a significant upturn in construction for rural Waikato is on the cards. This could balance somewhat the still gloomy outlook for construction in Hamilton City.

TABLE 1: PROJECTIONS FOR WAIKATO RETAIL SALES AND BUILDING CONSENTS

Quarter	WAIKATO REGION RETAIL SALES				HAMILTON CITY BUILDING CONSENTS			
	\$ m Actual	\$ m Projected	% Error	% Change over Previous Year	\$ m Actual	\$ m Projected	% Error	% Change over Previous Year
Sep 00	968.6	980.9	1.3	6.1	32.4	47.3	46.0	-27.7
Dec 00	1099.3	1097.0	-0.2	6.3	25.8	45.7	77.1	-38.1
Mar 01		1032.8		7.1		27.4		-42.7
Jun 01		998.0		6.6		35.2		-17.4
Sep 01		1022.7		5.6		36.3		13.0
Dec 01		1148.3		4.5		31.5		22.1
Mar 02		1081.8		4.7		30.1		9.9
Jun 02		1047.0		4.9		38.7		9.9
Sep 02		1071.6		4.8		39.9		9.9
Dec 02		1197.2		4.3		34.6		9.8

Retail Sales are seen as growing at a 6-7% rate out to the second half of 2001 before moderating to a 4-5% rate in 2002. If the upturn in prices for rural commodities is sustained over the next two years, these projections could prove to be on the low side.

The Building Consent projections do not show the steady percentage gains as those for Retail Sales. Again we caution that the construction data is only for Hamilton City and not the wider Waikato region. With construction of both the Casino and the Stadium now underway, the outlook for Hamilton City is somewhat brighter. We do see a significant upturn in the second half of 2001 with moderating growth for 2002. Again, construction in the wider Waikato region will be stronger especially if the prices for dairy produce, deer products, forest products etc. keep trending up.

Western Bay of Plenty Regional Indicators and Outlook

Warren Hughes

The regional indicators for the Bay of Plenty are Tauranga District Council (TDC) Retail Sales in millions of dollars and Building Consents in millions of dollars for the combined District Councils of Tauranga and Western BOP. In some future issue, we hope to add the Rotorua area and the Eastern BOP generally. The projections and errors for Retail Sales for the last two quarters of year 2000 are shown in Table 1. Forecasts for the last two quarters of 2000 were slightly under actuals. Total sales for the TDC were about 6% ahead of the same quarters in the 1999 year. However, with inflation at about 4% for these quarters, the real gains in sales were only moderate.

The projections and errors for Building Consents for the last two quarters of year 2000 are also summarised in Table 1. First we notice an acceptably accurate forecast for the September quarter for Building Consents. An under-forecast of just 3.1% is exceptionally accurate for this volatile series. Note that this quarter showed a drop in value of 12.3% over the same quarter in the 1999 year. Our forecast for the December quarter was not so good with a 21.2% over-forecast in the face of a 30% drop in activity over the previous year. That is, although we projected a significant drop in building activity year over year, the extent of the actual drop significantly exceeded our forecast.

TABLE 1: PROJECTIONS FOR WESTERN BOP RETAIL SALES AND BUILDING CONSENTS

Quarter	TAURANGA D.C. RETAIL SALES				TAURANGA & WBOP BUILDING CONSENTS			
	\$ m Actual	\$ m Projected	% Error	% Change over Previous Year	\$ m Actual	\$ m Projected	% Error	% Change over Previous Year
Sep 00	306.7	298.8	-2.6	6.1	74.6	72.3	-3.1	-12.3
Dec 00	355.3	327.6	-7.8	6.3	52.8	64.0	21.2	-29.9
Mar 01		325.7		5.0		43.1		-35.7
Jun 01		336.1		14.4		61.0		-13.4
Sep 01		347.5		13.3		61.9		-17.0
Dec 01		401.8		13.1		64.1		21.4
Mar 02		372.3		14.3		61.7		43.2
Jun 02		358.1		6.5		70.5		15.6
Sep 02		373.1		7.4		69.5		12.3
Dec 02		432.0		7.5		51.5		-19.7

Note: TDC stands for Tauranga District Council and WBOP stands for Western BOP District Council.

The projections for TDC Retail Sales show healthy growth, especially in the second half of 2001. Growth continues strongly into 2002 with smaller gains towards the end of 2002.

Our forecasts for building activity continue to show significant declines from the year ago values. The December quarter 2001 forecast shows a 21.4% rise over the low figure for the preceding year. Thereafter significant percentage gains are forecast until the December quarter of 2002. Taken together, the projections above for Retail Sales and Building Consents foreshadow a healthy Western BOP economy over the next two years.

Economic Statistics

REAL GROSS DOMESTIC PRODUCT

<i>(\$ Millions, 91/92 prices for quarter ended)</i>	<i>June '99</i>	<i>June '00</i>	<i>% Change</i>
Agriculture	1282	1353	5.5
Forestry, Fishing & Mining	566	586	3.5
Manufacturing	3903	4052	3.8
Total Gross Domestic Product	22466	23481	4.5

RETAIL SALES

<i>(\$ Millions for year to date)</i>	<i>Dec '99</i>	<i>Dec '00</i>	<i>% Change</i>
Auckland Region	13349.7	14288.1	7.0
Waikato Region	3751.2	3968.1	5.8
North Island	31062.0	32802.4	5.6
South Island	9964.0	10655.2	6.9
All New Zealand	41026.0	43457.6	5.9

BUILDING ACTIVITY

<i>(Work in place \$m to year ended)</i>	<i>Dec '99</i>	<i>Dec '00</i>	<i>% Change</i>
Dwellings:			
All New Zealand	4159.2	4387.7	5.5
South Auckland Statistical Area	777.2	769.8	-1.0
Total:			
All New Zealand	6795.6	7230.2	6.4
South Auckland Statistical Area	1088.9	1121.7	3.0

LABOUR MARKET

	<i>Dec '99</i>	<i>Dec '00</i>	<i>% Change</i>
All New Zealand: Unemployment Rate %	6.1	5.5	-9.8
Waikato Region: Unemployment Rate %	6.3	5.6	-11.1
All New Zealand: Labour Force ('000)	1897.4	1923.7	1.4
Waikato Region:			
Labour Force ('000)	179.5	180.1	0.3
Working Age Population ('000)	260.5	266.7	2.4
Participation Rate %	68.9	67.6	-1.9

PRICES

	<i>Dec '99</i>	<i>Dec '00</i>	<i>% Change</i>
Consumer Prices (June '99 = 1000)	1006	1046	4.0
Producer Prices (June '99 = 1000)	1029	1134	10.2

INTEREST & EXCHANGE RATES & RESERVES

	<i>Dec '99</i>	<i>Dec '00</i>	<i>% Change</i>
Reserve Bank Base Rates (% p.a.)	8.84	10.56	19.5
Trade Weighted Exchange Rate (Jun '79 = 100)	54.00	50.00	-7.4
Total Official Reserves (\$ millions)	8514.2	8982.9	5.5



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