

The Myth of Enduring Plenty - judging my Piers

Sir

I like to think that I enjoy a good rant, having on the odd occasion been accused of indulging in it myself, but Piers Maclaren's effort in the May issue of the Journal left me more uneasy than uplifted. The article's contention seemed to be that when oil prices surge and New Zealand is caught with its pants down it will be the arrogance and ignorance of economists that will be to blame - a position that simply cannot be supported by fact.

Pier's first charge seems to be that some economists apparently deny the very concept of extinction. Well no economist I know has ever denied that particular concept. Nor did economists deny that the 1972 Club of Rome report rightly highlighted some issues of concern which needed addressing - just as 10 years earlier Rachel Carson's 'Silent Spring' highlighted problems with pesticides and their unbridled use. However, what economists did say about the Club of Rome report was that the conclusions and projected future drawn from the assembled facts were not necessarily, or even likely to be, correct. They pointed out that the report ignored the impact human inventiveness - and they knew what they were talking about because an economist had made exactly the same mistake as the Club of Rome authors did almost 200 years earlier. In 1798 Thomas Malthus offered a vision of a world of grinding poverty and mass starvation for most - a world that was the basis for Carlyle's "Dismal Science" comment¹ about economics. Malthus of course produced his model/vision of the future just as the industrial revolution and the application of science was significantly changing some of the critical base premises of his model.

The Club of Rome got things wrong - and the economist/trader who put his money where his mouth was and took a bet with the senior author of the Club of Rome report based on the accuracy of the predictions/forecasts made in that report won² his bet. (When, at this point, these authors then adopted the line that basically they were right about direction just wrong about timing and produced a revised timeline for Armageddon the economist trader again offered to bet against their predictions but the gurus refused to take the bet).

Let's though turn to oil which seems to lie at the heart of Piers's concern. At its most basic level, all economists have to say about things like oil is that increasing demand for the stuff will, without an increase in supply, result in an increase in its real price. Petroleum economists generally

¹ The "dismal science" description was coined by Thomas Carlyle in response to Thomas Malthus' beliefs that the exponential population growth would outpace the linear growth of the world's food supply, resulting in a global famine. Malthus though failed to foresee the leaps in science, such as the developments of genetics, improvements in storage and use of fertilizers, which have allowed the earth to support many more people than was previously imagined.

try to go a bit further than this and provide estimates of how much of a price increase an x% increase in demand will result in and link this back to demand for other products that may substitute or compliment the use of oil. But...

Will oil run out? Of course it won't. If no substitute comes along to replace it at the current price and demand continues to grow oil's price will simply rise, with all the implications that this has. Among these will be increasing efficiencies in the use of oil and eventually, at some price, it's substitution by other more readily available and cost effective resources.

Like the Club of Rome gurus though, economists are not that good at picking the precise price point and day on which substitution will occur. Thus Pier's suggestion that if economists are right oil prices should soon fall from the current level (around US \$50 a barrel) to around \$25 a barrel whereas if his view of the world is correct prices will double to \$100 a barrel is pure bunk. Economist can tell us that in terms of the past 150 years the real oil price has, on average, been just a shade under US \$19.50 a barrel. They may also, with the help of others, be able to identify and price a 'backstop' technology to oil and thus be in a position to say that in the longer term oil prices can't rise above this backstop price. But, they can't prove that a backstop technology will in fact be the technology of the future - all they can be sure of is that future prices will not be greater than those of the identified backstop.

The history of oil prices clearly shows that there have been periods when real prices have been substantially greater (and less) than \$19.50 per barrel. Even if the future is exactly like the past it could be 10 or more years before the current oil price falls to less than US \$25 a barrel - or the price may never fall back to that level. Either outcome proves nothing about economics and its validity. Economics will survive regardless of what happens to oil and its price. However, economics can help by providing the basis for an analysis of the volatility of oil prices and by suggesting ways of managing the risk that in future prices

² In 1990 Dr Paul Ehrlich sent the economist Julian Simon a cheque for US \$570.07 in settlement of a wager based on the predictions of the Club of Rome Report. Dr Ehrlich would later claim that he was "goaded into making a bet with Simon on a matter of marginal environmental importance." At the time of making the bet though he said he was keen to "accept Simon's astonishing offer before other greedy people jump in." Dr Ehrlich chose five minerals: tungsten, nickel, copper, chrome and tin and he and Simons agreed how much of these metals \$1,000 would buy in 1980. Ten years later they recalculated how much that amount of metal would cost (still in 1980 dollars) and Dr Ehrlich agreed to pay the difference if the price fell, Dr Simon if the price rose. Dr Simon easily won; indeed, he would have won even if they had not adjusted the prices for inflation, and he would have won if Dr Ehrlich had chosen virtually any mineral in the list given in the 1972 report: of 35 minerals, 33 fell in price during the 1980s with only manganese and zinc being the exceptions.

and volatility will deviate significantly, or for long periods, from the real long term averages of the past.

Still if oil prices rise as much as Piers suggests should New Zealand, and New Zealand forestry in particular, really worry? If Piers is right and oil is going to cost US\$100 a barrel and petrol \$5 a litre I would like to suggest the NZ forest industry will be creaming it. All those trees currently unloved and unwanted by the pulp & paper and MDF industries can, and will be, turned into bio-petrol. At that price a lot of sawlogs will also go exactly the same

way too. An untaxed petrol price of less than \$2 per litre is about all that is required to make a forest based liquid bio-fuels scheme viable, and that viability includes paying a reasonable price to those growing the trees for the fuel industry! At \$3 a litre the NZ forest industry would be busily converting dairy blocks back to forest and at a price of \$5 per litre the country will clearly have joined, and become a leading member of, OPEC.

Gerard Horgan

A forester bets on the future price of oil

Sir

I enjoyed reading Piers Maclaren's thought provoking editorial regarding oil prices in the May issue. It brought to mind a couple of points I would like to share. First, I find my colleagues in the field of Economics can be divided into three groups: (1) those who do not predict the future; (2) those who predict the future but are not willing to make any bets; and (3) those who are confident about their forecasts and are willing to bet on the outcome. Although those in the third group appear to be limited in number, foresters can sometimes profit from some in this group. For example, I made a bet with Julian Simon (a professor at the University of Maryland) on the future price of wood. Although he knew the price of wood had been increasing since 1900, Simon was willing to bet money that the price of wood in South Alabama would decline over a five-year period. In 1997, he sent me a check for \$1,000. Some readers probably know that Julian Simon wrote several books and in one chapter entitled "When Will We Run Out of Oil? NEVER!" he wrote about "The non-finiteness of oil." Simon believed the price of energy would always trend downward (with a number of price spikes along the way).

Second, although I am neither a geologist nor an economist, I am willing to bet on the future price of oil. Over six years ago I read an article entitled "The next shock?" in "The Economist" of March 4 1999 (for more see www.economist.com/displaystory.cfm?story_id=188181). At that time the price of a barrel of oil was US\$10 and a historical graph was used to support the claim that "Judging by the oil market in the pre-OPEC era, a "normal" market price might now be in the \$5-10 range" and "...may be heading for \$5." This prediction prompted me to find out how many economists were willing to bet the price of oil will continue to decline. Therefore, I wrote a letter to "The Economist" (March 27, 1999 issue, page 6) and made a bet that by the year 2010, the price of a barrel of oil would be greater than US\$12 a barrel (in 1999 dollars). I was willing to bet US\$1,000 that the price of this non-renewable resource would increase by at least 20% due to factors related to supply and population growth. As it turned out, no economist took me up on my bet. Perhaps few betting economists in 1999 really believed the words that were written in "The Economist" article. Or then again, perhaps only a few economists (like Julian Simon) are willing to make bets on their predictions of falling

commodity prices (who knows which is correct?).

Perhaps many economic forecasters are in the second group because they want to protect their reputations. They may realise the variability associated with their projection is too high to risk making a bet. In my area of research, I can supply a 95% confidence interval for an observed mean but when someone predicts the price of oil will fall to a specified dollar amount, no confidence interval is provided. If the 95% confidence interval is typically large (say \pm US\$50 a barrel), then no wonder they are reluctant to make a bet. The interval may be so large that it includes a rise in price! To illustrate this point, 18 months after "The Economist" predicted a barrel might reach the US\$5 mark, they placed an image of an empty European petrol gauge on the cover (September 16, 2000 issue).

Fortunately, I was eventually able to find one economist who was confident enough to make a 10-year bet with me on the price of oil. I bet the price on January 4, 2010 will be greater than US\$25 a barrel (in year 2000 dollars). If the uninflated price is greater than US\$50 a barrel, then Zagros Madjd-Sadjadi will send me a check for US\$1,000 (for details see www.sfnmc.auburn.edu/sfnmc/web/oilbet.html). If Piers or any reader knows of another economist who is willing to bet that a barrel of oil will be less than US\$25 in 2010, please send me their name. Unfortunately, I expect the number of economists in this group is now smaller than it was in 2000.

It is too soon to tell who will win our bet, but the trend is going in my favour. Perhaps I will again profit from someone in the betting group of economists. However, there is the possibility that I might lose if the Russian-Ukrainian theory of deep, abiotic petroleum origin (see www.enviroliteracy.org/article.php/1130.html) proves to be correct. If geologists soon discover inexpensive ways to tap into vast supplies of oil hidden deep in the earth's crust, then someday a barrel of oil might return to 1999 prices.

In summary, I enjoy discussing the future with colleagues and speculating about what challenges humans might have in 2020. However, talk is cheap and only a few are willing to stake their reputation on a forecast that might have a 50% chance of being wrong. This reluctance is associated with both cornucopians and doomsayers alike. When either loses a bet they will keep hold of their beliefs and might say..."well it hasn't happened yet but I have faith that it will happen at some point in the future."

David South