

Economic prediction and the Asian crisis

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THE ORACLE at Delphi had stores of wealth from Greek states. A sort of world bank of the day, maintained by mystical figures providing advice which it was considered very unwise to ignore. Entrails examination and astrology were used in the West in classical times. I am told that the last university course on astrology was dropped in the West only in the middle of the last century. Astrology is still used by many people making predictive decisions important to themselves and others.

Prediction is also part of the scientific method. Hypotheses are tested by predicting outcomes of experiments. Failure usually means you have to rethink your hypotheses. In the observational science of astronomy, prediction of the motions of planets was possible from early on, but the theory and mathematics of that form of prediction has, since it was accepted that the earth rotates round the sun, been much simplified. The Ockham's razor principle is applied.¹

The hypotheses behind the predictions of economic events have not been as ruthlessly discarded, revised or simplified. This "softness" has resulted in a proliferation of theories in which any failure is justified by the unforeseeable intervention of rogue forces. A typical recent example is the Asian crisis and its domino effect on non-Asian nations.

IN EARLY July 1998 there was a growing realisation expressed by economists, journalists and politicians that the consequences for New Zealand of what had been seen earlier as a major catastrophe for a minor trading partner, were to be much worse than those predicted.²

The Treasury was accused of taking a rather ho hum attitude to the research. Budget estimates of Treasury were found to be considerably in error. Resignations were asked for, but ministers, the Reserve Bank and some economists defended the Treasury on the grounds that it used generally accepted methods which could not have foreseen the outcome.

In an article in the influential *N.Z. Herald* (7 July 1998), respected economist Brian Easton cut through the heavy political veil covering the issue and made two telling comments on the state of economic prediction: "All forecasters work from incomplete and inaccurate data, even if by the time the data reaches the newspapers and politicians it is treated as perfect... Yet we cannot entirely discount Treasury responsibility for the forecasting problems. But it is not the Treasury Dr Bollard heads.³ Over a decade ago the Treasury and the Reserve Bank cut

back on the public funding of macro-economic research (especially to anyone who disagreed with them). The result has been a steady deterioration in the economic profession's competence to forecast the economy."

Can't we devise reliable quantitative or even qualitative early warnings of events like the Asian crisis? One hypothesis postulates that land values are a good indicator of macro-economic trends, and a number of people are working in several countries to generate econometric methods to demonstrate the seminal position of land prices in recessions and depressions. Their work would be much easier if nations published each year a national indicator of their land values (LVs).⁴ That does not mean that all other statistical measures relating to predicting the economy would be redundant. Events generated by observable poor government (which is in theory controllable and predictable) will never be the only force in economic well-being; nature itself is not used to treating humanity as its sole concern.

NEW ZEALAND has published national LVs for the past century. It would be useful to know the reason.

The complicated, litigious and inefficient English system of land transfer contributed to the search for a better way of doing things in New Zealand.⁵ The outcome was the Torrens system, devised in Australia and adopted in New Zealand in 1870⁶ and also in Canada and several parts of United States. That resulted in clearly separated guaranteed titles for each land holding. This was very helpful in identifying those responsible for land taxes.

In New Zealand there has until recently been a long history of political interest in LV taxation and "unimproved" LV rating (local taxation).⁷ To implement such taxes, at each change of ownership, sale or exchange, prices were required as part of change of ownership registration. The sales data was used by the government's valuers to assist in the assess-

ment of value for taxes. Since the perception of taxes is no longer in terms of economic incentive (though the economic disincentive of some are still commented on from time to time) Land Tax at the national level has been dropped. Only local rating systems retained a significant element of land value taxation.

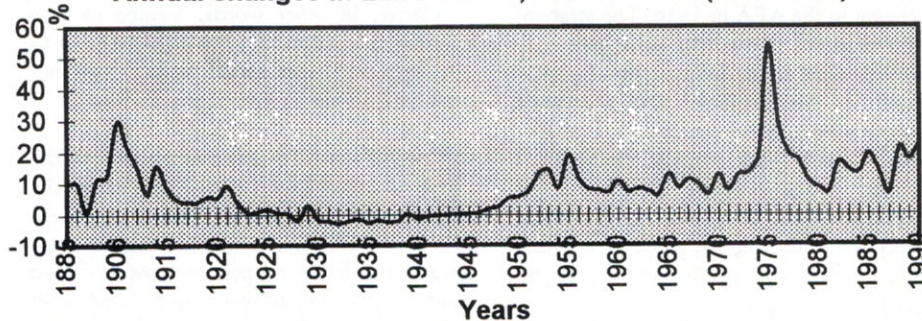
This means that, until recently, comprehensive LV data was on a computer and could be aggregated with relative ease. The future is another story because the job of valuation is now being devolved to local authorities who may use other agencies to carry out the valuations formerly done by Valuation Dept.

As capital value (CV=Land and developments) rating was, with little justification, recommended for all reconstituted local governments recently, the need for separate LV is in question for many local authorities. Some local governments have remained with LV rating; a few others also did not accept CV as suitable for their areas, but the remainder merely followed the misguided direction of a local authority commission that ignored the original rating systems that had been accepted by referenda of the past.⁸

IN ORDER to publish a national annual figure, the periodicity of valuations carried out in any individual Valuation District (at least every five years in NZ, but public opinion requiring yearly assessments is loud) results in the need to make interim estimates of value movements for valuation districts that were not assessed in any reference year. This is called "equalisation."

Technically, a "land price index" which is often thought to be the answer to our problem is not an easy matter to construct. Price indexes work with full market transaction prices collected over a period of about six months. Many ownership changes are not the result of full market sales and can not be used.⁹ A necessary and significant degree of geographical stratification creates further problems. Even worse, the quality mix of land sold in any six-

Annual changes in Land Values, New Zealand (1885-1990)



month period will not necessarily match that in subsequent periods.

One of the solutions (in NZ) uses price/valuation ratios. There are lots of assumptions required in using such methods which increase the overall error of estimates.¹⁰ Rental equivalent methods are adopted in other countries as a means of assessing value or price changes, but (for example) fluctuations in the percentage of rentals in the total market and the difficulty of defining a market rental as well as the high number of changes in the rental population itself make the system hideously complex, expensive and crude in the extreme.

Real estate agents often produce comment on the state of the market; their market. There are several obvious reasons why, even if they had comprehensive and recent sales data as a basis for their analysis, this could not form a reliable indicator for prediction of the economy in general. You may need to think about this, but for the sake of brevity I will comment no further on this line of investigation.

Investigators should evaluate what useful data may exist in other countries. Too much work carried out has had to make do with data

that has had to be massaged to such a degree that the assumptions made along the way become the target for internal and external scepticism.

Statistical agencies should be targeted: ask them to produce data they may otherwise fail to publish, because they are unaware of any market for it. My own experience is that, particularly in larger countries, the costs may

'Land values are a good indicator of macro-economic trends'

sometimes prove quite reasonable, providing the data finds an identifiable and sufficiently wide group of users, or at least well funded ones. The shifting of research expenditure from the mathematical phase to the statistical phase will not only reduce the overall costs, it will make the results comprehensible to the non-mathematician.

The graph traces New Zealand land values based on the so-called "gross equalised" fig-

ures. Gross, because they include the value of land which was in the past exempt from local and national taxes (eg national parks). Without a similar set of timely data from a country's trading partners may it still be difficult to predict events like the Asian crisis?

Footnotes

- 1 The simplest explanation consistent with the facts is accepted.
- 2 *The Dominion* 1 & 2/7/98; Matthew Brockett, *National Business Review*, 3/7/98; Peter V. O'Brien, *Otago Daily Times*, 2/7/98.
- 3 Bollard had only been in the position for six months.
- 4 The influence of United Nations statistical agencies may well be vital to achieve this on a wide scale.
- 5 See *1990 New Zealand Official Yearbook*, pp.409-410.
- 6 *Ibid.* The system was not compulsory until 1924.
- 7 There are technical distinctions between the definitions of "unimproved value" and "LV" defined in NZ legislation. See Rolland O'Regan, *Rating In New Zealand*, Baranduin Press, 2nd edn., 1985, p.30.
- 8 *Ibid.*, pp.28-29.
- 9 E.g. legacies, exchanges, changes from joint to sole owner, etc.
- 10 E.g. Chain linking of valuations when zoning changes have occurred.

- THE AUTHOR was a Senior Survey Statistician with Statistics New Zealand, a government agency from which he recently retired.