A System Dynamics Model of the American Collectable Comic Book Market

John Wyburn, Department of Computing and Mathematical Sciences, University of Glamorgan, Pontypridd, UK

Paul Alun Roach, Department of Computing and Mathematical Sciences, University of Glamorgan, Pontypridd, UK

ABSTRACT

The American collectable comic book is an unconventional investment of growing importance and cultural significance. Here the price history of the comic book is analysed into three markets, that of the new, the collectors’ market, and the investors’. System dynamics is employed to model these markets, and different dynamic hypotheses are employed to distinguish between them in structural, as well as historical, terms. The model is tested against real-world data, and used to identify factors other than supply and demand that are important determinants of goods value. Conclusions are drawn with respect to the more general market for collectables.

Keywords: Collectables, Forecasting, Investment, Market, System Dynamics

1. INTRODUCTION

This paper presents a system dynamics model of the establishment and evolution of collectible comic book prices over a time horizon of up to seventy-two years (1939-2011). The value of the American comic book as an investment has been widely recognised since at least the establishment of specialist price guides in the 1970s. The appreciation and inflation-hedging characteristics of comics were examined by Ang et al. (1983). Buyer and seller strategies in online auctions for collectable objects have been identified (Brint, 2003), and the effect on sale price of comic books due to certification, and other assurances of quality, has been examined within the context of online auctions (Dewally & Ederington, 2006). Wyburn and Roach (2012) presents an hedonic analysis of prices in the established market. Throughout this time, the market has expanded greatly, and has experienced several interesting booms and bubbles, both as part of

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the general economy and internally. Further, third-party bodies have emerged that offer services such as restoration, investment advice and ‘commodification’ of comics (grading, certification and archival storage), and these services all impact on price.

A reliable model of these phenomena is now essential, in that the value of the market has become of considerable economic importance. GPA, the analysis and reporting service for online comic book sales, currently (October 2009) reports on sales totalling $190 Million (GPA, 2009). Rare, high grade comics command prices normally associated with the fine art market; a high grade edition of Action Comics #1, featuring the first appearance of Superman, sold for $1.5 million on 29th March 2010 (“Superman comic sells”, 2010). The motivation for such a model, therefore, is threefold:

1. To take advantage of SD methodology to model a market emergent in living memory, and hence better-documented than any of comparable importance (with the possible exception of the IT markets, e.g. those for mobile phones and computers, which do not have as long a history, are restricted to new and second-hand with no collectible markets, and whose development is partly obscured by proprietary restrictions on data);
2. To establish the use of SD in emergent and collectible markets in general;
3. To supply a pricing and price-prediction tool for the use of investors, retail outlets and auction houses.

The system dynamics (SD; Sterman, 2000) methodology was chosen as the most appropriate in light of the large number of and complex interactions between the factors contributing to price. SD has been fruitfully applied to the interaction of populations with respect to contagion, literally (Roberts & Dangerfield, 1990), culturally (Wyburn & Hayward, 2009) and with respect to growing markets (Maier 1998). This paper extends the methodology to the spread of an interest with an evolving dynamic of propagation, initially motivated by personal factors (the collectors’ market), and finally by pecuniary factors (the investors’ market). Further, the interface options of an SD package will greatly facilitate its use by market participants.

The dynamic hypotheses are stated in Section 3 and tested in Sections 4 and Section 5, through the use of a comprehensive set of comic price data, gathered from both industry-recognised price guides and, for the period between comic publication and the emergence of recognised price data, first-hand dealer accounts and extensively researched dealer price lists. Comments on the prediction of prices are offered in Section 6. Concluding remarks, including the contribution of the present work to an understanding of collectibles markets in general are presented along with possible future work in Section 7.

2. THE AMERICAN COLLECTABLE COMIC BOOK MARKET

2.1. The Emergence of the Collectors’ and Investors’ Markets

The ‘modern American comic book’ is distinguished from earlier US children’s publications by a number of characteristics (Beerbohm & Olson, 2009): low cost (initially 10 cents); relatively short page counts (typically 32-68 pages); low quality printing in four colours; and distribution through newsstands. Such comic books began in 1933 (with the publication of Famous Funnies), and were afforded a low cultural status. Despite their popularity, with over 20 million copies of comics being published monthly in the mid-1940s, rising to a peak of nearly 75 million by the early 1950s, few copies were retained (Gerber & Gerber, 1989a). A survey of availability
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