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### **Exploring Markets: Magic the Gathering - a Trading Card Game**

Daniel Weber

**IUBH Internationale Hochschule**

Main Campus: Erfurt

Juri-Gagarin-Ring 152

99084 Erfurt

Telefon: +49 421.166985.23

Fax: +49 2224.9605.115

Kontakt/Contact: [k.janson@iubh.de/](mailto:k.janson@iubh.de)

**Autorenkontakt/Contact to the author(s):**

IUBH Campus Hamburg

Prof. Dr. Daniel Weber

Waterloohain 9

22769 Hamburg

Email: [d.weber@iubh-dualesstudium.de](mailto:d.weber@iubh-dualesstudium.de)

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## **Exploring Markets: Magic the Gathering - a Trading Card Game**

**Prof. Dr. Daniel Weber**

**Abstract:**

*„Exploring Markets“ is planned as a paper series discussing niche markets with interesting characteristics. The paper on hand focuses on the secondary market of the trading card game “Magic the Gathering”, in which players play against each other with decks composed of cards they have collected. Recent high-volume trades raise the question if the investment in pop culture collectibles in general and in Magic the Gathering trading cards in particular can be considered as a legitimate and viable investment form. To answer this question, price developments and market characteristics are analyzed. The paper explicitly aims at people that have never heard of Magic the Gathering and are curious about its basic mechanisms and economics.*

**Keywords:**

Market Study, Trading Card Games, Collectibles

**JEL classification: Z19**

## Introduction

In January 2021, the card Black Lotus (Alpha Edition) of the trading card game Magic the Gathering sold for 511,000 \$ on eBay.com, topping the current record of 250.000 \$ paid for a single card. On eBay.de there is a current offer for the same card in a slightly worse condition for 195.000 €. On the low end of the market, traders discuss investing in cheap cards as “penny stocks”, utilizing 200%-400% gains on 1\$ cards (Sharman, 2020).

What brings people to invest large sums in basically printed cardboard and what is the appeal of Magic the Gathering in particular? Like everything else, the Internet has drastically transformed the market for collectibles. Transaction costs for supply and demand to meet have been reduced considerably by online trading platforms and transparency has been increased by allowing for tracking and analyzing historical and current pricing data. In other words: the times people would get regularly ripped off by shady traders in a local game store are almost over. Information asymmetries diminish and the market becomes more efficient. Nowadays market participants can trade cards online and make informed valuations, relying on specialized services that authenticate cards, further reducing risks and the potential for scams. With these changing conditions, the market becomes more accessible for players, collectors, and investors. With the rising mainstream approach of participating in this comparably new market on the one hand and all its volatility and complexity on the other hand, it is compelling to investigate its drivers and participants. Hence, this paper aims at introducing the secondary market for printed Magic the Gathering cards (in the following “Magic cards”), highlighting the key players, mechanisms, and developments.

This paper is structured as follows. The next chapter describes the supply side of the market with: Wizard of the Coast being the sole company that designs and prints Magic cards, intermediates, and related businesses important for the transaction of Magic cards. The third chapter explores the demand side of the market, describing different motives for buying cards and subsequently identifying drivers for market prices of cards. The paper ends with a summary and conclusion.

## Supply – Wizards of the Coast, intermediates, and related businesses

“Magic the Gathering” is a trading card game created in 1993 by math professor Richard Garfield and is distributed by the company Wizards of the Coast, which be-ongs to Hasbro since 1999. It paved the way for other popular trading card games like “Pokémon” and “Yu-Gi-Oh!”. Magic is part of Hasbro’s ‘franchise brands,’ a segment that accounted for \$2.45 billion in net revenue for the company last year, bigger than its emerging, partner and gaming brand units combined (Deaux, 2019).

Magic cards are printed in 11 languages and Wizards of the Coast sold 20 billion cards between 2008 and 2016 alone (Edwards, 2020). According to Wizard of the Coasts lead designer Mark Rosenberg printed cards are the core of Magic the Gathering, still, in recent years Wizard of the Coast has increasing success with its digital version Magic the Gathering: Arena, which ranked 11th in the most impactful PC Games in the first quarter of 2020, beating competitors like “World of Warcraft” and “FIFA20” (Seck, 2020). It will become potentially even much more successful when it is implemented for Android operating systems in 2021.

Magic cards are printed with different rarities (common, uncommon, rare, and mythic) and are sold by Wizard of the Coast only in randomly assorted packs (called booster packs) which has become the defining aspect of trading card games and is major driver of their economic success (Limbert, 2012). The recommended retail price of a single pack is 3,99 \$. Wizard of the Coast does not sell single cards, so people that are trying to get a specific card either must buy enough packs till they randomly get it, or they buy it on the secondary market.

Before digital marketplaces created price transparency for buyers and sellers and allowed for easier transaction at least on a national level (international transactions are still problematic due to high shipping costs), trading cards were sold and bought in local hobby shops or on tournaments and conventions. The only reference for prices were taken from hobbyist magazines, whose editors in turn called hobby shops to ask about prices for cards (D’Anastasio, 2020). Today many specialized (tcgplayer.com, cardmarket.com, cardkingdom.com) or general (ebay.com, craigslist.com) online marketplaces reduce the cost and frictions of trading cards immensely. There are also platforms that track historical price data and write articles discussing investment opportunities and noteworthy price trends (mtggoldfish.com, mtgprice.com, mtgstocks.com). That there is a huge interest in the financial aspects of Magic the Gathering can also be seen in the highly active sub-reddit “mtgfinance” which has

over 78.000 members at the start of 2021 or by the success of the YouTube channel “Alpha Investment” which has over 300.000 members and gets over a million clicks for videos discussing investment strategies for Magic cards or opening rare packs of older Magic sets. With rising prices there is an increased threat of counterfeits, which led to the success of companies that “grade” Magic cards (Professional Sports Authenticators (PSA), Beckett Grading Service (BGS)). A graded Magic card is authenticated and encapsulated in a plastic case to preserve its condition. The quality of the card evaluated, and numerical grades are given and printed on its label. Grading cards increases the resell value of a card but costs about 25 \$ per card, so that it is only reasonable for high value cards.

## **Demand – Magic the Gathering Players, Collectors, and Investors**

### **Players**

The most straight forward reason to buy Magic the Gathering cards is to play with them. In contrast to other collectibles, which often held no intrinsic value apart from aesthetics, Magic cards derive intrinsic value by their playability. There are approximately twelve to fifteen million people playing the game worldwide, and several pro tours with million dollars in prizes. With “Magic the Gathering Arena” Hasbro established a successful freemium digital version of the game with a reported three million active users (Deaux, 2019).

To play the game, each player (in most formats two) assembles a deck usually composed of at least 60 cards from his or her collection. Better cards immensely increase one’s chances in winning. The many possible combination of cards sets Magic apart from other games, as it allows for immense customizability. The process of building a deck can be influenced by predictions of what cards potential opponents put in their deck because some cards work better against other cards, comparable to rock-paper-scissors. This “game outside the game” which starts at choosing the right cards and playing the right type of deck is called metagame (Flores, 2014).

The main criteria for players to value cards is therefore how good a card performs in the current metagame of different archetype of decks. That is why there are often substantial price shifts for cards after a pro player proved its value in terms of playability by winning with a deck based around it in big tournaments.

The usefulness of cards however shifts as Wizard of the Coast constantly issues new cards and tweaks mechanisms for existing cards. Since 1993 over 20.000 different Magic cards have been released, which are designed and printed in sets four times a year. New sets often also introduce new playing mechanism which influence the utility of older cards.

Players that want to play according to official tournament rules can choose to play in different formats, allowing for different sets of cards to be legally played, assuring that decks have comparable power levels. Players can play the “Vintage”-format which allows for cards from all sets to be played. Prices for decks that can compete in “Vintage” are expensive, this format is therefore not very accessible for new and younger players. This led to Wizard of the Coast introducing formats like “Standard” which allowed cards to shift out of rotation, which means older cards are no longer legal to play in the format when a new set is released. New sets regularly replace an older set and its cards, whereas the format generally consists of the most recent five to eight standard sets. A card that shifts out of rotation often loses value because its playability is restricted. Table 1 shows the price difference to obtain the cards that are needed to construct the most popular decks in “Vintage” and “Standard”.

Table 1: Comparison of deck prices in different formats for most played decks

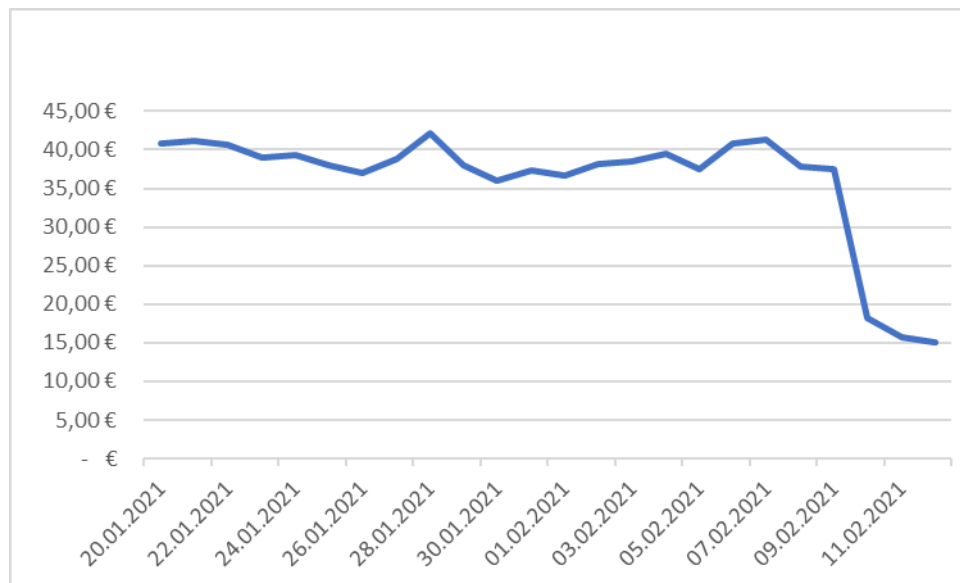
Deck Archetype / Metagame*	Format	Price printed cards complete deck
Blue Xerox / 17,6 %	Vintage	33.240 \$
Gruul Adventures / 29,2 %	Standard	264 \$

\*Popularity of deck archetypes in official tournaments

Source: data from www.mtggoldfish.com, retrieved February 15th, 2021

Card restrictions in the Magic tournament environment are not only linked to the played format but also to a list of cards that are banned or restricted by Wizard of the Coast because they are too powerful and would often “break” the game. Which cards get restricted (only one copy can be put in a deck instead of four) or banned (the card cannot be used at all) is decided by the DCI, which is the official sanctioning body for competitive play by Wizards of the Coast and announced on MagictheGathering.com. The announcement of a ban or restriction can have a significant influence on the price of a card, a recent example can be seen in figure 1, which shows the price development of the card “Uro, Titan of Nature’s Wrath” before and after a ban, which was announced on February 10<sup>th</sup>, 2021 and saw a price drop of 51%.

Figure 1: Price Development Uro, Titan of Nature’s Wrath before and after ban



Source: data from www.cardmarket.com, retrieved February 15, 2021

This regulation effect on card prices also works the other way around, when a card gets unbanned (which happens much rarer) its price rises significantly at least when it still is useful in popular formats. In its role as a form of regulatory agency Wizard of the Coast has absolute decision power when it comes to banning or un-banning cards and therefore on prices on the secondary market, which highlights one of the major problems with Magic cards as an investment asset.

Now that we know the basic mechanisms of constructing decks and playing in different formats, it is time to learn more about the people playing Magic. Wizard of the Coast has different types of players in mind when designing new cards. These “personas” were given the names Timmy, Johnny, Spike and Vorthos and have distinct motives for playing and enjoying the game. According to Mark Rosewater, senior member of Wizard of the Coasts R&D department, the player types can be described as follows:

*“Timmy is what we in R&D call the “power gamer.” Timmy likes to win big. (...) Timmy is motivated by fun. He plays Magic because it’s enjoyable. Timmy is very social. An important part of the game is sitting around with his friends. (...)*

*Johnny is the creative gamer to whom Magic is a form of self-expression. Johnny likes to win, but he wants to win with style. It’s very important to Johnny that he wins on his own terms. As such, it’s important to Johnny that he’s using his own deck. (...)*

*Spike is the competitive player. Spike plays to win. Spike enjoys winning. To accomplish this, Spike will play whatever the best deck is. Spike will copy decks off the Internet. Spike will borrow other players’ decks. To Spike, the thrill of Magic is the adrenalin rush of competition.”*  
(Rosewater, 2002).

The reason for the persona of **Vorthos** to buy magic cards are rooted in motives linked to collecting cards and therefore described in the following chapter.

## Collectors

Magic cards are not only bought by players but also by people who like to collect them. Psychological studies describe this motive with pursuing closure/completion/perfection (Danet and Katriel, 1989). Sociologically collecting can also be linked to the desire to maintain status in a social group (Belk, 1995). Wizard of the Coasts R&D department developed the persona Vorthos to describe a typical collector of magic cards:

*“Vorthos is the guy who started collecting cards because he liked the art, then read some Magic novels, then saw his favorite characters appear on some cards and decided to learn to play. There are a lot of Vorthoses out there. Some collect cards, but might not even play. Some have a hoot getting artists to sign their cards. Some don’t read flavor text ‘til after they finish the novel in case it might spoil the ending. Vorthos understands that Magic can be fun even when you’re not playing the game.”* (Cavota, 2005).

Getting a specific card to complete a collection can be an expensive endeavor, dependent of the rarity of the card. A booster pack of Magic cards comes with 10 commons, 3 uncommons, 1 basic land, 1 token or advertisement, and 1 rare or 1 mythic rare. The chance of getting a mythic rare card is about 1 out of every 8 packs. There is also the chance of getting a premium or foil version of a card, which is a card that has gone through a foiling process that makes it reflective and gives it a glossy finish. Foil cards were introduced specifically for collectors as there is no difference in playability between a foil and a non-foil card. The odds of getting a foil card are about 1 in every 70 cards. It is not surprising, that the rarity of a card has direct implications for its price on the secondary market. To get an idea about price differences between different rarities and foil vs. non-foil cards prices for the latest set Kaldheim (as of February 2021) are displayed in table 2.

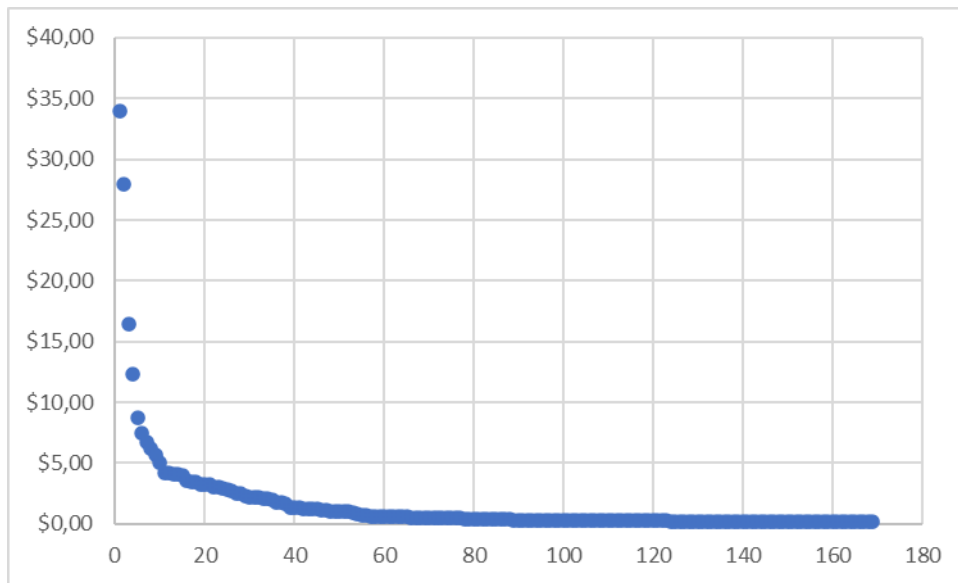
Table 2: Price Differences Rarity

Rarity	Mean (SD) Price Single Card non-foil	Mean (SD) Price Single Card foil
Mythic rare	7,44 (9,05) \$	8,79 (11,00) \$
Rare	1,76 (2,00) \$	2,51 (2,81) \$
Uncommon	0,48 (0,66) \$	0,58 (0,35) \$
Common	0,19 (0,01) \$	0,31 (0,06) \$

\*Set *Kaldheim*; Source: data from [www.mtggoldfish.com](http://www.mtggoldfish.com), retrieved February 15, 2021

The data shows an average price premium of 37% for foiled cards. Noteworthy are the high standard deviations of average card prices (except for common cards) which can be attributed to only a small subgroup of cards being expensive while most cards are cheap. The typical distribution of Magic card prices therefore is heavily skewed which can be seen in figure 2, which shows the price distribution of the latest set *Kaldheim*.

Figure 2: The Long Tail of Card Prices (Price / Number of Cards)



\*Set *Kaldheim*; Source: data from [www.mtggoldfish.com](http://www.mtggoldfish.com), retrieved February 15, 2021

Another important factor for card prices is their condition. Thin printed cardboard deteriorates over times, and especially cards that are regularly played suffer from corner wear and scratches. Judging a cards condition is subjective and often leads to arguments when selling or buying cards online. The condition categories most used on online markets are “near mint”, “lightly played”, “moderately played” and “heavy played”. Online markets usually publish condition guides on their website. When a cards condition is decreased by a category its price usually also decreases for at least 5 to 10 percent (Cavalleti, 2018).

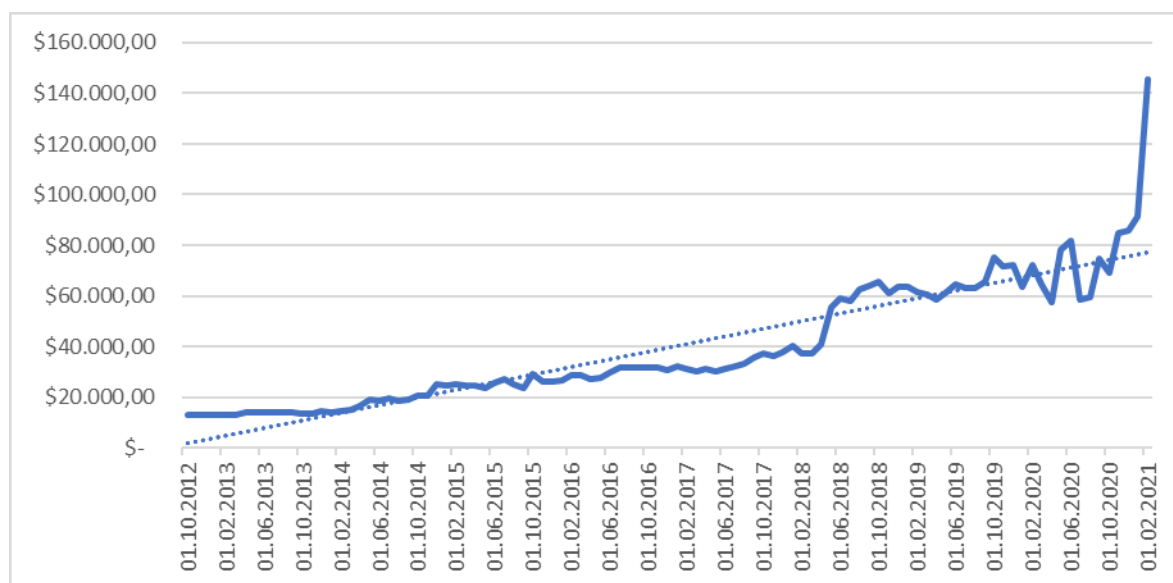


Collecting cards from out-of-print sets is significantly more expensive than cards from recent sets, as of February 2021 buying every card of the most recent set “Kaldheim” costs on average 290 \$, whereas buying the first Magic set printed “Alpha” costs about 240.000 \$ (Data from [www.mtggoldfish.com](http://www.mtggoldfish.com)). Cards signed by the artists who did the artwork on the card can also achieve a price premium – the most famous example is the “Black Lotus” mentioned in the Introduction that was sold for 511.000 \$, part of its appeal for collectors was that it was signed by the original artist.

### Investors

In a survey among people buying collectables by Ruth Formanek, 22 percent of respondents stated financial motivations for their purchases (Formanek, 1991). For Wizard of the Coast speculations on their cards has been a difficult issue. They do not have a customer persona for someone who sees Magic card primary as an investment asset, and they do not design cards with type of persona in mind. They also do not profit from rising card prices on the secondary market and even stated publicly that they regard this trend as unhealthy for the longevity of the game because it prevents people from playing with the cards and can be a barrier to entry for new players (Planet Money, 2015). When Wizard of the Coast first noticed that Magic cards became a subject of speculation in 1996, they reacted to the price inflation by printing more cards and even reprinting some of the more sought of older cards in a set called “Chronicles”. Cards that were rare and highly collectable were suddenly ubiquitous and their market prices crashed. This devalued a lot of people’s card collection and angered especially the loyal customer base (Rosewater, 2013). As a reaction to the outcry caused by “Chronicles”, Wizard of the Coast tried to appease their customer base by making a promise that certain cards would never get reprinted. These cards are on the so called “Reserved List” which includes 572 cards. It is questionable if Wizard of the Coasts promise is legally binding and in March 2020, they even removed 22 (low value) cards from the Reserved List which did not lead to much customer pushback, which could change if more valuable cards were removed from the list or the list itself would be abolished. The Reserved List is a controversial topic amongst the Magic fanbase as it brings player who want to get their hands on some highly playable older cards and investors who do not want their collection to lose value at odds. The guaranteed scarcity of cards on the Reserved List makes them a logical target for investors and the long-term price development show an average annual increase of 30% in prices from the start of 2012 to the End of 2020. Since the start of 2021 prices increased even more, seeing a price increase of 54.427 \$ in January alone (see Figure 3).

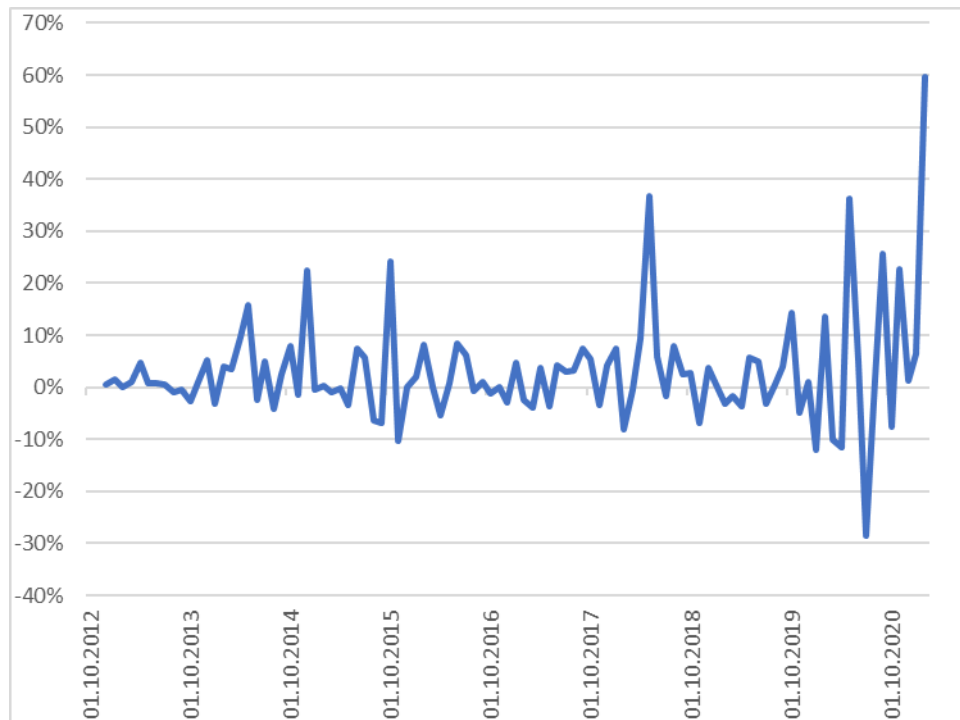
Figure 3: Price Development Reserved List (2012-2021)



Source: data from [www.mtggoldfish.com](http://www.mtggoldfish.com), retrieved February 15, 2021

Even with the overall positive trend, Magic card prices are subject to high volatility (see figure 4). Excluding the recent price rally of 2021 monthly price changes have a standard deviation of 9%.

Figure 4: Monthly Price Changes in % Reserved List (2012-2021)



Source: data from [www.mtggoldfish.com](http://www.mtggoldfish.com), retrieved February 15, 2021

There are discussions about the connection of spikes in Bitcoin prices and Magic cards, as valuable Magic cards seem to be used to diversify portfolios and avoid taxes (D’Anastasio, 2020). Historically there always has been a strong connection between Bitcoin and Magic: In 2013 the website Mt.Gox (short for “Magic: the Gathering Online Exchange”), that started with the idea to track Magic card prices before it pivoted to handling cryptocurrency, dealt with an estimated 70% of all Bitcoin transactions before it was hacked and had to close in 2014. As an investment asset Bitcoin suffers from some of the same drawbacks as Magic cards, as they do not generate dividend or rent and dependent on a constant or increasing demand. Magic cards have the additional problem of having high transaction costs, which will be discussed in the final chapter which summarizes the findings.

## Summary and Conclusion

The paper on hand aimed at explaining the basic mechanisms and economics of the secondary market for Magic the Gathering cards to curious readers that had no or little knowledge of its existence and to provide a base for discussion. Regarding Magic cards as an investment form, the following conclusions can be drawn:

The prices for Magic Cards that are on the Reserved List grew on average 30% per year over the last eight years. The past is not always a good predictor of the future when it comes to investments, but it gives us a good idea about the monetary evaluation of the past and current demand and supply equilibrium. Future price development will depend on the most basic level on the scarcity of cards and their demand: the main question here is if Wizard of the Coast honors its promise to keep the cards on the Reserved List save from re-prints and if Magic the Gathering keeps popular. There is an argument to be made that if Magic loses attraction as a game it will lose interest among people collecting cards, as we have discussed earlier influence on a cards value is derived from its playability. The recent success of Magics digital version Magic the Gathering: Arena introduces a lot of new player to the game, but the data so far is inconclusive about the transition of those players to the pauper version (worst case is a cannibalization effect).

- There is a skewed price distribution. A lot of the markets volume is driven by very few cards. Buyouts of cards are commonplace and building a diversified portfolio of high-volume cards can be troubling due to limited sales offers for specific cards.

- The influence of playability on a cards value favors expert knowledge especially about the meta game, potential bans, and the development of played formats. It is challenging for investors with little understanding of the game to factor in these aspects when buying and selling cards.
- There is a high volatility in card prices, so there is a high risk especially for short term investments.
- Buying and selling Magic cards has become much easier in the last years, there are still high transaction costs for finding transaction partners, negotiations about card conditions or card gradings and shipping. In recent years, the risk of high-quality counterfeits has increased and should be taken into account.

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