Business cycle and asset valuation in the gaming industry

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A R T I C L E   I N F O

A B S T R A C T

This study values takeover targets in the gaming industry and finds that privately held takeover targets command lower valuations than publicly traded firms. On average valuation multiples are 46% lower for private targets relative to public firms. This finding has significant implications for owners of privately held gaming companies who may consider a takeover as an option to maximize shareholder value. The study examines the effect of recessions and expansions on valuation. The discount of private targets relative to public targets is present at all stages of the business cycle. Acquisition targets receive lower valuations in recessions and the relative discount for private gaming firms deepens further in recessions. Jointly, the results suggest that recessions have an important impact on the market for corporate control in the gaming industry.

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1. Introduction

Gaming is a large and economically important industry. Much research focuses on understanding gambler behavior (Hong & Hochan, 2005; Moss, Ryan, & Wagoner, 2003; Mowen, Fang, & Scott, 2009; Soane, Dewberry, & Narendran, 2010; Thaler & Johnson, 1990; Vong, 2008). In terms of the impact of gaming externalities on local communities and the economy we see that this industry has unique characteristics (Braunlich, 1996; Chhabra, 2007; Kwan & McCartney, 2005; Smeral, 1998).

However, few studies consider investment behavior in the gaming industry, which as a regulated industry we may expect to see variances from norms established in the general finance literature. Canina (1996) considers IPO behavior in the gaming sector, but more work is needed in this area. The present paper extends the understanding of the gaming industry's investment behavior by studying the pricing of mergers and acquisition (M&A) transactions involving gaming companies or gaming assets. The economic significance of M&A transactions in the gaming industry is substantial, especially considering the 3063 deals announced from the beginning of 1980 through 2009, with a total target value of $916,358 million and an average target value of $299 million. Focusing on one industry rather than all-inclusive study is important to obtain industry-relevant results and managerial implications (Jang & Young, 2009; Smith, 2006). The findings in this study have implications to corporate executives as well as potential investors interested in the gaming industry.

M&As are regarded as an important corporate strategy (Collins, Holcomb, Certo, Hitt, & Lester, 2009; Huyghebaert & Luypaert, 2010;

Kobeissi, Xian, & Haizhi, 2010; Pablo, 2009). Specifically, acquisitions along with IPO's are methods for investors to monetize their investments through the public and private markets. Acquisitions may bring many benefits, but at the same time they involve substantial risk. Firms can eliminate competitive threats or gain economies of scale or market power through mergers. Firms lacking growth may undertake acquisitions to increase their growth rates. Managers propose that the rationale for an acquisition is an increase in value derived from a variety of sources, such as economies of scale and/or scope from the combined organization and the elimination of poor managerial practice. One of the fundamental reasons why two firms combine their resources is to create value by pursuing these potential synergies between them.

An abundance of empirical research examines the performance of acquirers across all industries and in general fails to find consistent evidence of improvements in value after the acquisition. Lees (2003) points out that the lack of value creation is an unanswered question when it comes to M&A. Some blame it on paying too much for an M&A deal or overvaluing the synergy effects while others blame it on the integration process and the fact that those who are responsible for the implementation are often not involved in the previous stages before the deal is made. Researchers also explore how characteristics of the target selection and negotiation processes can lead to overpayment for a target by an acquirer, dooming the transaction from the very start (Hayward & Hambrick, 1997; Morck, Shleifer, & Vishny, 1990). Since the value and realization of potential synergies are directly influenced by the price paid for the target firm, the main objective of this paper is to evaluate the pricing of gaming assets. Since overpayment may prevent firms and their investors from realizing acquisition benefits in the gaming industry, correct valuation of the target is a key factor in the M&A process.

Correct valuation is a fundamental criterion of a successful merger as in all investment decisions (Lee & We, 2009), as long as the net present value (NPV) of an investment is positive value is enhanced. The NPV is

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simply the difference between the post merger value of the integrated firm, V^C, and the sum of the paid acquisition price for the target firm, P^T, and the value of the acquiring firm prior to the merger, V^A. This difference, the NPV, represents the value of the realized synergy. The total synergy value of a merger may differ from the realized synergy due to differences between the acquisition price of the target and the stand alone value of the target, V^T. Total synergy equals the difference between the combined firm value, V^C, and the sum of each individual firm value, $(V^T + V^A)$, where V^T and V^A are the stand alone values of the target and acquirer, respectively. The value of this difference includes the acquirer's valuation of control as well as operating and financial synergies. If the price paid for the target, P^T, is less than the standalone value of the target, V^T plus the value of the total synergy, then the NPV will be positive, value is created and the merger is successful. However, if the price exceeds V^T plus the value of the total synergy, value is destroyed.

Performance differences occur between acquisitions of private and public targets (Chang, 1998; Officer, 2007). Differences in information availability on private versus public firms influence both the acquirer's choice of target as well as its performance. Lack of information on private firms increases the risk associated with not evaluating properly the assets of the private targets (Reuer & Ragozzino, 2007). Meanwhile, the lack of information available on private firms provides more opportunities for acquirers to exploit private information and thus gain abnormal returns from buying private targets (Makadok & Barney, 2001). The market of corporate control for public firms serves as an information processing and asset valuation mechanism for all potential bidders. Hence, in terms of value appropriation, the market for corporate control of public firms is more competitive than that of private firms. In addition, acquirers of private targets can better appropriate the value of their private information thanks to the weaker bargaining power of private targets. Bidder competition and bargaining power of public targets are key elements of value appropriation for target shareholders. Ma, Whidbee, and Zhang (2012) systematically examine these issues for a large sample of listed and unlisted acquisitions.

The impact of economic conditions is important as well since many researchers find that a greater number of merger transactions occur in expansion years when aggregate activity is high (Ma & Ukhov, 2011; Smeral, 2009). In addition, Shleifer and Vishny (1992) develop a model in which discounted prices are accepted by targets because negative economic shocks force firms into fire sales of assets. Empirical evidence of their model is reported in Kruse (2002).

Acquisition prices of both public and private targets are reported and readily available. However it is not straightforward to measure the price premium or discount relative to the fair value of the assets since the fair value is unknown. This problem is overcome by following a technique developed by Officer (2007). He compares acquisition multiples for private targets to acquisition multiples for portfolios of comparable publicly traded targets. Kaplan and Ruback (1995) find that this technique provides lower average valuation errors in their setting.

We focus on the influence of acquirer listing status, target listing status, and especially, the economic condition on the absolute and relative pricing (private vs. public targets) of gaming companies and gaming assets. Our investigation starts with a parsimonious Gordon growth valuation model to explore how target listing status and economic shocks influence valuation. The predictions are supported by the data. Specifically, we find the following results. First, private targets receive lower valuation multiples than publicly traded targets within the gaming sector. More specifically, when all acquirer types (public and private acquirers) are considered jointly, we find that private gaming firms are sold at lower valuation multiples than public firms; on average, valuation multiples are 46% lower for private acquisition targets than for public targets; and, private firms receive lower multiples relative to public firms, in acquisitions by both public and private acquirers.

We then investigate the acquisition discount further. The study finds that the business cycle – recessionary and non-recessionary periods –

plays an important role in the valuation of takeover targets. Our results show that multiples paid during recessions are lower than valuation multiples paid during non-recessionary periods; the discount of private targets relative to public targets is present both in expansions and in recessions; the discount for private firms deepens in recessions; and jointly, the results suggest that recessions have an important impact on the market for corporate control within the gaming sector. These results are especially important given the significant number of private acquisition transactions that occurred during our sample period.

The remainder of the paper is organized as follows. We start with a parsimonious valuation model to explore how target listing status and shocks to economic conditions influence valuations in M&A transactions. We then report the empirical findings. After a brief discussion of the related literature we discuss the managerial implications and conclude.

2. Conceptual approach

The Gordon growth model is the framework followed in this study. The effect of recessions on other valuation multiples can be analyzed in a similar manner. Without loss of generality, we focus on P/E ratio to illustrate the conceptual framework. According to this valuation framework, the value of the business, P, is given by,

$$P = \frac{E}{r-g}, \tag{1}$$

where E is the value of earnings from the business, r is the discount rate that reflects the risk of the future earnings stream, and g is the expected growth rate for earnings. Eq. (1) can be re-written in terms of Price-to-Earnings ratio, or P/E ratio, $P/E = \frac{1}{r-g}$.

The ratio reflects both the risk of the business (the discount rate r) and the growth prospects of the business, the growth rate g. All else equal, firms with lower growth prospects (lower g) will have a lower P/E ratio.

Within this valuation framework, economic shocks, such as recessions, can impact value P by affecting the discount rate r and the expected growth rate, g. Consider these effects. In recessions, growth prospects of firms are re-evaluated and are adjusted downward. A lower growth rate, g results in a lower valuation multiple, P/E. Stated formally, P/E is an increasing function in g,

$$\frac{\partial \frac{P}{E}}{\partial g} = \frac{\partial}{\partial g}\left[\frac{1}{r-g}\right] = \frac{1}{(r-g)^2} = \left(\frac{P}{E}\right) > 0.$$

Another source of the effect can be due to changes in the discount rate. There are several reasons why worsening economic conditions can lead to an increase in the discount rate. As appetite to take risks decreases in recessions, or investors are more risk-averse, the discount rate increases. In addition, the cost of capital may rise in recessions due to worsening liquidity conditions (Goddard, Tavakoli, & Wilson, 2009; Goyenko, Subrahmanyam, & Ukhov, 2011; Goyenko & Ukhov, 2009). A higher discount rate results in a lower valuation multiple, P/E.

$$\frac{\partial \frac{P}{E}}{\partial r} = \frac{\partial}{\partial r}\left[\frac{1}{r-g}\right] = \frac{-1}{(r-g)^2} = \left(\frac{P}{E}\right)^2 < 0.$$

2.1. Implication 1: valuation is lower in recessions

We can also use this framework to evaluate the effect of recessions on relative valuation of private targets vs. public targets. Define excess valuation multiple, Excess P/E, as the percentage difference