A FORECASTING GAME FOR COMMERCE COURSES

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ABSTRACT

This paper outlines a forecasting game for use in commerce-related courses of various types, sizes and levels. The game has an entry fee and a final prize, and takes the form of a competition between students to forecast a nominated variable, such as a particular exchange rate. The game facilitates learning in several important ways, and also provides opportunities for fun during lectures.

INTRODUCTION

Good games are effective teaching devices. They create student involvement in the subject, promote learning of material and engender positive class atmospheres. This paper outlines a forecasting game which has been successfully run for twelve years at an Australian university. The structure of the game is quite general and is adaptable to different subjects, class sizes and levels. The motivation for the game was to introduce an element that was educational, practicable and fun.

Any real world variable that has significance in relation to course material and has sufficient volatility can be chosen as the variable to be forecast. A particularly suitable variable is a floating exchange rate. It is reported daily in all media, virtually everyone is aware of it or has an interest in it, it is frequently analysed by commentators, it is always fluctuating (sometimes rapidly and dramatically), and it is easily linked to the content of commerce courses. Stock market prices or indices are also suitable variables, but other candidates, such as the growth rate, interest rates, inflation rates, GDP, investment, current account balances and so on, are much less appealing. In what follows, the general structure of the game will be presented, with the exchange rate case being used for purposes of illustration.

STRUCTURE OF THE GAME

The aim of the game is to predict a significant variable on a given date for the society/economy in which the game is played. For example, it might be to predict the A$/US$ exchange rate for 31 May 2006.

The game has four dates – an opening date, a closing date, a target date and an announcement date. The opening date is flexible, but best follows immediately after the relevant topic area has been treated in lectures. The closing date, which lies between the opening date and the target date, must be sufficiently distant from both. Around two to three weeks is usually sufficient for each interval in a one semester course. For example, as noted below, an opening date of 1 May, a closing date of 14 May, and a target date of 31 May allows 14 days for observation and decision-making prior to the close of entries, and 17 days of uncertainty in which tracking and class discussion can continue until the target date arrives.

Opening Date (competition opens)	Closing Date (competition closes)	Target Date (for forecast)	Announcement Date (winner announced etc)
1 May	14 May	31 May	2 June

The announcement date on which the winner(s) are declared will typically be one or two days after the target date, with the winning value of the variable being taken from a reputable source for verifiability and transparency reasons.

Participation is voluntary. To encourage participation, the game is presented as a competition with a final prize for the winner(s) and a small entry fee (monetary or non-monetary) for participants. The final prize is the total of the entry fees and depends critically on the participation rate. The entry fee needs to be small enough to induce participation, yet large enough to generate an attractive prize. In the exchange rate game, the entry fee was A$1.00 which created an attractive potential prize in large classes.

OBJECTIVES AND RULES

Pedagogically, the game has five objectives – (i) to inject an element of fun, entertainment and ongoing interest, (ii) to add to community atmosphere and morale, especially in large classes, (iii) to enhance learning, curiosity and independent investigation, (iv) to connect theory with reality, and (v) to personalise risk-taking and decision-making under uncertainty.

On the opening date, students are made aware of the existence of the game, its nature and its benefits. The following rules, which have been formulated to keep the game clear, simple and easily managed, are explained using an overhead/slide. Obviously, they are capable of modification depending on context.

1. The object of the game is to forecast the magnitude of the selected variable on the target date to a specified number of decimal places. (For example, the value of A$1.00 expressed in US cents to two decimal places on 31 May 2006, as in 73.59).
2. Participation is via payment of an entry fee.
3. Only one entry per person.
4. The winning forecast is the one closest to the correct magnitude on the target date.
5. The winner receives the total prize; no second or third prizes are awarded.
6. In the event of multiple winners, the prize is equally divided between winners.
7. To enter the game, print your (a) name (b) student number and (c) prediction clearly on the *outside* of an envelope, and seal the envelope with the entry fee *inside.*
8. Place the envelope on the box brought to class.
9. The winning magnitude of the variable on the target date will be that reported by a reputable source; for example, the exchange rate provided by the Reserve Bank of Australia in the *Australian Financial Review* on the next business day after the target date.
10. The lecturer's decision is final on all matters.

MANAGING THE GAME

It is important to the outcomes of the game for the lecturer to engage in various 'managerial' activities over the period of the game. These can vary from lecturer to lecturer but my approach was to provide ongoing commentary on events as they unfolded, and to use a mixture of seriousness and humour. In particular, the introduction and conclusion of the game were 'hammed up', while the interim period was more concerned with emphasising the instructional and learning aspects.

(1) Pre-Game Announcements

These create interest and curiosity, but are not essential. They can take the form of hints which give nothing away.

(2) Introducing the Game

On the opening date, students are informed of the game – its aims, rules, benefits (to *both* winners and non-winners), and educational outcomes. Given that the relevant course material has been covered, students are told that they are now in a position to comprehend many of the forces driving the nominated variable so that they can understand real world events and hence generate predictions. To enliven the introduction and increase engagement, the game can be over-sold with humour and hyperbole.

(3) During the Game

To underpin the learning objectives and to maintain interest, it is crucial to follow the nominated variable and the current developments that impact upon it right up to the announcement date. This can be done by bringing overheads/slides to class of relevant graphs and press clippings.

(4) Concluding the Game

On the announcement date, the winning value of the nominated variable is declared, the winner(s) are announced, and the game is concluded by discussing its lessons under three headings:

(i) The main influences on the variable over the game's duration, and their links to the course content.

(ii) The practice of forecasting variables. This can refer to its necessity but error-proneness, to the roles of information, judgment and 'gut' feeling, to real world situations where *ceteris* are rarely *paribus*, and to the difficulty of forecasting spot values as distinct from intervals. As a consolation to non-winners, it is pointed out that the majority of professional forecasts turn out to be wrong, often by wide margins.

(iii) The personal psychology of risk-taking. This can refer to active and passive risk-taking, good and bad risks, and the necessity for courage and 'leaps of belief' in real world risk-taking.

Again, in concluding the game, a mixture of humour and seriousness may be used to good effect.

EXPERIENCE WITH THE GAME

(1) The game is effective in building community atmosphere and an ongoing 'buzz' of interest.

(2) The game caters to both individual work and group work (with subsequent individual entries).

(3) Student feedback on the game has invariably been positive. The general tone of remarks in written evaluation questionnaires has been as follows: 'The teacher showed good enthusiasm for the subject by putting on the exchange rate competition'; and 'It was a very good idea to have the exchange rate game as it sparked interest'.

(4) For twelve years, the participation rate has been fairly steady, varying between 20 to 30%. The actual prizes have thus typically ranged between A$100 and A$150 for a class of 500 students. This level of participation has been somewhat disappointing, but variations in the game over the years have produced no significant changes. In particular, participation appears to be price-inelastic because a rise in the entry fee from 20 cents to $1 had virtually no impact on the rate.

(5) Nearly all participants rationally wait until the closing date before submitting entries.

(6) As the closing date approaches, it is important to bring two things to class – a generous supply of envelopes (as students will not often supply their own), and a box to receive entries.

(7) From the 14,000 odd students enrolled in the course over 12 years, there have never been any complaints about the game.

CONCLUSION

The structure of the forecasting game is quite general, which allows it to be modified to suit a range of courses and contexts. In its exchange rate form and in an Australian context, it has been very successful in achieving its main objectives and in delivering significant benefits to both students and the teacher. These benefits mainly derive from the involvement of everyone, directly or indirectly, in an activity that combines education, entertainment and personal interest.