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email: econz@otago.ac.nz



A MAGAZINE ABOUT CONTEMPORARY ECONOMIC ISSUES FOR EVERYONE

FROM THE EDITOR

The world is changing. We must constantly look towards the future so that we don't fall behind. In this issue of *EcoNZ@Otago*, we look at entrepreneurship and the commercialisation of inventiveness: the process bringing us the products of tomorrow. We also investigate how Kiwi households and firms are charged for electricity and how new pricing technologies may affect our energy use. The potential impact of the upcoming Rugby World Cup on the New Zealand economy is assessed: will the benefits be as large as we think? We also analyse whether or not the reason *why* a nation is poor influences the donations they receive (after all, moving forward doesn't mean forgetting the past or ignoring the present). Highlights – short commentaries on economic issues – accompany selected articles.

If there are any economic questions that you would like examined in a future issue of *EcoNZ@Otago*, or if you would like to request a previous issue, please contact us at the address below. You can also visit us online at www.business.otago.ac.nz/econ/econz/.

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DAN FARHAT

EcoNZ@Otago
University of Otago – Department of Economics
PO Box 56
Dunedin 9054
econz@otago.ac.nz

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Entrepreneurship: The long and winding road to commercial success

Amit Paradkar, Paul Hansen and John Knight

amit.paradkar@otago.ac.nz, paul.hansen@otago.ac.nz, john.knight@otago.ac.nz

As illustrated by the famous quotations below, it's not unusual for innovative new products and technologies to be initially dismissed – even ridiculed – by 'experts' before eventually catching on in a big way. Throughout history, the commercialisation of inventions has usually been challenging for entrepreneurs. This article discusses some of the reasons for this with examples from New Zealand and around the world.

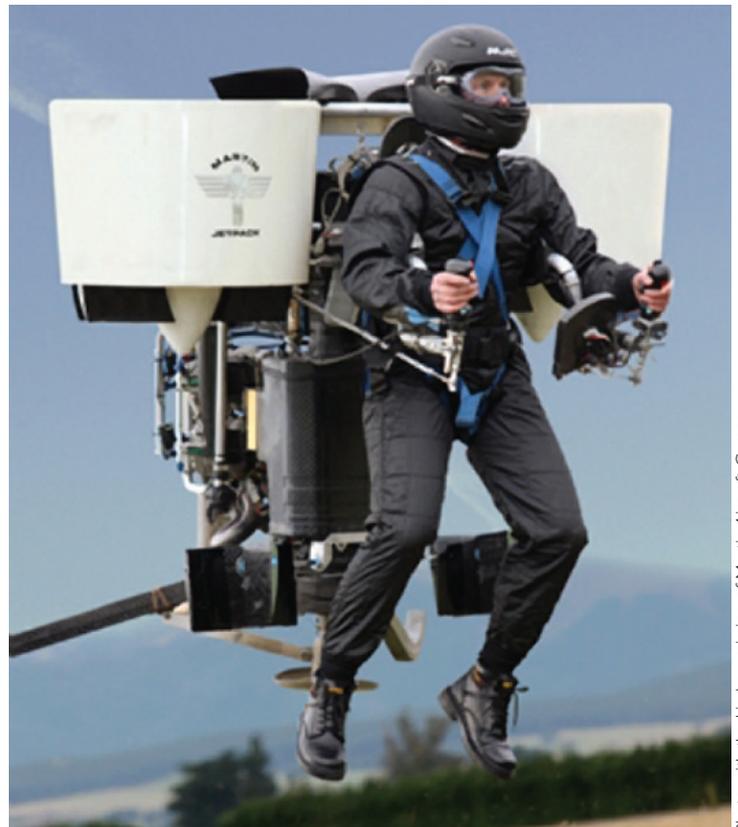


Photo with the kind permission of Martin Aircraft Company

This article is based on Amit's recently-completed PhD thesis, 'Innovation and resources: a qualitative study of start-up entrepreneurial ventures through the lens of the Resource-Based View'.

“No one will pay good money to get from Berlin to Potsdam in one hour when he can ride his horse in one day for free.”

King William I of Prussia predicting the failure of the newly-invented railroad, 1864.

“This ‘telephone’ has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us.”
Western Union internal memo, 1876.

“The horse is here to stay, but the automobile is only a novelty – a fad.”

A president of Michigan Savings Bank advising Henry Ford's lawyer, Horace Rackham, not to invest in the Ford Motor Company, 1903.

“Who the hell wants to hear actors talk?”

H M Warner, Warner Brothers, 1927.

“I think there is a world market for maybe five computers.”

Thomas Watson, chairman of IBM, 1943.

“Television won't be able to hold on to any market after the first six months. People will soon get tired of staring at a plywood box every night.”

Darryl F Zanuck, head of 20th Century Fox, 1946.

“But what ... is it good for?”

An engineer at IBM commenting on the microchip, 1968.

“640K ought to be enough for anybody.”

Bill Gates, 1981.²

NEVER HAD IT SO GOOD

Material standards of living, as enjoyed by most people in 'developed' countries like New Zealand, are at their highest level ever in human history. Compare the rich abundance of goods and services available to us today – from mobile phones and internet services to quick and comfortable transportation across town and around the world – with those available to our parents or grandparents, and to their parents or grandparents, and so on back through time. Ongoing advances in science and technology have been central to the rise of human civilisation and have resulted in longer and better lives for more and more people. Where do all these goodies come from? First, someone had to invent them (innovation). Next, they had to be supplied at prices that are attractive to consumers and profitable (sustainable) for producers (entrepreneurship).

The idea that the driving force behind rising standards of living (and the overall success of capitalism) can be attributed to innovation and entrepreneurship was originally analysed by Joseph Schumpeter (1934). An entrepreneur – which translates from French as “one who undertakes” – is a person motivated by three main impulses. “First of all, there is the dream and the will to found a private kingdom.” “Then there is the will to conquer: the impulse to fight, to prove oneself superior to others, to succeed for the sake, not of the fruits of success, but of success itself.” “Finally, there is the joy of creating, of getting things done, or simply of exercising one's energy and ingenuity” (p. 93).

Naturally, in their pursuit of commercial success entrepreneurs are often confronted by obstacles and set-backs. Throughout history the commercialisation of inventions has usually been a challenging undertaking. There are several reasons for this.

BUT WHAT'S IT FOR?

Anything that is genuinely new has the potential to create new markets that nobody ever envisaged. It takes time, however, for these new opportunities to be recognised. Most of us today cannot imagine a kitchen without a microwave oven. Bell Telephone Laboratories patented microwave technology in the late 1930s (Drucker, 1985). For the next 15 years researchers focused on finding military-related

applications. Following a chance discovery by Raytheon, the technology finally found its way into domestic ovens, which was not even remotely close to Bell's earlier efforts.

3M's famous “Scotch Tape” was initially designed for industrial applications. This bombed completely and 3M almost abandoned the product. Scotch Tape finally became popular and highly profitable when households found uses for it.

In the early 1930s IBM (“International Business Machines”) almost went under because it focused its efforts on selling its electro-mechanical book-keeping machines to the banking industry, which did not want them. The firm was saved when public libraries started buying the equipment. Fifteen years later, when IBM introduced its early computers, businesses started using them for mundane things such as accounting and payroll management.

As these examples illustrate, exploitation of new technologies for commercial purposes has never been an easy task for innovator firms, regardless of their size and maturity. This is because potential markets that value new attributes and functionalities are often found in the most disparate and unusual places. Once such valuable applications are discovered, however, firms can gain a near-monopoly status. They can profit for an extended period of time – provided they can protect their intellectual property and keep out imitators who are always just around the corner.

UP, UP AND AWAY

The jetpack was a science fiction fantasy until the 1960s. The first working jetpack model was featured in the 1965 James Bond movie “Thunderball” and was produced by Bell Aerosystems in 1961 for the U.S. Army. The Bell Rocket Belt, and other subsequent jetpack models, could only operate for 20-40 seconds and often used deadly fuels such as hydrogen peroxide. Not much in the way of military applications can be done in such a short period and the fuel expense was tremendous. As a result, the military rejected the design.

In 2008, almost 50 years later, Glenn Martin and the Martin Aircraft Company of New Zealand revealed a jetpack – the “Martin Jetpack” (see cover photo) – that could lift as much as 100 kg of weight into the air for up to 30 minutes. Unlike its predecessors, the military and tourism applications of this new technology are more attainable (not to mention, highly profitable). But who knows what other profitable uses for the Martin Jetpack there are. There might be some savvy entrepreneur out there who can find a completely different application and create tremendous value in the future.

Once the value in a technology has been recognised, the technology tends to grow fast. For example, how long did it take for the hard disk to go from 1 gigabyte to 100 gigabytes once companies like Samsung realised its potential? How long did it take for cell phones to have added features like cameras, Bluetooth and internet browsing? Imagine what a product like the Martin Jetpack could do if in the next few years it becomes capable of flying continuously for two hours – or 20 hours!

THROUGH NEW EYES

The commercialisation of inventions may be tricky if the inventor is unable to find valuable applications for the innovation on his or her own. Fortunately, though, new technologies tend to attract others with complementary capabilities and resources that the original innovator may not possess. For example, Bell Laboratories invented and patented the ‘transistor’ in the 1940s but was unable to find useful applications for it (Drucker, 1985). It was Sony, a company unknown outside Japan at that time, who incorporated the transistor into the radio.

2 These quotations are all reproduced from <http://webs.lanset.com/brennan/experts.htm>.

Also in the 1940s, the major printing machine manufacturers could not imagine the value of a photocopying machine and showed no interest in Chester Carlson's patents on electrophotography. The family-owned Haloid Company, based in Rochester, U.S.A., spotted the potential and purchased the patents for a modest sum (Chesbrough, 2002). This became the multi-billion dollar Xerox Corporation. It's only in the right hands that the potential of new ideas can be realised.

BIG LITTLE STEPS

Innovations need not always be game changers. Reinventing the wheel is not always bad. Clever incremental tweaks to old designs can create new value. These tweaks can include anything from product design to the way a product is marketed. For example, MP3 players and early versions of Apple's iPod performed essentially the same functions: storing and playing music in the form of MP3 files. Improvements present in the iPod, such as its user-friendliness, greater storage capacity, better aesthetics and branding, made the product successful far beyond most people's expectations. Apple Inc. also combined the iPod with iTunes, which increased its value even more.

42Below, a New Zealand brand of vodka, was just another vodka to most people as far as its taste was concerned. When mixed with juice, not many people can distinguish one brand of vodka from another. The cleverly crafted story and brand image around 42Below, however, made it so compelling that Bacardi was prepared to pay \$138 million for it in 2006 (Toevai, 2006).

McDonalds produces what many American restaurants have been producing for decades. However, by applying product standardisation, automation and strong branding it created value for customers that in turn created massive new consumer markets worldwide. Similarly, Gillette's ingenuity lies not in selling razors, but in the strength of its business model and brand, which motivates consumers to buy the patented blades repeatedly. Not only is the initial innovation important, but constant re-tooling of the product and how it is sold increases the value of inventiveness.

MONEY MATTERS TOO

Last but certainly not least, an important ingredient for entrepreneurial firms to get started is money. Most start-ups finance themselves in the early stages by the entrepreneur going into personal debt or borrowing from the 'three fs': friends, fools and families.

Another source of finance is venture capital. Usually in return for a share in the business, venture capitalists provide entrepreneurs with advice, connections and management skills as well as money. This is

money that the regular banking industry would usually never agree to supply because of the high risk of their loans not being repaid – due to the inherently risky nature of innovation and entrepreneurship. But with high risk comes high reward: new products that improve our quality of life.

QUESTIONS TO CONSIDER

1. Why do you think that innovative new products and technologies are often initially dismissed by experts (as illustrated by the quotations at the beginning of the article)?
2. In addition to the Martin Jetpack and 42Below vodka discussed above, what are other examples of famous New Zealand inventions?
3. What kind of things can governments and policy-makers do to encourage innovation and entrepreneurship?

FURTHER READING

For a very interesting survey of entrepreneurship around the world, see:

Special Report: Entrepreneurship, *The Economist*, Mar 12th 2009, available at www.economist.com/node/13216025?story_id=E1_TPNTGDNV.

USEFUL WEBSITES

For a list of business incubators and related organisations to help entrepreneurs and start-up companies in New Zealand, see www.incubators.org.nz/links.

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SPOTLIGHT: WILLIE LAHARI, A RECENT PhD GRADUATE

After working in the South Pacific region for ten years, and with a Bachelors and Masters degree in Economics, Willie joined the Department of Economics at the University of Otago as a PhD student in February, 2007.

Willie's PhD thesis evaluated the feasibility of a Pacific Islands Currency Union. In his thesis, Willie used modern econometric techniques to construct a novel set of quarterly GDP data (and other economic variables) which he later used in the empirical analysis of shocks and business cycle synchronisation. He also evaluated the effect of a proposed currency union on exchange rate volatility. Willie's research interests are in the areas of empirical macroeconomics, currency and monetary unions, and econometrics, with particular focus on Pacific Island economies.

Willie completed the requirements for his PhD and graduated in May, 2011. He currently holds an Economic Statistician post with the National Statistical Office of Papua New Guinea, and under the arrangements of the Regional Assistance Mission to the Solomon Islands (RAMSI), Willie is engaged as an Economic Statistics Adviser to the Solomon Islands Department of Finance and Treasury. Willie is involved in providing capacity building and technical assistance work in the estimation of national accounts (GDP and related aggregates) and consumer price indices. For more information about the activities of current graduate students in the Economics Department at the University of Otago, visit www.business.otago.ac.nz/econ/staff.



Is it time for time-of-use electricity pricing?

Paul Thorsnes, Rob Lawson and John Williams

paul.thorsnes@otago.ac.nz, rob.lawson@otago.ac.nz, john.williams@otago.ac.nz

The standard textbook analysis tells us that competitive markets work efficiently because they generate a price (P) equal to marginal production cost (MC). Consumers respond by purchasing until marginal benefit (MB) equals price. In equilibrium, therefore, $MB = P = MC$. In the market for residential electricity, however, price rarely equals marginal production cost, which varies over the course of the day and year. One reason is technological: conventional electricity meters are read manually only every month or two and they measure only the quantity of electricity consumed and not when that consumption happened. That's all set to change as electricity retailers replace conventional electricity meters with so-called "smart" meters that transmit readings electronically much more frequently, typically once every half hour. This eliminates the technical barrier allowing prices to vary more closely with production cost. How will consumers react?

FLIPPING A SWITCH

Electricity represents the ultimate in 'just-in-time production'. When you flick a switch to turn on anything from a 20 watt compact fluorescent light bulb to a 2000 watt heat pump, you expect instant (literally *instant*) delivery of the energy these appliances demand. This electricity is produced using a variety of energy sources at various places around the country: the energy from falling water in the hydro-electric projects in the south of the South Island, the ancient heat of the earth in the geothermal projects in the middle of the North Island, and solar energy captured eons ago by vegetation in the coal-fired generator at Huntley to name just a few. The electricity generated in these and other places is transmitted over relatively long distances through the high-voltage (high pressure) national grid operated by Transpower. It then flows off the national grid into the local lines networks that distribute electricity to our homes, schools and work places.

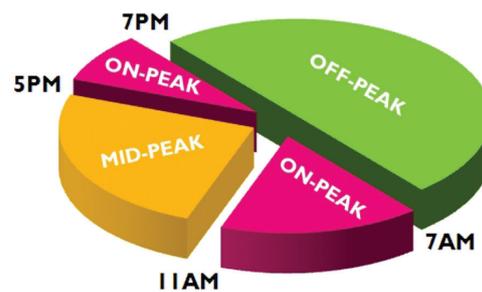
A key aspect of the demand for electricity is that it varies over the day and year. For example, residential demand grows quickly on winter mornings as householders turn on lights, heaters, the jug, the TV and so on as they start their day. Commercial demand rises as workplaces spring into operation. Residential demand peaks again in the evening as householders arrive home and again flick on lights, heaters, TVs and cooking appliances. The electricity supply system responds instantly to these variations in demand.

The cost of producing electricity also varies over the course of the day and year, in part due to these variations in demand. Some types of generation cost more than others. The wholesale electricity 'spot' market works by tapping the low-cost generation first, then sequentially adding higher-cost generation as needed to meet demand. Consequently, both marginal and average production costs vary over time.

The cost of transmitting and distributing electricity varies with demand as well. Wires can be thought of as analogous to highways, where electrons are like cars. Electricity flows easily as long as the system doesn't get too congested. Peak demand can put pressure on the distribution system, leading to losses of energy and potential damage to equipment. Thus, the capacity of the transmission and distribution system has to be large enough to cope with peak demand; it is peak demand that determines the amount of investment required in equipment to transport electrical energy around the country.

Most households and businesses are shielded from variations in the costs of producing and delivering electricity. To measure usage, most homes and commercial buildings are equipped with an electricity meter. There is a high cost of reading conventional electricity meters, so a meter reader usually travels to your home only once every month or two to observe your electricity usage. The electricity retailer consequently cannot know over the course of a day whether you used electricity at more expensive peak times or at cheaper off-peak times. As a result, most electricity customers are charged a time-invariant price roughly equal to the average cost of producing and delivering their electricity. This price is essentially 'too high' during off-peak times

WINTER WEEKDAYS



when electricity is in low demand, and 'too low' during peak times. The retail price fails in its vital role of communicating to consumers the opportunity cost of its production. Consumers consequently tend not to economise appropriately on high-cost peak-period electricity.

A TECHNOLOGICAL INNOVATION

Electricity retailers are currently in the process of replacing conventional electricity meters with so-called "smart" meters. These meters transmit information about electricity usage to the retailer at relatively frequent intervals, every half hour for example. This saves the cost of sending someone around to read meters in person and makes it possible to vary the price of electricity a consumer pays over the course of a day. If the retailer knows when you use electricity, it can adjust the price you pay to reflect the cost of delivering that electricity at that time (i.e., "time-of-use" (TOU) pricing). The price of electricity could, for example, be relatively low in the wee hours of the morning and relatively high when the supply system is stressed during periods of high demand (known as "peak-load" pricing!).

To respond to TOU pricing, consumers need to be aware of the price of electricity when they use it. Instead of dealing with fixed prices, consumers must keep a close eye on prices which change as frequently as the meter sends usage information back to the retailer (known as "dynamic pricing"), perhaps with the aid of displays mounted in prominent positions in the house. Monitoring frequent price changes could seem a bit of a bother. As a practical matter, production costs tend to cycle over time in regular patterns. Perhaps a more sensible approach to TOU pricing is to identify the times of day that demand and marginal production costs typically are high and low, i.e., peak and

1 Crew et al. (1995) survey the theory of peak-load pricing and Borenstein (2005) compares static with real-time pricing.

off-peak periods. Households could then be aware that electricity is more expensive during well-defined peak times and less expensive at other times. This is referred to as "static" TOU pricing.

SPARKING DEMAND

A question that arises with TOU pricing is the extent to which households respond to variation in electricity prices. What is the *elasticity of demand* (the percentage change in electricity demanded due to a 1% change in electricity prices) for electricity during peak and off-peak periods? To answer this question, a variety of electricity retailers around the world have conducted experiments with residential TOU pricing. In a recent review of these experiments, Faruqi & Sergici (2009) report that higher static peak prices induce an average drop in peak demand of about 5%. This response may sound small, but a 5% drop in demand can mean a large reduction in the stress on the supply system during peak times. Faruqi & Sergici also report that the size of the response to peak pricing varies systematically with the size of the peak/off-peak price differential, and with house or household characteristics, such as the number of people in the household, whether the house has central air conditioning or whether the house is "all electric".

Another potential impact of TOU pricing is in the additional information that it provides households. Electricity bills currently tell customers how many kilowatt hours the household consumed since the last reading. Smart meters allow the retailer to supply more detailed information to consumers, such as daily peak and off-peak consumption over the course of each month. Faruqi, Sergici & Sharif (2009) report that better information about usage encourages more efficient use of electricity.

A NEW ZEALAND EXPERIMENT

In 2008 we teamed with electricity retailer Mercury Energy to test customer responsiveness to TOU pricing. In contrast to the U.S. where most TOU pricing experiments have been conducted, electricity in New Zealand is used relatively little for cooling in summer and relatively commonly for heating in winter. As a result, the stress on the electricity supply system in New Zealand is greatest on cold winter days rather than on hot summer afternoons. In the autumn of 2008 Mercury recruited 400 households from a suburban area of Auckland to participate in a one-year trial of static TOU pricing. Smart meters had been installed in all of these houses at least one year prior to the start of the trial. Information about participant households was collected in interviews conducted in June and July 2008, and each participant household received an information sheet with tips for using electricity efficiently.

Each of the 400 households was assigned randomly to one of four experimental groups. Households in each of the groups received the same information about their electricity consumption: a chart printed on their monthly bill showing daily peak and off-peak consumption. Peak/off-peak price differences varied across the groups: (1) Information only: no price differential, (2) Low: 4¢ price differential, (3) Medium: 10¢ price differential, and (4) High: 20¢ price differential. TOU pricing commenced on 1 August 2008 and continued for one year, ceasing on 31 July 2009. The peak period ran from 7:00 am until 7:00 pm on weekdays; weekends and holidays were treated as off-peak.

We had several hypotheses about the reaction to the pricing experiment. First, we expected better information about usage as well as participation in the experiment to encourage efforts to conserve electricity independent of electricity prices (i.e., *conservation*). Second, we expected households to shift consumption from higher-priced peak times to lower-priced off-peak times (i.e., *load-shifting*). Third, we expected larger reactions to larger price differentials – there should be more response to a 20¢ peak/off-peak price differential than to a 4¢ price differential. Fourth, we expected seasonal variation; in particular, we expected larger responses in winter when electricity bills are higher.

Finally, we expected variation in response to variation in house and household characteristics.

Staff at Mercury supplied two sets of electricity-usage data for analysis. The first set consists of daily observations on peak and off-peak electricity consumption for each of the participant households over both the year of the experiment *and* the year before the experiment. Thus we were able to observe each household's electricity usage before and during the experimental period. Mercury supplied the same information for a sample of households who did not participate in the experiment. This sample serves as a control group. These data allow us to conduct a "differences-in-differences" analysis: we estimate the average *differences* across each experimental and control group in the year-to-year *differences* in each household's electricity consumption during peak and off-peak periods. The second data set consists of electricity consumption every half hour for all of the participant and control households. These more detailed data allow us to detect the extent to which households 'shifted load' across the peak/off-peak time boundaries to economise on higher-priced peak electricity.

KIWIS TURNING ON

Consistent with expectations, we found no statistically significant differences in group average peak or off-peak consumption *except* during winter. On average, households appeared not to pay much attention to the TOU pricing during the warmer times of the year when their electricity bills were lower. In winter, the participant households in each of the experimental groups on average conserved electricity relative to the control group by about 10%, a meaningful amount. Either participation in the experiment or the information that was provided to participants, or both, encouraged efforts to conserve electricity.

Surprisingly, higher peak-period prices did not encourage additional conservation or load shifting beyond the general 10%. Households in the high price differential group faced peak prices roughly 50% higher than households in the information-only group, but there was no year-on-year differences in peak consumption, on average, across any of the experimental groups. Given the conservation that all groups accomplished (on average), demand for electricity during peak times was very price *inelastic* (unresponsive) in winter in this price range over this time period.

In contrast, variation across households in off-peak prices did encourage a statistically significant response: households who enjoyed lower prices off-peak took advantage by conserving less. They still conserved relative to control, on average, but off-peak conservation fell as price fell. Analysis of the half-hourly data indicates that most of this response, not surprisingly, occurred in the evenings perhaps as households economised less on now lower-priced heat. Demand was clearly more elastic off-peak.

The response to TOU pricing varied as expected with house and household characteristics: the floor area of the house, the number of people in the household, the number of hours householders spend away from home, and whether water is heated using electricity (as opposed to gas, for example).

MORE (OR LESS) POWER TO THEM

Plans call for smart meters to be installed in most houses over the next several years. It seems likely that electricity retailers will take advantage of these meters to both supply more detailed information to households about their consumption and to offer pricing plans in which prices vary over the course of the day. How is the market likely to respond? The ease with which households were recruited for the TOU pricing experiment just described suggests that there will be consumer interest. The results suggest that consumers are likely to respond to better information by conserving energy, at least in winter when bills are higher. They are also likely to take advantage of lower off-peak prices. The households in this suburban area of Auckland who participated in

the experiment responded little to higher peak prices, which by itself suggests that TOU pricing may not strongly reduce peak demand.

In general, however, elasticities increase when consumers have more time to make adjustments to their consumption patterns. We would expect households who choose TOU pricing to gradually take steps to shift load from peak to off-peak times. By how much remains to be seen.

QUESTIONS TO CONSIDER

What sort of adjustments might households make over the long term that would increase the peak-period price elasticity?

Suppose electricity retailers offer both TOU pricing plans and conventional fixed price plans to customers. What kinds of customers are likely to adopt the TOU pricing plan? What characteristics would they have?

TOU pricing could increase the demand for appliances that take advantage of lower off-peak prices. What sorts of appliances might suppliers bring to the market to satisfy this demand?

FURTHER READING

You can learn more about the electricity industry in New Zealand from the Electricity Authority website: www.ea.govt.nz/consumer/industry-overview. You can see current and historical wholesale electricity prices at WITS Free to Air: www.electricityinfo.co.nz.

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HIGHLIGHT:

TWO THUMBS UP

In markets where products are differentiated (for example by quality, brand name, or flavour) firms have the power to set prices according to how much consumers value the good. As a result, if a particular brand is more desirable than a profit-seeking producer should, of course, charge a higher price for it. In recent years, one important exception to this fundamental rule has been observed: movie tickets. Movie theatres charge the same price for all movies on all days of the week at all times of the year. This practice is referred to as *uniform pricing* and seems to go against what is considered to be rational firm behaviour. For any given showtime, wouldn't a theatre want to charge higher prices for more popular movies (known as the *movie puzzle*)? Shouldn't movie tickets for a Tuesday afternoon be cheaper than those for a Friday night for the same movie (known as the *showtime puzzle*)?

To solve these two uniform pricing puzzles, economists turn to behavioural and institutional explanations. Behavioural explanations include: complexity of pricing regimes (charging different prices for different movies at different times is too complicated for theatres), fairness (charging a premium for popular films upsets deal-seeking consumers), price signals (lower prices for some films send signals to moviegoers that the film is low quality, which reduces the likelihood they will purchase tickets for it), uncertainty (determining movie prices before the public has had a chance to view the film and assess its quality is difficult, and adjusting the price after the film has been released is infeasible, so prices must be correctly set before the first viewing), and monitoring (the prevention of theatre hopping: buying tickets for one movie then seeing another). These explanations prove to be insufficient. Theatres have been known to employ complicated pricing practices including discounts for seniors and students and matinee pricing. While being 'overcharged' for popular flicks may upset consumers, theatres could easily give discounts for less popular films instead. Price signals, uncertainty and monitoring may explain why films don't charge different prices for different films shown on the same day, but don't explain why discounts aren't given for less popular days of the week.

Institutional explanations of uniform prices explore the close tie between a film's distributor (the company which produces and sells the reels) and a film's exhibitor (the movie theatre). For any given film, the distributor and the exhibitor enter into a licensing agreement which determines how ticket revenues are split. In this agreement, a certain amount of revenue is reserved for the exhibitor to cover expenses (the *house nut*). The rest of the revenue is split according to a sliding scale (the *formula*). The agreement stipulates that a certain minimum share must go to the distributor (the *floor*) in addition to a minimum per-viewer amount (the *per-capita requirement*). The main purpose of this agreement is to ensure that distributors are fairly paid (known as an *agency problem*) once they have given control of the film to the exhibitor. The objective of the exhibitor is not always to maximise ticket revenue. (Theatres also sell concessions. One dollar spent on concessions earns more profits for the exhibitors than a dollar spent on tickets: theatres charge an 85% mark-up on concessions but only a 45% mark-up on ticket sales.) It is in the exhibitor's best interest to fill the theatre by cutting ticket prices to ensure concession sales are high and distributors earn less as a result. Uniform pricing therefore protects distributors from being undercut by theatres. Unfortunately, this argument is not well-supported. Similar agency problems exist in industries that do not adopt uniform pricing.

In the end, uniform pricing of movie tickets remains an unsolved mystery. There seems to be potential for both distributors and theatres to benefit from lowering prices (slightly) on less popular days or for less popular movies. Perhaps in the future price differentiation will come to a theatre near you.

Interested in movie ticket pricing? See page 14 for references and further reading.



Rugby World Cup 2011: Some AB-positive for the NZ economy?

Alan King

alan.king@otago.ac.nz

The Rugby World Cup (RWC 2011) is almost upon us. Many have been looking forward to the tournament in part because they hope it will give a stimulating transfusion to our struggling economy. Estimates of the actual size of its economic impact, however, vary considerably.



A report prepared in 2005 initially estimated the RWC 2011 would add \$408 million to New Zealand's GDP, but the figure was revised to \$507 million the following year (Horwath Asia Pacific Ltd & Market Economics Ltd, 2006). A subsequent report (Deloitte & Touche LLP, 2008) indicated we could expect an economic boost to the tune of £260 million (then worth \$660 million).¹ On the other hand, several economists have recently argued that these figures are seriously overblown and suggest the actual effect will in fact be much smaller (Dickison, 2011).

So why is there such a range of views? Measuring an event's economic impact might appear easy, as it is simply the product of two numbers: the event's *direct effect* on the economy and the *multiplier* (which accounts for the indirect effects generated by the direct effect). However, both numbers require data that are not readily available and so estimates have to be made – and these can be very sensitive to the assumptions chosen. To see the difficulties involved, let's consider each of these components in turn.

THE DIRECT EFFECT

The *direct effect* is the *change* in the level of total expenditure on goods and services produced *within New Zealand* that can be *directly* attributable to the event in question. When measuring the *change* in expenditure we should ignore all spending (including 'investment' spending) by New Zealanders that relates to the event, as it would have occurred anyway. In other words, every dollar a local spends on RWC-related activities means they have a dollar less to spend on other activities either now or in the future. The RWC 2011 may alter how our spending is distributed across the economy, but it should not *directly* change its overall level.

The extra spending of *visiting* rugby fans is what determines the direct effect and the official forecast is that we can hope to see 85,000 of them (Ministry of Economic Development [MED] & Ministry of Tourism [MT], 2010). To estimate how much extra these visitors will spend on *New Zealand-made* goods and services, we need to ignore not only their spending on RWC-related goods and services purchased *outside* of New Zealand (e.g., the airfares paid by those travelling here on Qantas or British Airways),² but also the *imported* component of any goods they buy from New Zealand firms (e.g., the fuel consumed by those arriving on Air New Zealand flights).

Should ticket sales be included in the direct effect? Match tickets sold to visitors could be considered extra spending on a New Zealand-produced good, whereas those sold to locals represent a diversion of spending. But the question is complicated by the fact that over half the ticket revenue will be ultimately passed on to the IRB as a fee for the right to host the tournament. Hence, match tickets are arguably more 'import-intensive' than the goods locals might otherwise have bought. So, depending on how ticket sales are distributed across visitors and locals, they could make either a positive or a negative contribution to the direct effect.

The direct effect should exclude any spending by visitors – even if it is on tickets or RWC-related souvenirs – who would have been in New Zealand anyway (i.e., their visit is not *directly attributable* to RWC 2011). For example, MED/MT estimate that 12,000 of the 85,000 visitors expected will be Kiwi expatriates, many of whom will be making their usual Christmas trip home a couple of months earlier than usual. While to some extent they are here for the RWC, if it has only affected the *timing* of their visit (and not, say, its duration), their spending does not count.

Another point to keep in mind regarding forecasts of tourist arrivals is that they are typically *gross* estimates. They do not adjust for the possibility that hosting a major sporting event will discourage visits from 'regular' tourists, who worry that the place will be too crowded and that affordable accommodation will be hard to come by. To the extent that discouraged tourists choose to holiday elsewhere, rather than simply reschedule, this represents a loss to our economy that should be subtracted from RWC 2011's direct effect.

Table 1 illustrates, in relation to the Sydney Olympics in September 2000, how big this effect can be. Although tourism was up overall during that month, arrivals from half of Australia's top-ten markets were at least 10% below normal and demand from another two was flat. Fortunately, RWC 2011 takes place during New Zealand's 'shoulder' season: after the winter ski season has peaked, but before the usual summer influx begins, so it is possible our discouraged-visitor effect may be relatively small.

¹ Some media reports refer to even larger numbers, but these are usually estimates of the total spending expected to be generated, not all of which would directly benefit New Zealand.
² Strictly speaking, a small fraction of these airfares would count towards the direct effect, as foreign airlines do source some services from New Zealand.

Table 1: The Sydney Olympics effect

| Source country | Short-term visitors to Australia Sept. 2000 (% of 'normal') ^a | Market share ^b % |
|----------------|--|-----------------------------|
| New Zealand | 89.4 | 16.7 |
| Japan | 89.4 | 14.9 |
| United Kingdom | 99.0 | 12.0 |
| United States | 182.4 | 9.5 |
| Singapore | 88.6 | 5.7 |
| Korea | 105.7 | 3.2 |
| Hong Kong | 97.4 | 3.2 |
| Malaysia | 73.7 | 3.2 |
| Germany | 129.4 | 3.1 |
| Taiwan | 88.4 | 2.9 |
| TOTAL | | 110.5 |

Notes:

a. 'Normal' is defined as the average, seasonally adjusted, number of visitors over the three months either side of September 2000.

b. Share of total visitors to Australia over the 12 months prior to the Olympics.

Source: Australian Bureau of Statistics, 3401.0 *Overseas Arrivals and Departures, Australia*

THE MULTIPLIER

The multiplier recognises that a new injection of spending into an economy will raise someone's income and so will prompt them to spend more. This additional spending, in turn, raises someone else's income, triggering further spending, etc. Each increase in income induces a smaller subsequent increase in spending in the domestic economy because of 'leakages'. In particular, some of the extra income is either saved, collected by the government as tax or spent on goods produced abroad (i.e., imports). Hence, although the process repeats an infinite number of times, the extra amount spent locally each time eventually dwindles to zero. As a result, the total increase in spending will be finite.

This extra spending represents the induced or indirect effect. When we add it to the direct effect, we get an event's total economic impact. The multiplier is defined as the ratio of the total economic impact to the direct effect. By estimating the multiplier we are, in effect, trying to judge the event's indirect effect on the economy. The size of the multiplier depends on the size of the leakages. It will be relatively small when the tax rate is high, people spend a large share of any extra income on imports, and/or people are more inclined to save extra income than spend it.

In comparison to other OECD countries, New Zealand's tax rates are neither particularly high nor particularly low. Being a small economy that produces a relatively narrow range of goods, we do tend to spend a relatively large proportion of income on imports, but this would normally be counterbalanced to some extent by our low propensity to save. I say "normally" here because the current recession has produced an increase in the private sector's saving rate. Further, the permanent-income hypothesis would also suggest that a temporary boost to income, which is all a one-off event like RWC 2011 can be expected to generate, is more likely to be saved than spent immediately, which would make its multiplier quite small.

HOW MANY WILL COME?

The economic impact of the RWC 2011 largely rests on its ability to stimulate tourism. However, accurately forecasting the number of tourists attracted by a special event like the RWC can be very difficult. For a start, New Zealand has not previously hosted a comparable event that could act as a guide. We did host the inaugural RWC back in 1987, but it was a very different tournament back then. Other countries have

hosted the more recent tournaments, of course, but the usefulness of their experience is complicated by their relative proximity to large concentrations of rugby fans and differences in their relative (general) appeal to tourists.

It is also hard to know whether those who might visit for a special event are likely to be more or less sensitive to the normal economic determinants of tourism (i.e., the exchange rate, income and so forth). For example, the MED/MT expects 24,670 tourists – the largest single group – to come from the UK and Ireland. This is a 15% increase over the number who came for the Lions tour in 2005. Given what has happened in those countries over the intervening six years (see Table 2), is this forecast optimistic?

Table 2: The UK and Irish economies: then and now

| | United Kingdom | | Ireland | |
|-----------------------|----------------|---------------------|----------|---------------------|
| | 2005Q1 | Latest ^b | 2005Q1 | Latest ^b |
| Real GDP ^a | 100.0 | 102.9 | 100.0 | 99.0 |
| Unemployment rate | 4.7% | 7.9% | 4.2% | 14.1% |
| Exchange rate | £0.38 | £0.49 | 0.55€ | 0.56€ |
| | per NZ\$ | per NZ\$ | per NZ\$ | per NZ\$ |

Notes:

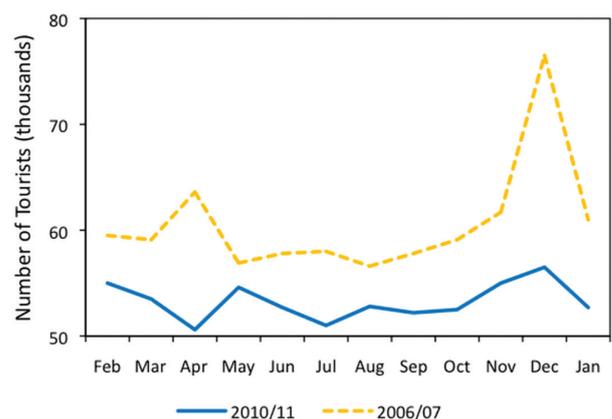
a. Rebased to 2005Q1 = 100.

b. Real GDP and unemployment is for 2010Q4; exchange rate data relates to May 2011

Source: IMF, *International Financial Statistics* database.

The 2010/11 Ashes tour in Australia provides some grounds for thinking so. Figure 1 shows that the 2006/07 Ashes tour in Australia generated a noticeable spike in tourism. England had won the trophy in 2005 and clearly hopes were high that they could beat the Australians at home, as 20,000 extra British tourists turned up to watch their team get thrashed 5-nil. Last summer's tour, however, had a much smaller impact on tourism, despite the fact that England was again the holder of the Ashes and did in fact comfortably defeat Ricky Ponting's team. It may have been a case of 'once bitten, twice shy', but a weak pound and Britain's recession probably persuaded many to watch the contest from the comfort of home.

Figure 1: Ashes to Ashes: British tourists in Australia, 2006/07 and 2010/11



Notes:

The first Ashes test for both tours is played in December

Source: Australian Bureau of Statistics, 3401.0 *Overseas Arrivals and Departures, Australia*.

A further complication is that it is not just the number of tourists that determines the direct effect; the mix matters as well. The current strength of the Australian economy and its dollar may well mean that any shortfall in the number of Northern Hemisphere visitors ends up being offset by extra Wallabies supporters. But, as the latter can simply pop across the ditch for a weekend to watch a particular match whereas the former would have stayed much longer (and spent much more), the overall economic impact would still be reduced.

LONGER TERM CONSEQUENCES

The direct effect and multiplier concepts are typically used to capture the short- to medium-term impact of an event on an economy. It has been claimed, however, that hosting RWC 2011 could have *long-term* benefits for New Zealand. Specifically, the exposure gained through the global TV broadcasts could promote future tourism – a *Lord of the Rings*-type effect.

However, this seems at least a trifle fanciful. After all, the movies showcased the country's stunning scenery to millions of people, many of whom had never heard of New Zealand. The RWC 2011 broadcasts, by contrast, will primarily give millions of rugby fans – almost all of whom should already be aware of the country the All Blacks come from – a grandstand view of the inside of several rugby stadia. As the inside of one stadium looks much the same as the inside of any other, it is hard to see how this will prompt many people to come here for their holidays.

Speaking of stadia, some have been upgraded for RWC 2011 at considerable expense; Dunedin has even built a brand new one from scratch. Although the possibility that this expenditure will generate a net social benefit cannot be *entirely* ruled out, there is a real risk that a large stadium built for a one-off sporting event will end up becoming a grossly under-utilised, high-maintenance folly. The capital tied up in such a facility could have been invested in projects that might actually turn a profit and so contribute to our future productivity and prosperity. Hence, a conceivable long-term consequence of the effect on the pattern of investment spending of the RWC 2011 could be a lower average growth rate.

WHAT'S THE TRUE ECONOMIC EFFECT?

A final point: So far I have considered the economic impact of the RWC 2011 only in terms of how GDP might change, whereas Economics is normally concerned with how an event affects social welfare (i.e., society's level of utility, satisfaction or happiness), for which GDP is a very imprecise proxy. Therefore, it is arguably more accurate to say that the true economic impact for New Zealand of the RWC 2011 will primarily depend on which team wins. So, no pressure, Richie!

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HIGHLIGHT:

SCREWING UP IS NOT SO BAD

In 1968, a group of psychologists in New York City planted a group of people (a *stimulus group*) on a busy stretch of sidewalk and asked them to stare up at the 6th floor window of an office building for 60 seconds. They wanted to find out how many pedestrians passing by would also turn and stare up at the building (i.e., 'join the group') for different stimulus group sizes. They found that when there were 3 people in the stimulus group, as many as 60% of those walking by looked up. A stimulus group of 5 drew the attention of 80% of pedestrians. Why did these people 'join the crowd'? Researchers argue that people mimic or follow the group because they believe that there is valuable information (or *collective wisdom*) to be gained from doing so. In economics, this is related to the notion of *information cascades*.

An information cascade may occur when people use information about the actions of others to guide their own choices. For example, consider two coffee shops. Shop A is excellent; the service is good and the coffee is high quality. Shop B is ghastly; unpleasant waiters and sewage-in-a-cup. Before choosing which shop to patronise, people have private but imperfect information about which shop is the good one (some think A might be good, some think B might be good). If they see many customers go into shop A, they are also likely to go (even if their private information incorrectly tells them B is the good shop). If they see many customers eating at shop B, they do as well (even if their private information correctly identifies shop B as the bad one). In other words, people come to believe their private information is less reliable than the wisdom of the crowd.

Note that if the crowd chooses correctly, many whose private information is wrong do benefit. But, if the crowd chooses poorly then many suffer (at least until society corrects itself). There are many examples of 'bad' information cascades which have seriously harmed society. Occasionally, small groups of protesters spread social discontent to onlookers. Riots can quickly form once enough bystanders join the demonstration. In the medical field, unnecessary preventative surgery can become commonplace as a small number of physicians are imitated by their peers. One such example may be the shifting popularity of tonsillectomy to avert future abscesses and throat infections.

There are also, however, cases where information cascades have improved welfare. In the early 1800s most screws used in manufacturing and construction were custom built by machinists. As a result, if you needed to replace a screw you were forced to rely on a single supplier (whoever designed the screw in the first place). This supplier could charge high prices for their products knowing you were forced to buy from them. In 1864 at the Franklin Institute, America's leading forum for mechanical engineering, William Sellers presented a screw design that was easier (and thus cheaper) for ordinary machinists to produce. The institute encouraged the U.S. Army, Navy and America's largest railroads to adopt the design. Seeing that these large organizations were doing so, makers of other products chose to 'follow the crowd' and also started using Sellers' screw. By 1880, the Sellers' screw was the dominant design used in manufacturing. This led to gains in the manufacturing industry because the screw was easy (cheap) for anyone to produce and could allow inexpensive products with 'interchangeable parts' to flood the market. In this instance, following the crowd created benefits for all.

Information cascades affect how individuals make decisions. Following the crowd versus going your own way has significant social and economic impacts (both harmful and beneficial). So before bowing to peer-pressure, consider how your actions influence others. You're not the only one who might be screwing up.

Interested in information cascades? See page 14 for references and further reading.



Giving to Africa: Does it depend on why a country is poor?

Stephen Knowles

stephen.knowles@otago.ac.nz

If you were asked to donate money to a charity working to reduce poverty in an African nation, would your response depend on what had caused that country to be poor in the first place? Would you be more inclined to give money if you were told that people in Africa were poor due to choices they themselves have made? What if you were told they were poor through no fault of their own – would you give money then?

ALMS FOR THE POOR?

Why people are poor may matter to contributors when deciding whether to give financial assistance to development efforts in Africa, but determining if this is the case turns out to be a complex task. One way to analyse this question would have been to simply ask people: to conduct a survey. However, economists are often suspicious of surveys because they measure what people *say* they do rather than measuring what people *actually* do. The two are not always the same. To get around this problem, economists at the University of Otago¹ used an economic experiment involving real money to measure what people do in a controlled setting.

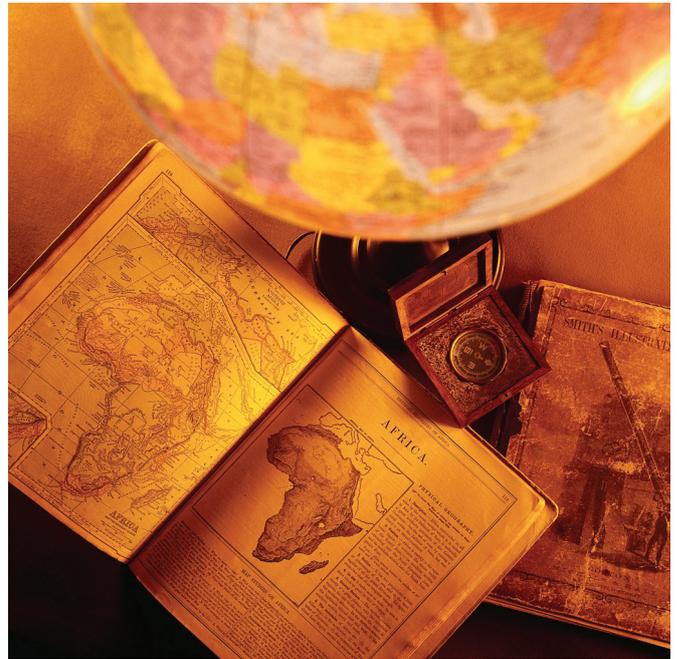
The experiment involved paying people to take part in a survey and then asking them if they wanted to give any of the money to World Vision (a humanitarian organisation dedicated to working with children, families and communities to overcome extreme poverty and injustice) to spend in Africa. Half the participants were given the impression the country where the money would be spent was poor for reasons beyond its control. The other half of the participants were given the impression the country was poor due to choices made by the people who lived there. Were donations to the first country higher than to the second country? The remainder of this article describes the experiment in more detail and presents the results.

PUTTING YOUR MONEY WHERE YOUR MOUTH IS

Over 170 students at the University of Otago took part in the experiment over two consecutive evenings. They were separated into two different rooms each evening. In both rooms, participants were asked to complete a survey (on Dunedin and student life) and were given a \$20 payment. Rather than being given a \$20 note, they were given a \$10 note, a \$5 note, two \$2 coins and a \$1 coin. Participants didn't know this at the time, but this was so they could donate any whole dollar amount between \$0 and \$20 to World Vision when given the opportunity.

After completing the survey, participants were asked to place the survey in a brown envelope. They were then handed an envelope which contained information on one of two countries where World Vision would spend the donations. Participants were not told the actual names of the countries, but were assured that the countries were real and that the information provided about them was factually correct. They were told that most people in the country live on less than \$3 per day (which is true for both countries) and were given additional reasons *why* the country might be poor.

In reality there are multiple reasons as to why incomes are low in Africa. Some of these reasons are external and some are internal. It is often argued that global warming is contributing to poverty in Africa. For the first country in the experiment, referred to from now on as the "Global Warming" country, participants were told one possible reason why the country is poor is due to the occurrence of drought brought on by global warming caused by the emission of green house gasses in other parts of the world (average rainfall in this country has been falling since the 1970s and is now only 15cm per year).



Others argue that there is a relationship between large family sizes and poverty, with some people arguing that large family sizes are actually the *cause* of poverty. For the second country in the experiment, referred to from now on as the "Large Family" country, participants were told one possible reason why the country is poor is that the nation's inhabitants choose to have large families (with the average number of children born per woman in this country being 6.3, which is one of the highest in the world). Although most development economists (including those who carried out the research discussed in this article) would argue that large family sizes in Africa are the *result* of poverty and not the *cause* of poverty, participants in the study were given this reason as an internal source of low income as this argument is commonly expressed in the popular media.

Having read the information form, participants were asked to record on this sheet how much money, if any, they wished to donate and to put the form in the brown envelope. Having done this, they were asked to go behind a screen one at a time and transfer whatever sum of money they had decided to donate into the brown envelope. They then placed the brown envelope (which contained their survey, the form indicating their donation, and the donation itself) in a box as they left the room. They were not asked to write their name or any other form of identification on any of the forms. Note that this methodology ensured anonymity.

¹ For the full paper see Etang, Fielding & Knowles (2011).

FROM ONE TO THE OTHER

In the experiment described above, each participant was given information on *one country only*, and was asked to choose how much to give to that country. This is known as a “between-groups” experimental design. An alternative would have been to give participants information on *both countries* and ask them how much they wished to donate to each country, known as a “within-groups” design. To test whether the results would be the same for a within-groups design, the researchers had a separate group of participants take part in such an experiment in a separate room.

Which of these two experimental designs most closely mimics the choices people make in the real world? This depends on the context in which people are asked to donate money to charity. The between-groups design is similar to situations where people are asked to donate to one charitable cause and don't have the time to think about other causes they could be giving to (for example, being approached by a collector in the street). The within-group design reflects situations where people are given the option of which cause to donate to (for example, a charity sending out a letter listing a range of projects donors could give to).

Histograms showing the full distributions of these donations for both countries in the between-groups design are shown in Figures 1 and 2. Although the histograms for the two countries look a little different (e.g. the modal donation for the Large Family country is \$0, whereas it is \$5 for the Global Warming country), average donations to the two countries are similar: \$4.58 for the Global Warming country and \$4.32 for the Large Family country. Although this seems like donations are higher for the Global Warming country, this difference is too small to be statistically significant. The fact that average donations to the two countries are similar suggests that most people do not care about the reasons why the country is poor when deciding how much to donate.

Figure 1: Distribution of between-groups donations to the ‘Large Family’ country

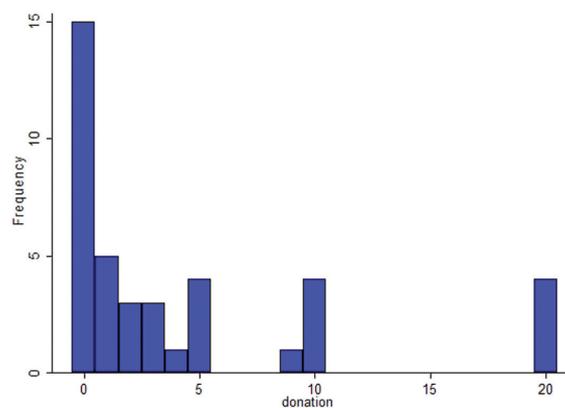
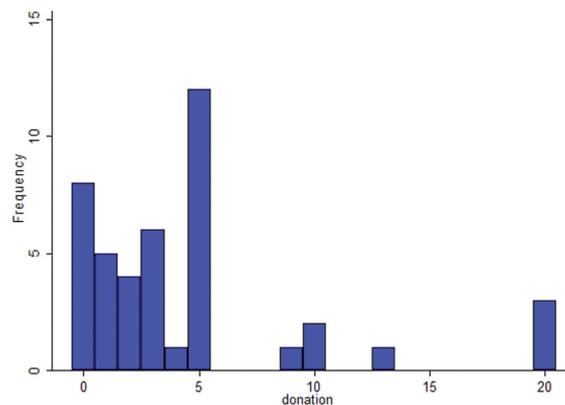


Figure 2: Distribution of between-groups donations to the ‘Global Warming’ country



For the within-group design, average donations were significantly higher for the Global Warming country (\$2.54) compared to the Large Family country (\$1.74). Figures 3 and 4 show the full distributions of donations. For both countries, the most common donation is zero but there are a lot more zero donations for the Large Family Country. Some people chose to donate the full \$20, giving \$10 to each country. Taking these results at face value would suggest that if people are asked to choose between giving money to two different countries, and they are given the impression one country is poor through no fault of its own, they will give more to that country. Note, however, that total donations in the within-group and between-groups design are similar. This means that giving to the Global Warming country increased in the within-group design, but at the expense of the Large Family country.

Figure 3: Distribution of within-group donations to the ‘Large Family’ country

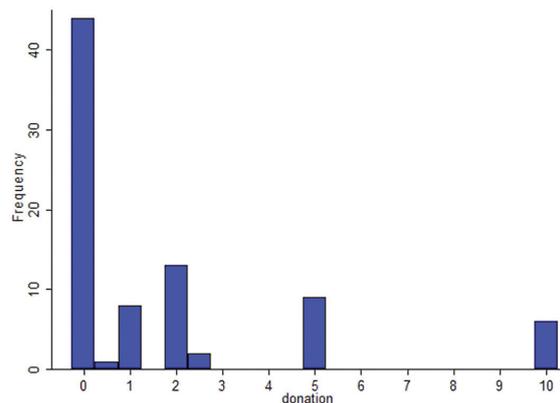
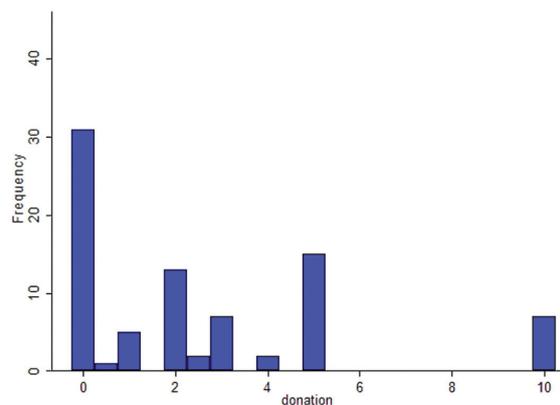


Figure 4: Distribution of within-group donations to the ‘Global Warming’ country



The researchers also found that different types of participants actually behave differently in the within-group design. For example, students intending on majoring in Accounting were inclined to give relatively more to the Global Warming country than the Large Family country on average than participants planning on majoring in other subjects. Also, people who belonged to social clubs were, on average, more likely to give more money to the Global Warming country compared to those who did not belong to a club. Hence, donations also depended, to some extent, on the individual characteristics of participants.

DO WE NEED A REASON?

Should aid agencies provide information on why countries are poor when asking people to donate money? Before answering this question, it needs to be kept in mind that the participants in the research project described in this article were all university students, and the results may not generalise to the rest of the population. Nonetheless, the between-groups results imply that, on average, people do not care why the recipient country is poor and so donations will not increase if aid

agencies provide information suggesting the country is more deserving. The within-group design results suggest that average donations will be higher for the country considered more deserving if people are given the choice of donating to two countries, but this is at the expense of the other country rather than increasing donations to the two countries combined. Hence, taking the results of these experiments at face value would suggest that pointing out that the country is poor for reasons not of its own making will not increase donations.

QUESTIONS TO CONSIDER

If you had taken part in this experiment, would it have mattered to you why the country was poor? (Of course, the whole point of doing an experiment rather than a survey is we don't really know how you would have behaved unless you had actually taken part.)

The survey that participants were asked to carry out had nothing to do with charitable giving. Why might this have been important?

In the between-groups design, a significant number of people chose to give \$5. Can you think of a reason why this happened?

Why do you think the researchers paid people \$20 for taking part in a survey, rather than just giving them \$20?

FURTHER READING

For more details on the research discussed in this article see Etang, Fielding and Knowles (2011).

For an excellent discussion of the literature on reasons why people give money to charities working to reduce poverty in the developing world see Singer (2009).

USEFUL WEBSITES

World Vision, available at www.worldvision.org.nz.

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HIGHLIGHT:

MARKED

We can learn a lot about monopoly from Monopoly®. The game itself has little to do with economics; if anything, the most it teaches players (ages 8 & up) is how to effectively manage real estate in Atlantic City. What is of interest to economists is how Hasbro, the company that owns the game, has effectively established a monopoly over Monopoly® and Monopoly®-like games through acquiring trademarks.

Trademarks (and patents) reward inventiveness by allowing those who create or discover unique products to be the single producer of them (at least for a specified period of time). Patents generate potentially large sums of income for their owners who are protected against competition from other firms. This compensates the inventor, who may have had to pay large costs during the product's creation.

Monopoly® was patented by Charles Darrow in 1935, who then sold his rights to Parker Brothers, now owned by Hasbro. The origin of his game, however, is suspect. The Landlord's Game, patented by Elizabeth Magie in 1904, had a comparable design and objective to Monopoly®. Elizabeth Magie, a Quaker, had originally devised the game to teach people how rent unfairly affected tenants (i.e. the pitfalls of capitalism). A simple version of her game was widely played among children in the Quaker population. It is believed that Darrow had seen Magie's game and had issued a patent on his version after Magie's patent had expired.

Since acquiring the rights, Parker Brothers (and later, Hasbro) actively took legal action against games with any similarity. One of these lawsuits was filed in 1974 against Ralph Anspach, an economist and the creator of Anti-Monopoly®. In Anti-Monopoly®, players compete to break up existing monopolies on a board strikingly similar to that of Hasbro's game. To enforce the rights granted by their patent, Parker Brothers obtained a court order to have 37,000 copies of Anti-Monopoly® destroyed.

Anspach pursued the case to the Ninth Circuit Court of Appeals in California arguing that the game's origins (with the Quakers) came from the public domain which nullifies Parker Brother's patent. After the Ninth Circuit Court ruled in Anspach's favour, Parker Brothers appealed to the Supreme Court in 1983. They were not successful, however, and Anspach was allowed to continue producing Anti-Monopoly®. Later, Parker Brothers lobbied Congress to pass stronger protection of long-standing trademarks against such 'general' claims. And although Anspach had won, a settlement with Hasbro allows Anti-Monopoly® to be produced under a Hasbro-issued license.

In the end, Hasbro's monopoly over all other Monopoly®s remains secure.

Interested in trademarks? See page 14 for references and further reading.



Commentary on the New Zealand economy

Alan King

alan.king@otago.ac.nz

| | Mar 2011 | Dec 2010 | Sep 2010 | Jun 2010 | Mar 2010 |
|---|----------|----------|----------|----------|----------|
| GDP (real, annual growth rate, %) | 1.5 | 1.7 | 1.4 | 0.5 | -0.7 |
| Consumption (real, annual growth rate, %) | 2.3 | 2.4 | 2.0 | 1.3 | 0.3 |
| Investment (real, annual growth rate, %) | 12.5 | 10.9 | 3.8 | -7.3 | -16.2 |
| Employment: full-time (000s) | 1707 | 1698 | 1694 | 1685 | 1680 |
| Employment: part-time (000s) | 505 | 486 | 500 | 486 | 492 |
| Unemployment (% of labour force) | 6.6 | 6.7 | 6.4 | 6.9 | 6.1 |
| Consumer Price Inflation (annual rate, %) | 4.5 | 4.0 | 1.5 | 1.7 | 2.0 |
| Food Price Inflation (annual rate, %) | 4.8 | 4.6 | 0.1 | -0.7 | 1.2 |
| Producer Price Inflation (outputs, annual rate, %) | 4.2 | 4.3 | 4.0 | 1.3 | -0.5 |
| Producer Price Inflation (inputs, annual rate, %) | 5.3 | 4.4 | 3.8 | 2.0 | 0.6 |
| Salary and Wage Rates (annual growth rate, %) | 1.8 | 1.7 | 1.6 | 1.6 | 1.5 |
| Narrow Money Supply (M1, annual growth rate, %) | 5.2 | 3.2 | 2.3 | -0.9 | 0.3 |
| Broad Money Supply (M3, annual growth rate, %) | 5.6 | 3.3 | 1.7 | 0.4 | 0.3 |
| Interest rates (90-day bank bills, %) | 2.69 | 3.17 | 3.18 | 3.07 | 2.67 |
| Exchange rate (TWI, June 1979 = 100) | 65.2 | 67.8 | 66.8 | 67.1 | 65.1 |
| Exports (fob, \$m, year to date) | 44,684 | 43,532 | 41,788 | 40,672 | 39,559 |
| Imports (cif, \$m, year to date) | 44,053 | 42,360 | 40,810 | 40,079 | 39,719 |
| Exports (volume, June 2002 [not seas. adj.] = 1000) | 1172 | 1175 | 1130 | 1156 | 1161 |
| Imports (volume, June 2002 [not seas. adj.] = 1000) | 1703 | 1619 | 1560 | 1505 | 1490 |
| Terms of Trade (June 2002 = 1000) | 1267 | 1256 | 1246 | 1210 | 1186 |
| Current Account Balance (% of GDP, year to date) | -4.3 | -4.1 | -4.1 | -3.0 | -2.4 |

Sources: Statistics New Zealand (www.stats.govt.nz), Reserve Bank of New Zealand (www.rbnz.govt.nz)

Some of the above data series have experienced sharp changes in the last half-year: A notable example is the rate of CPI inflation, which has lifted from 1.5% to 4.5%. Of course, to a large extent this reflects the increase in GST last October but, even if that change is ignored, annual inflation has still risen to 2.6%. This rise is almost entirely attributable to the recent increases in fuel prices and excise duties on alcohol and tobacco. The dollar's continued strength has meant that the prices (excluding GST) of other tradable goods (i.e., goods that are either imported or face competition from imports) have typically been falling and the ongoing weakness of the economy has constrained the rate of inflation of most non-tradable goods' prices.

This low underlying rate of inflation reflects the feebleness of the economy's recovery, which is in part due to the delay in the reconstruction of Christchurch caused by the February earthquakes. However, there are signs of growing confidence in the rest of the country that the economy is picking up steam.

The main bright spot is the terms of trade index, which is currently at a 38-year high. Over the last year, many farmers have been using their higher returns to pay down debt, but the longer commodity prices remain high, the more confident they should be to pull out their chequebooks and start spending.

While the current level of global commodity prices is to some extent being driven by temporary factors and a correction over the next year cannot be ruled out, New Zealand's terms of trade should remain favourable for as long as oil prices remain firm. Why do oil prices matter? Expensive crude oil encourages the production of plant-based ethanol and this underpins grain prices. High grain prices, in turn, increase the costs of dairy and beef farmers around the world whose animals are not primarily grass fed (which is most of them). High production costs then limit the response of production to high meat and dairy prices, and this means there is less downward pressure on those prices. So, while it is painful to pay over \$2 per litre at the pump, that cloud does have a silver lining.

References and Further Reading for Highlights

All Highlights in this issue were provided by Dan Farhat dan.farhat@otago.ac.nz

TWO THUMBS UP

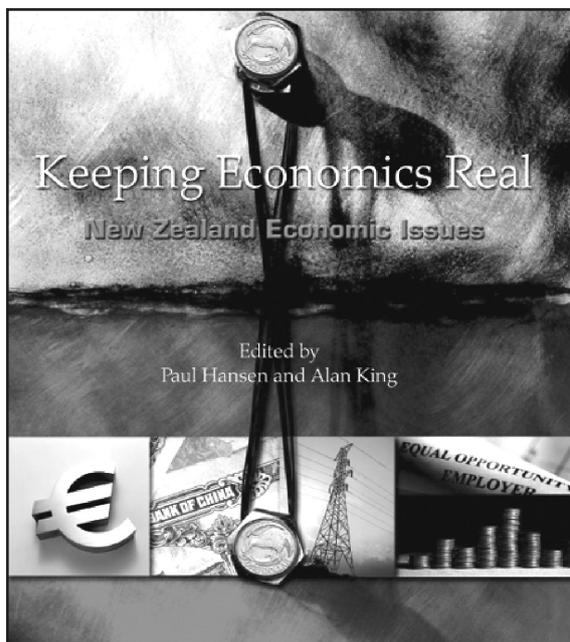
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