

Money Basket: A Classroom Game about the Basic Mechanics of the Stock Exchange Market

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ABSTRACT

This article presents a classroom card game, called Money Basket, that teaches students about the basic mechanics of the stock exchange market and money investing. It attempts to simulate in a simplified way the tasks of choosing the best financial portfolio for each student, making the students handle different economic scenarios.

The game aims at its classroom use at high school and undergraduate students of different areas, from business administration to engineering courses. It can also be played outside the classroom, due to its expansion possibilities, including new rules and new cards.

INTRODUCTION

Money Basket is an educational card game that simulates in a simplified way the changes in the stock market, allowing players to build their financial portfolio and manage it based on market variations, such as commodities' oscillating prices and corruption scandals in companies.

Most of the game development was based on the MDA framework (Hunicke, 2014), in a way that the game was designed with a focus on its mechanics, describing the game rules and components; its dynamics, considering how the players apply those mechanics during the game; and its aesthetics, that describes the emotions players feel while playing.

The game mechanics involve the selection of different stocks or bonds, and the use of market and surprise cards regulate the market variations. Each company has a different value of risk, meaning it can be easier or more difficult to earn profits for the player. The higher the risk, higher are the players' profits. A dice rolling is used to determine if the stock has provided profits on that specific month.

Money Basket's main dynamics is to balance the player's portfolio, in order to ensure a steady growth during the game, but also providing some stocks with a higher risk, making it possible to earn higher profits.

DESIGN GOALS

The main goal of this game is educate young students in investing their own money, learning that they should have a diverse portfolio (avoiding all the eggs in the same basket) in order to guarantee a steady income, reducing their profits but

also reducing significantly their risk.

The secondary goal is to enable all players to be successful after the game ends, obtaining considerable profits in one year's game. Under this perspective, this design is similar to the Eurogame style (Woods, 2012), in which there are no direct attacks between players, and each player's growth through the game is his/her own merit.

However, one player may influence others indirectly. This may happen since several players may have the same stocks. Thus, when the first player assesses his/her return on that investment, other players who also have that stock should be affected. However, the success or failure of the stock in that specific month is not the player's fault, since it is decided by chance (a dice roll, in the game).

This may also provide a kind of collaboration between the players, in which each player might want to help another to achieve both higher results.

A third goal, and an important one, is the replay value of the game. With different investment strategies, the game should provide a fun environment, that provides several ways of learning for the player.

USAGE METHODOLOGY

The game itself can be played in a short period of time, about 20 to 30 minutes. Briefing and debriefing phases should occur when using the game in a classroom situation.

During the briefing the instructor should present the basic rules of the game, according to the appendix A of this article. The instructor also has to provide the materials for the game, which are a printed set of cards and a board, a set of dices (one four-sided, one six-sided, one eight-sided, one ten-sided and one twelve-sided), and a set of tokens to represent the money. If the instructor doesn't have the appropriate set of dices, he/she can use a mobile app that simulates them.

Preferably, a mock round can be done to clarify some points about the rules and basic mechanics. The game has twelve rounds, one for each month of the year.

After the end of the game, a debriefing period should be provided in order to consolidate the experience and gather feedback.

THE GAME MODEL

In this section, it is described the characteristics of the simulation model of the game, based on the stock market literature.

ASSET CHOICES

For simplification, there are only four different markets available: sales, oil & gas, mining and banking. Each sector has three companies, with different intrinsic risks. For each risk is associated a stock price and a “profit/loss” value. A higher risk stock has a higher “profit/loss” value, meaning it has a smaller chance of success, but if succeed it provides a higher profit. If not succeeded, however, the player has a larger loss.

Each stock card is influenced by commodities prices, inflation, dollar exchange or interest rates, depending on its market.

Two other assets are available in order to enable the player to balance his/her portfolio: multimarket funds, which groups several stocks, reducing the risk of a traditional stock, and the government bonds, which has the lowest risk possible, meaning it is a stable choice for the player, despite of its low return.

MARKET CARDS

Another set of cards represent the market variations on that month. It is played before the players change their portfolio, creating the main strategic factor of the game. The market cards “force” the players to sell some stocks and buy others.

Each card may present some variation on macroeconomic indexes or commodities prices, changing the stocks risks accordingly (Gurtis, 2008; Beattie, 2006; Ong, 2014; Zucchi, 2013). The card changes the base risk of the asset card that is affected. For example, a market card listing an increase on the oil price may change de risk of an oil company from the default 1d6 (one six-sided dice) to 1d4 (one four-sided dice), simulating that the price increase may favor the company, granting bigger profits and thus, increasing the company’s value.

EVENT CARDS

The last set of cards is the event card, which present to the players an unpredictable event happened in the country or in the world, such as a corruption scandal inside a specific company, wars or a sudden market booming.

The event card has a higher priority than the market card, in case of any conflict. The modifications applied due to the event card is analogous to the market cards.

MARKET INDEX

Another variation applied to the asset cards is the market variation. The market can be in the states “bull

market” (increasing), “stable market” (default) or “bear market” (decreasing). At the start of each turn any player must roll a six-sided dice in order to determine the market index for that turn. The modifier must be applied to all assets, except the government bonds.

DEBRIEFING

The main goal of the game is to provide a learning environment and first contact with the stock market and the possibilities of increasing someone’s capital is the money is well managed. For this, purpose, a debriefing should be conducted with the players in order to discuss lessons learned.

The first topic is to discuss among the students the learning curve during the game, to notice if they improved their strategy after each turn. It is expected that the players learn that, despite its low potential profit, a government bond is a valuable asset in someone’s financial portfolio, since it provides steady income, used to invest in other assets.

The second topic is to understand if the students learned the possible variations to the market, such as a decrease of a commodity price, or the increase of inflation. Also, the students might face the dilemma of keeping a high profitable asset with

a higher risk in that turn with the hope of having a lower risk in posterior turns, or selling it in order to buy more reasonable assets.

Finally, although this game grants the winning to the player with the highest capital by the end of the game, it also stimulates the idea that several players can be successful in the stock market, with different strategies.

CONCLUSION

This article proposes a classroom game to teach students how to operate in the stock market, allowing them to diversify their portfolio with several options like stocks, funds or bonds. The students also learn how to respond to the different market conditions, changing their portfolio to riskier or safer combinations during the game’s year.

Finally, the game offers a considerable replay value, since the different cards provide different market conditions on each game, enabling modifications in the player’s strategy in order to succeed.

Game rules are presented in appendix A so the players can print and use for help during the game.

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