A Price Forecasting Model of Magic: The Gathering Cards

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Introduction & Background

- Magic: The Gathering is a collectible card game with an active secondary market for playing cards.
- Object of the research project: develop a statistical model to explain & predict price movements of “Rare” & “Mythic Rare” cards from sets seen in standard play; 406 cards in total.
- Built a software tool using PHP to scrape daily price data from third party card trading websites, online card databases, & Magic Online tournaments.
- Built a MySQL database to manage scraped data.
- Used R statistical software to analyze data.

Main Findings from Regression Model:

Other things equal:

- Black/Green is the most valuable color combination, while Colorless are the least valuable once we control for rarity, type, etc.
- No significant difference in price between near mint & lightly played cards.
- Rare lands are the most valuable card type.
- Price of a card increases 5-7% for every showing in a winning Magic Online deck.
- Mythic Rare cards are 150% more valuable than Rare cards.

Example: Sphinx’s Revelation

Factors: Mythic Rare, Instant, Multicolor.

Conclusion

- We use our coefficients to derive percentages, since we use the natural log of card price as our independent variable.
- Regression $R^2 = 0.65$, so we explain about 65% of the variation in Magic card prices.

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