

Automotive Component Industry and Profitability Factors: Evidence from India

This paper examines the significance of firm's internal resources in explaining the profitability and tests the persistence of profitability in Indian Automotive Components industry (IAC). The dynamic business environment and intense competition, further exacerbated by rapid advances in information and communication technologies, had made it increasingly difficult for firms to build and sustain industry specific structural characteristics which would otherwise restrict the entry of potential competitors (Hitt et al, 1998). In this context the debate between structuralist and Resource-Based View (RBV) schools became more interesting. While the former argues that the industrial structure plays a vital role in determining firm's profitability, the latter focuses more on the internal characteristics of firms in determining profitability. Recent studies have, however, given credence to the views of RBV School probably due to the prevalence of fluid business environment (Rumelt, 1991; Roquebert et al, 1996; McGahan & Porter, 1997; Mauri & Michaels, 1998; Galbreath & Galvin, 2008). The empirical evidences provided by these studies bring to the fore that it has become increasingly difficult for the firms to leverage their structural characteristics to improve the profitability. The profit persistence is in fact a measure of association between competition and profitability (Mueller 1977, Geroski & Jacquemin 1988, Goddard & Wilson 1996). If the rate of reversion towards normal rate of returns is high, it is the case of low persistence of profits. In case of low persistence of profits, competitive forces are strong enough to bring down the above normal profits towards normal level. On the other hand, if the rate of reversion towards normal rate of returns is low, then persistence of profits are high. In case of high persistence, competitive forces do not appear to be strong enough to bring down the profits towards normal levels.

The IAC experienced a meteoric rise after the initiation of limited liberalization in the eighties marked by the entry of Suzuki Motor Corporation in partnership with Maruti Udyog Ltd (MUL) into the Indian market in 1982. The Phased Manufacturing Program (PMP) under which firms, having collaboration with foreign firms, had to achieve local content to the tune of 95 percent within 5 years of the commencement of production, had also actively contributed to the growth of IAC. The localization process continued despite the removal of PMP in 1992 due to two main factors, firstly, due to the high import duties on completely knocked-down kits (CKD) and components and secondly, imports of CKD were subjected to licencing. The new entrants had no other option but to either source the components from the existing firms or force its fellow suppliers to setup shops within the country or open its own subsidiaries in the country. The economic liberalization of 1991 removed the protective layer of licencing requirement and tariff barriers from the industry and prepared it for international competition. The partial opening of the industry in the eighties had enhanced its capabilities both technologically and efficiency-wise and prepared the industry to withstand the

intense competition which it was going to face in the forthcoming decades. As a result, the component industry grew at faster rate than that of the vehicle assembling industry.

The IAC industry appears to provide a reasonable setting for examining the role of internal resources of firms in explaining profitability. For instance, the entry of multinational firms in this domain has disturbed the structural characteristics of the domestic firms and have made the competitive environment highly dynamic, thus, making Structuralist School's hypothesis irrelevant. Interestingly, existing literature in this regard had remained confined to the analysis of the impact of pro-market reforms or foreign ownership on profitability on a cross section of industries (Chhibber & Majumdar, 1999; Kambhampati & Parikh, 2003; Rasiah & Kumar, 2008; Chari & David, 2012; Chari & Banalieva, 2015). This study, however, attempts to examine the role of firm's internal resources and profit persistence in one single industry by using data for the post pro-market reform period in a Generalised Method of Moments (GMM) framework.

The dataset employed in this study comprised an unbalanced panel of 78 publicly listed firms operating in the Indian automotive components industry for the period 2000-2015. The firm-level data have been taken from Centre for Monitoring of Indian Economy (CMIE) Prowess database, which is one of the prominent databases in the country that disseminates information related to several financial parameters of listed firms in the country. Data on GDP growth have been drawn from the official database of the World Bank and industry-wide data from the Annual Survey of Industries (ASI) of Central Statistics Office (CSO) of India. The data have been analysed by using system GMM model. This approach augments both the level equation and first difference equation and estimates them together by treating them as a system. It instruments lagged differences for level equation and lagged levels for first difference equation. The dependent variable in this study is profitability which is represented by Return on Assets (ROA).

Here two models of profitability are estimated. Model I is estimated by treating the lagged profitability as an endogenous variable. It includes all the explanatory variables and one lagged value of the dependent variable for its estimation. Investment in research and development (R&D) projects influences firm's profitability through new product development or through by implementing innovation in production process. Since, R&D projects are like a long-term investment, whose fructification into a successful innovation materialises only after a time lag, it is expected that past R&D have a positive influence on current profitability. Model II is estimated to test this influence of previous year's R&D on current profitability. This model is estimated by treating both lagged profitability and R & D intensity as endogenous variables. One lag of profitability and two lags of R & D intensity have been introduced in this model.

The coefficient of profit persistence i.e. δ ranges from 0.40 to 0.49 for the model I and II respectively indicating a moderate persistence of profitability which means the industry is reasonably competitive.

The results imply that the components industry of India is not vary far away from a market structure which is perfectly competitive. Moving on to the independent variables, the R & D intensity for both the models exhibits a negative but insignificant impact of on profitability. Model II reports that R & D intensity lagged by one year is positive and significant but R&D intensity lagged by two years is insignificant, even though it is positive. Thus, the past one year's R&D seems to suggest a positive influence on profitability. Contrary to the expectations, Advertisement & Marketing (A & M) intensity displayed a negative and significant influence on profitability for both the models. Capital intensity has exhibited a negative and significant relationship with profitability in both the models. The result lends credence to similar findings of the earlier studies (Schoeffler et al, 1974; Beard & Dess, 1981; Capon et al, 1990; Chhibber & Majumdar, 1999; Bharadwaj et al, 1999; Kambhampati & Parikh, 2003). As far as firm's leverage is concerned, it is negatively and significantly related to profitability for both the models which appears to be suggesting that high debts may lead to lower profitability.

Productivity growth and profitability are both positively and significantly related. Putting it differently, the various in-firm skill development programs implemented by individual firms in the industry may have contributed to the improvement of labour productivity which showed up into positive bearing on profitability. Exports intensity has exhibited a positive and significant relationship with profitability in both the models. Age is not found to be significantly related to profitability in either of the models. As expected, size exhibited a positive and significant influence on profitability in both the models indicating that bigger firms are more profitable. GDP growth displayed a positive and significant influence on profitability in both the models. Another interesting finding is that, the output of Original Equipment Manufacturers (OEMs) has a negative and significant influence on profitability for both the models. It appears that intensified competition within the suppliers to capture new domestic OEMs has exercised a negative impact on profitability. It may be mentioned here that buyers-suppliers relationship has undergone a sea change over the years. The entry of MUL has transformed the established 'arm's length' buyers-suppliers relationship into a relationship based on mutual interactions to improve quality, streamline production, prompt delivery and collaborative problem solving. The entry of new players in the post liberalization period allowed the components manufactures to diversify their customer base. In order to realise the scale economies the components manufacturers targeted multiple OEMs and increasingly got integrating with global supply chain by exporting components to other countries as well as increased aftermarket sales.

All the findings indicate towards the fact that being innovative in terms of R&D and productivity growth and exploring diversified markets makes a significant difference to the profitability. Since, firms' resources were found to be significantly explaining variation in profitability, the study infers that Resource-Based View (RBV) holds in the case of this industry.