

# Extending The Use And Effectiveness Of The Monopoly<sup>®</sup> Board Game As An In-Class Economic Simulation In The Introductory Financial Accounting Course

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## ABSTRACT


*This paper extends the use of the Monopoly<sup>®</sup> board game as an economic simulation exercise designed to reinforce an understanding of how the accounting cycle impacts the financial statements used to evaluate management performance. This extension adds elements of debt not previously utilized to allow for an introduction of the fundamentals of ratio analysis at a foundation level in financial accounting instruction. This extended approach uses the rules and strategies of a familiar board game to create a simulation of business and economic realities, which then becomes an effective, interactive, in-class financial accounting practice set.*

*The unique combination of each player's skill and luck provides for unlimited outcome possibilities, delivering an interpretive result that students can neither predict nor easily manipulate. This pedagogical approach serves to provide students with a sense of proprietorship in the activities of the instruction and fosters a competitive spirit to succeed in class activities that will ultimately be presented to the entire class. While the instructor surrenders a significant level of control in the class exercise, the uniqueness of each Monopoly<sup>®</sup> team's game results requires active engagement in-class and additional individual effort on the follow-up assignments outside the classroom.*

*In the previous use of the Monopoly<sup>®</sup> board game, the class activity provided a valuable parallel for reality in practicing the financial accounting cycle and emphasizing its use by external parties. Because of the dynamic sense of capturing the "real-time" aspect of the game into finished financial statements for analysis, students start to sense a greater appreciation for the role that accounting cycle activities play in business reporting and the assessment of operating results. Using the Monopoly<sup>®</sup> board game in the first course in financial accounting tends to generate a higher level of competitive energy in the classroom experience, with more actively engaged students grasping the nature and purpose of the financial accounting system more quickly and actively than with other pedagogical approaches previously used. More recently, using Microsoft Excel to reflect the game results and present the financial statements has added to the robust learning experience achieved by incorporating the Monopoly<sup>®</sup> board game.*

**Keywords:** Accounting Cycle; Games, Monopoly; Pedagogy; Simulations; Teaching Efficiency And Effectiveness

## INTRODUCTION

 Enhancing the use of the Monopoly<sup>®</sup> board game as an economic simulation is the basis for this extension of previous works that utilized the game to introduce accounting concepts and calculations in a beginning financial accounting course. The motivation for these works follows earlier calls for the greater use of games and simulations to demonstrate the nature and results of management decisions (e.g., Bruns, 1965; Gray, Willingham, & Johnston, 1963). Few such attempts have been successful, however, because the learning curve for new games is steep, and students attempt to manipulate the decision-making and learning processes.

Unfortunately, most of the “games” currently used in economic-focused or management-focused simulations either ignore or do not place heavy emphasis on the financial accounting aspects of the business. This area of emphasis goes largely untouched in the feedback from the competitive process of simulations. As a result, Knechel (1989) introduced the use of the Monopoly<sup>®</sup> board game to teach undergraduate students the financial accounting journal entry process.

Knechel found that the random element of Monopoly<sup>®</sup> achieved by the roll of the dice solved the problem of predictability and added more student interest to the outcome, something sorely lacking in typical practice sets commonly used in introductory accounting courses. The dice create an equalizing aspect to the simulation that makes the game more realistic and mitigates the skill of each player or team playing.

### **INTEGRATING THE MONOPOLY<sup>®</sup> GAME INTO THE CLASSROOM**

Classroom use of the Monopoly<sup>®</sup> board game helps hold the attention of students until they learn the desired aspects of the accounting cycle: (1) assessing economic events, (2) translating those events into accounting entries, (3) posting journal entries to the ledger, (4) balancing the ledger, (5) making adjusting entries at game’s end, (6) closing the books, and (7) preparing financial statements for analysis. Properly presented and motivated, this entire sequence can be achieved through the use of the Monopoly<sup>®</sup> game before the novelty of the approach is exhausted.

In previous iterations of the Monopoly<sup>®</sup> game’s pedagogical use (Shanklin & Ehlen, 2007a & 2007b), there were only modest opportunities to turn a fundamentally *cash accounting* game from Parker Brothers<sup>®</sup>, the originators, into a practical example of accrual-based accounting. The four attempts to introduce and anchor the accrual concept (see Exhibit I - Additional Rules of the Game - Revised) in the process of the game were centered on Item 4 of Exhibit I: (a) calculating and recording depreciation on the houses and hotel investments from the game, (b) accruing the *earned, but unrecorded, service revenue* utilized as the activity-based measure of revenue over time, (c) accruing the interest expense on mortgaged property (as provided in the traditional game since its introduction), and (d) accruing the income tax expense derived from a calculated increase in net asset value over the course of the game.

In practical applications of the strategies of various students, Item (4a) happens much more rarely than expected. Item (4b) happens quite frequently, but still only occurs about 75% of the time. Item (4c) virtually never occurs, especially given the rarity of Item (4a) and a requisite complete reversal of fortune needed to necessitate the entry. Item (4d) does occur quite often, but is still not at the frequency that would assure an entry at the rate enjoyed by item (4b). In a practical sense, it is virtually impossible to have all four items happen to one team in the same game.

Teams with successful “winning” strategies will usually record depreciation and income tax payable, with the possibility of also accruing service revenue by random chance. This scenario provides a very good practical experience for additional journal entries affecting both the income statement and balance sheet by virtue of accrual of both expenses and revenues for the exercise. On the opposite end of the game’s perspective, those teams that execute a poor strategy or fall victim to the perils of the game due to random chance see very little opportunity for making an accrual entry except for the 75% likelihood of accruing service revenue in Item (4b). This often happens to the less engaged players who really need the most reinforcement in the concepts of accruals and their impact on the financial statements.

In actual classroom experience, the Monopoly<sup>®</sup> game exercise tends to become a sort of “zero-sum game.” There are big winners and there are big losers. The occurrence of the “breakeven” team in play usually happens in a game alongside one or two big loser teams and the highly successful winning team. This average performing team rarely pays income tax (Item 4d) and has no real property, so generally it has no need for recording Items (4a) and (4c) in much the same way as the teams that were soundly beaten.

When the Monopoly<sup>®</sup> game is utilized following the introduction of the concept of transaction analysis — recording journal entries to reflect the effects of underlying economic events — making journal entries to record the effects of Monopoly<sup>®</sup> game moves is a natural extension of the concept. Using the Monopoly<sup>®</sup> game chart of accounts (Exhibit II) presented at the beginning of play, the early rolls of the dice are focused on which accounts to use to

“appropriately” record the events that occur in the game. While the game tends to move somewhat slowly at first, as more complex transactions are made the instructor can periodically intervene to demonstrate the appropriate accounting treatment for new or unusual events.

Experience in using the Monopoly<sup>®</sup> game in the classroom environment has provided a bit of insight into the various student personalities of those who choose to be the “rollers” and those who choose to be the “recorders.” Those students who are more extroverted tend to like the “roller” position and attempt to drive the team’s strategies and set the pace of play, while the quieter students choose, or are relegated to, the role of the “recorder.” Generally, the “recorders” seem to get more from the game exercise and show deeper levels of understanding for the process and effects on the financial statements, probably because of their hands-on preparation and manipulation of the entries to record the transactions, post them, and make closing entries. The “recorders” in the Monopoly<sup>®</sup> game exercise tend to exhibit the attributes and skills often seen as more stereotypical of accounting majors in a business school. Instructors should take care when assigning the duties of “roller” and “recorder” in order to maximize and equalize the learning experience across the entire group of class members participating.

As the student teams begin to recognize the routine and repetitive nature of many of the journal entries required to reflect the moves made on the Monopoly<sup>®</sup> board, the pace of play increases dramatically. At the end of the game session, the students must create a trial balance based on their game entries. Since no two teams will have the same trial balance, each team must rely upon itself to complete the assignment since it is not possible to copy an answer from another team.

With the trial balances completed, it is time to move on to the adjusting entries required to take a “cash basis exercise” and turn it into an “accrual basis exercise” (see Exhibit I for examples of these adjustments). By using one team’s actual trial balance to demonstrate the adjustments required, the instructor can demonstrate the impact of the accrual method on the ultimate presentation of the results of business activities in financial statements. At this point all of the teams should be able to make these entries and prepare an adjusted trial balance.

### **ADDITIONAL CONSIDERATIONS**

Recent support materials from the major academic publishers, such as electronic homework systems, are attempting to increase the amount of activity and instructional support each individual student devotes to homework. Most of the homework activity ends up as templating the data into established formats with no real “free form” assembly and presentation of financial statement results. Using the Monopoly<sup>®</sup> game approach increases the students’ hands-on engagement in full view of the instructor to monitor and engage directly the learning process.

A second aspect of instructional interest, recently added to the in-class Monopoly<sup>®</sup> exercise, is the inclusion of building out a Microsoft Excel worksheet with the journal entries, trial balances, and resulting financial statements that are the end result of the project. These will be submitted for grading, as well as required in-class comparative financial statement analyses. The addition of the Excel output for submission provides practical experience in a skill that employers typically describe as being a major deficiency in new business school graduates. By providing grading points specifically for the quality and effectiveness of the Excel work, students realize that simply completing the accounting work of the exercise is insufficient. The users of the financial information need to have it presented in a format that will be useful to decision makers. This aspect is valuable to all members of the class, regardless of declared major, and tends to equalize grades for the students with varying degrees of understanding of the accounting cycle.

### **CONCLUSIONS**

The use of the Monopoly<sup>®</sup> game effectively illustrates the accounting cycle in a hands-on experiential learning format utilizing a team-based approach. The repetitive nature of the game not only shortens the learning curve but also maintains student interest at a relatively high level through a very difficult conceptual topic.

The Monopoly<sup>®</sup> game helps students develop skills in basic financial accounting because the game is an “economic simulation” of business activity. The game approach creates greater “student buy-in” and engages students in the

financial accounting process before they get bogged down in the detail of the accounting cycle. The hands-on aspects of the game make it more likely that students will be successful compared to other methods available, including academic publishers' cumulative simulations.

Further enhancements of the Excel component of the Monopoly<sup>®</sup> game exercise now in use shows promise for further extensions of the learning experience. By using the Monopoly<sup>®</sup> game in the introductory accounting classes, the long-time call of business educators for the active use of simulations over a short period of time in class activities can now be leveraged at the undergraduate level and anchor learning practically and efficiently.

#### REFERENCES

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**EXHIBIT I**

**ADDITIONAL RULES OF THE GAME - REVISED**

*When a segment of the game is completed, each team should complete the following analyses:*

1. Prepare a general ledger (using the attached chart of accounts) and post all transaction to a t-account ledger.
2. Prepare a pre-closing trial balance.
3. Reconcile the cash on hand with the balance of the cash account. Any discrepancy is probably due to the failure to record a transaction during the course of the game. If the cash reconciliation produces a discrepancy, attempt to discover the cause of that discrepancy by comparing notes with competing players in the game. If the discrepancy cannot be explained, adjust the accounting cash balance to agree with the cash on hand by making a journal entry and appropriately noting the financial statements for full disclosure.
4. Prepare and post the following period-ending adjusting entries:
  - a. **Depreciation:** Assume that all houses have a useful life of 25 years and all hotels have a useful life of 40 years.
  - b. **Service Revenue:** Accrue unpaid service revenue based upon the closing location on the board. Accrue one quarter of your service revenue for every full side of the board that you are past "Go". For example, if you are on the side of the board just past "Go", accrue no service revenue, but if you are on the side with Boardwalk, accrue 75% of the service revenue (\$150).
  - c. **Interest:** If any properties are mortgaged, accrue interest at 10% for the number of turns that the money has been borrowed. For example, if \$200 was borrowed on turn 20 and the total number of completed turns in the game was 40, accrue  $\$200 \times 10\% \times 20/40$  or \$10.
  - d. **Taxes:** Accrue taxes based upon 10% of the increase in total assets on hand at the close of the period play.
5. Prepare closing entries.
6. Prepare a post-closing trial balance.
7. Prepare (in good form) an Income Statement and Balance Sheet at the end of the period.

**EXHIBIT II**

**MONOPOLY® - CHART OF ACCOUNTS**

**Balance Sheet Accounts**

**Assets:**

Cash  
Receivables  
Land  
Investments – Railroads  
Investments – Utilities  
Buildings – Houses  
    Accumulated Depreciation – Houses  
Buildings - Hotels  
    Accumulated Depreciation Hotels  
Other Assets

**Liabilities:**

Mortgage Payable  
Notes Payable  
Interest Payable  
Taxes Payable

**Equity:**

Common Stock  
Retained Earnings

**Income Statement Accounts**

**Revenues:**

Service Revenue  
Rental Revenue - Land  
Rental Revenue – Houses/Hotels  
Investment Revenue - Utilities  
Investment Revenue - Railroads  
Interest Revenue  
Miscellaneous Revenue

**Expenses:**

Rental Expense  
Interest Expense  
Tax Expense  
Fines & Penalties Expense  
Repairs & Maintenance Expense  
Depreciation Expense  
Miscellaneous Expense

**Gains & Losses:**

Gains on Sale/Exchange of Property  
Losses on Sale/Exchange of Property  
Other Gains & Losses