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SCP-relevance and class-effect in performance – A comparative analysis of restaurants and petroleum firms

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ABSTRACT

The importance of industry-specific factors for a firm's performance has often attracted the attention of researchers, managers, and investment analysts. This research uses random-effect variance component analysis to examine the relevance of structure-conduct-performance (SCP) paradigm in the context of restaurant and petroleum/natural gas firms. The study further investigates class-effect in firm performance by analyzing whether the relative importance of industry-and-firm-level effects varies across different performance groups. Results suggest a direct relevance of the SCP paradigm and industry-specific factors for firm performance, and a distinct dominance of industry-effect over firm-effect regardless of the choice of accounting or value based performance measures. Results further reveal varying roles of industry and firm-level factors (corporate or strategic) across middle-of-the road and non-average (exceptional) performance groups. As such the importance of SCP paradigm and the strategic role of both industry-and-firm effect factors for value creation in US based restaurant firms is better understood.

1. Introduction

Predicting a firm's performance and identifying proper performance measures and performance determinants have been frequent concerns of Wall Street analysts, management experts and business researchers (Rumelt et al., 1994). Traditional industrial organization (IO) economists and their structure-conduct-performance (SCP) paradigm argued that industry characteristics influence a firm's performance (Mason, 1939; Bain, 1956; Mann, 1966). On the other hand, resource-based view (RBV) experts argued that a firm's resources, attributes, and actions are driving forces for performance (Wernerfelt, 1984; Barney, 1991). After Schmalensee (1985) and Rumelt (1991), many researchers further explored the relative influence of industry structure and firm-specific resources on a firm's performance. McGahan and Porter (1997), Bowman and Helfat (2001), and Brush and Bromiley (1997) identified industry and firm-level influences using random and fixed effect models. Hough (2006), McGahan and Porter (2003), and Brush et al. (1999) modeled the relationships between industry and firm effects, acknowledging the nested nature of these effects.

Within the realm of hospitality, very few researchers addressed the role of the SCP paradigm for explaining a firm's performance. Tavitiyaman et al. (2011), Chatoth and Olsen (2005, 2007), and Wong and Song (2006) addressed the role of environment and industry on hotel and restaurant performance. Tse (1991) and West and Anthony (1990) emphasized the importance of environment and organizational structure for the financial performance of restaurants. Despite some researchers' examination of the relevance of the SCP paradigm in the context of lodging firms (Davies and Downward, 1996; Davies, 1999; Pan, 2005), none explored the issue of SCP relevance for explaining the performance variances among restaurants or the class-effect in such variance that separates value-leading restaurants from inferior or average, middle-of-the-road firms. The current investigation addresses the previous deficiency in existent literature by testing the relevance of the SCP paradigm in the context of superior, average, and inferior performing restaurant firms. The restaurant industry provides an ideal setting to test the SCP paradigm given its unique structural elements (smaller barriers to entry, greater degree of horizontal and vertical product differentiation, soft supply constraints), basic conditions (such as product perishability and labor intensity, high turnover) and stronger vulnerability to economic fluctuations (including high failure rate). The expectation is that the findings of this research should contribute to improving the understanding

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of performance measurement, and enable financial analysts and hospitality experts to formulate more comprehensive and robust value- based performance forecasting models for restaurants.

This study revisits the subject of SCP relevance and industry- and firm-level influences on a firm's profitability and equity value using methodological modifications, enhanced performance measures, and the restaurant industry's data along with crude petroleum and natural gas industry as a control industry group with its contrasting industry structure (for example, significantly larger barriers to entry and capital investments, and much smaller degree of horizontal and vertical differentiation in products). The examination considers the relative importance of industry- and firm-level influence using a random-effect variance composition approach and firm-based cluster solutions obtained from a two-stage cluster analysis (Ketchen and Shook, 1996). In contrast to traditional approaches of Rumelt (1991), Schmalensee (1985), and McGahan and Porter (1997), the current study uses multiple measures of a firm's performance that are both value-based (economic profits per dollar capital employed and total market value per dollar capital employed) and accounting-based (return on assets and return on equity). Research results show that both industry and firm-specific factors significantly influence the overall profitability and equity value of restaurant firms. Such effects are significant regardless of the choice of accounting- or value-based measures. Results of this research further show that the relative importance of such effects varies across exceptional value-creating firms and middle-of-the road firms within the US based restaurant industry.

2. Antecedents and development of research questions

2.1. Theoretical background

The issue under consideration is whether or not an industry's characteristics influence a firm's performance. Traditional industrial organization (IO) economists and their structure-conduct-performance (SCP) paradigm provided the foundation for establishing the relationship between an industry's characteristics and a firm's performance (Mason, 1939; Bain, 1956; Mann, 1966; Porter, 1980). The main tenet of the SCP paradigm is that the structure of an industry and basic conditions influence buyers, sellers, and the conduct of firms. In turn, the conduct of firms influences the economic performance of the industry (Mason, 1939; Bain, 1956). Structure includes factors such as the number of buyers and sellers (demand and supply), product differentiation, vertical integration, diversification, barriers to entry of new firms, and barriers to exit. Basic conditions include variables such as technology, seasonality, consumer demand, production, elasticity of demand, substitutes, raw materials, unionization, growth rate, product durability, location, and economies of scale in production and purchasing supplies. A firm's conduct includes firm-level issues such as financial, operational, marketing, and managerial strategies or tactics. Examples of financial strategies may include a firm's working capital, leverage, dividend payout policies, or even strategies for collusion or merger. Other examples of conduct may include strategies for advertising, research and development, pricing, plant investment, legal tactics, or choice of product-lines. Performance includes production efficiency, efficiency of allocating resources, product quality, technical progress, overall profitability, and increase in value.

Structural elements often vary among industries. Considering product differentiation (ability to distinguish a product from the products of other competing firms) as a structural element in the restaurant sector, a restaurant's offerings (food and beverage items) typically have a greater degree of horizontal and vertical differentiation vis-à-vis the typical three grades of unleaded gasoline (regular, mid-grade/super, and premium) offered to consumers by the oil and gas sector. Further, the barriers to entry and exit for Domino's Pizza in the restaurant sector are typically less formidable than those for Exxon Corporation in the oil and gas sector, considering the copious capital requirements for firms in the latter. Basic conditions (such as product perishability and labor intensity in full-service restaurants) as well as a firm's strategies for conduct (minimal R&D expenditure and lower dividend payout for restaurants relative to energy firms) also vary among industries and firms.

Regardless of differences existing in IO literature regarding the units of analysis, assumptions, and frames of reference used for SCP applications, the SCP paradigm has become an integral part of contemporary strategic management theory (Porter, 1980; Jemison, 1981; Faulkner and Campbell, 2003). Fig. 1 presents the SCP model developed by Bain and Mason, and further modified by Porter (Faulkner and Campbell, 2003).

2.2. Development of research questions

2.2.1. Research question 1: Do industry-specific characteristics influence the overall performance of restaurant firms?

Early empirical studies on industry influence on a firm's performance relied heavily on industrial organization (IO) economics and traditional "structure performance" form of the SCP paradigm. The central idea of these studies was that the primary determinants of a firm's performance were the structural features of the firm's industrial group (Porter, 1980). Such structural features of an industry were the key drivers for constraining or influencing a firm's conduct, behavior, strategies, or tactics. In turn, these constraints or influences led to industry-specific variations in a firm's performance (Mason, 1939). An industry's effects on a firm's performance gained endorsement from empirical studies such as Schmalensee (1985), Rumelt (1991), McGahan and Porter (1997), Brush and Bromiley (1997), Brush et al. (1999), Bowman and Helfat (2001), McGahan and Porter (2003), Hough (2006) and several others. However, very few studies addressed the issue of SCP-relevance in explaining the performance variance among restaurants. Structure and conduct elements (such as demand and supply, product differentiation, vertical integration, diversification, barriers to entry or exit, seasonality, elasticity of demand, raw materials, product durability, and others) for the restaurant industry vary significantly, vis-à-vis, those of other sectors. For instance, restaurants such as McDonald's differ from other retail general merchandize stores or department stores due to constraints of soft supply and limited ability to carry-over excess supply to the next day (Hayes and Miller, 2011). The degree of horizontal and vertical differentiation typically associated with a restaurant's menu items is significantly more than the limited three grades of unleaded gasoline (regular, mid-grade, and premium) offered by the petroleum and natural gas industries. The barriers to entry or exit for restaurant firms, other structural elements, are significantly smaller relative to those for British Petroleum or Royal Dutch Shell, given the significantly larger capital requirements for the oil and gas industry. Based on existent theory and evidence, as well as the expectation that structural elements and basic conditions are unique for the restaurant industry, this study examines the first research question: do industry-specific characteristics influence the overall performance of restaurant firms?

2.2.2. Research question 2: Does the intra-industry performance of restaurant firms vary systematically with differences in firm-specific characteristics?

Researchers followed two avenues to further examine intra-industry heterogeneity in firm performance. One research path