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Antecedents of Firm Performance in Emerging Economies: Business Groups, Strategy, Industry Structure, and State Support

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Abstract

A rich literature has investigated the antecedents of firm performance in developed economies, resulting in a consensus view that firm resources and strategy are the key determinants. Several arguments, however, suggest that firms in emerging economies are influenced by a different set of factors. This study analyzes the impact of firm strategy and industry structure as well as business group membership and state support on firm performance in an advanced emerging economy, Turkey. Using a data set compiled from a selection of the 1,000 largest manufacturing firms in this country, the study employs several regression models to identify the main determinants of firm performance, as measured by productivity and net profit margin. In contrast to studies of developed economies, the study finds that firm-related factors (competitive strategies) do not significantly influence performance; instead factors related to industry structure and business group membership are the strongest determinants of firm performance; further, state support interacts with business group membership and is positively related to productivity.

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1. Introduction

Which are the key factors making some firms more successful than others? This issue has been one of the central questions in strategic management studies since the beginning of the field in the 1950s. According to the classical answers, industry structure is the main determinant of both a firm's strategy and its performance (Bain, 1959). The findings of later studies, however, demonstrate that industry characteristics alone cannot explain a large variance in firm performance. These findings lead to the query why some firms within the same industry perform better than others (Hawawini, Subramania, and Verdin, 2003:2).

Stimulated by research on firm resources (Penrose, 1959) and competitive strategy (Porter, 1980), a multitude of studies have analyzed the impact of industry structure versus firm resources, for example the studies of Lenz (1980), Hansen and Wernerfelt (1989), and of Spanos, Zaralis, and Lioukas (2004). During recent years, somewhat of a consensus is emerging that firm strategy and resources are more important than industry structure in influencing performance. An overwhelming majority of these studies focus on developed OECD-economies, and especially the US. However, a considerable and increasing number of the firms currently competing in global and national markets are from emerging countries.

As Kim and Lim (1988) noted more than twenty years ago, emerging economies tend to have different ownership structures, and these differences may have significant consequences for firm performance. A distinguishing factor is the role played by large diversified business groups (Nair and Kotha, 2001). According to Chang and Hong (2002), for example, the top thirty business groups in Korea contribute to 40% of the country's total output; and to take another example, it is reported that 22 large business groups are

responsible for 39 % of total sales in Russia (Guriev and Rachinsky, 2005; Estrin, Poukliakova, and Shapiro, 2009). Several of these studies have also demonstrated a positive relationship between business group and firm performance (e.g. Yiu, Bruton, and Lu, 2005).

Another difference between developed and emerging economies concerns the role of state interventions in the economy. Several studies for example of Korea (Amsden, 1989; Amsden and Wan-wen, 2003) or China (Altenburg, Schmitz, and Stamm, 2008; Noumoff 2003) demonstrate the important role of state and government initiatives, and this tends to be a general phenomenon in emerging economies. In Turkey, for example, the state displays similar practices of active economic interventions in selected sectors and the Turkish literature has frequently discussed these issues (Boratav, 2006; Kazgan, 2004).

Considering these important differences there is a need for analyses of firm performance, which take into account the *differentiae specifica*e of emerging economies, and investigate if the factors impacting firm performance in emerging economies are the same as in developed economies. The paper contributes to such an analysis by studying four types of factors influencing the performance of large firms in an advanced emerging economy: firm strategy, industry structure, state support and membership in business groups. In relation to the strategy versus structure-research in established economies, the paper specifically seeks to ascertain the relative role of firm strategies compared to industry factors in the selected emerging economy.

The concept emerging economies or emerging markets has inspired a rich literature, but is as pointed out by Kearney (2012) there is no general agreement how to caegorize countries as “emerging economies”. In this paper we build on the classifications used by the Financial Times Stock Exchange (FTSE), and Morgan Stanley Capital International. Both classify Turkey as an emerging economy, in the FTSE system as an “advanced” emerging economy, and No. 16 in the global ranking of economies, based on purchasing power adjusted

GDP (Kearney 2012:161). Using a data set compiled from 231 firms, selected among the 1,000 biggest manufacturing companies in Turkey, this study will make use of several different methods to investigate the key factors impacting their performance.

The first part after this section presents the theoretical arguments regarding factors influencing firm performance, and formulates hypotheses related to the impact of industry structure, strategy, state support and business group membership on firm performance in emerging economies. This is followed by a method section with an overview of data collection, specification of dependent and independent variables, and a description of the methods used, hierarchical regression and importance analysis, supported by reliability and interaction tests. The Results part reports the main findings in relation to the hypotheses and additional explanatory variables. The concluding section summarizes the results and highlights the answer to the key question above: if the factors impacting firm performance are the same in emerging and developed economies. The study ends with discussion of future research and limitation of this study.

2. Theoretical Framework and Hypotheses

2.1. The role of structure and performance

Historically, industrial organization researchers claimed that industry structure determines firm performance (Bain, 1956). Several different definitions of industry have been used in the ensuing research. Spanos et al. (2004), for example, used industry concentration, entry barriers and growth as important dimensions of industry structure; Kim and Lim (1988) included several other dimensions such as the bargaining position of firms with their suppliers and buyers, the technical stability in the sector and entry threats from other sectors. Other researchers have agreed on the importance of these factors, adding threat of substitute

products or services, and the intensity of competition (Scherer and Rose 1990; Porter, 1980; Powell, 1996).

A rich literature in the United States has attempted to establish the precise impact on firm performance of industry structure (defined as above), but the results are highly varying, from significant and substantial, explaining 30% of firm performance as measured by return on assets (McGahan, 1999; McGahan and Porter, 2003), to significant but very small (Adner & Helfat, 2003). Studies in Europe have found significant but rather small impact of industry characteristics on performance, Spanos et al. (2004), for example, reported an impact of industry on firm performance at around 7%. Kotha and Nair (1995), however, observed that the impact of industry on Japanese firm performance was very high.

There is less research of this type in emerging economies, but published studies indicate a high impact of industry characteristics on firm performance. In Korea, for example, Chen (2010) observed a very high industry impact on the performance of IT firms. Studies of Chinese firms have also reported a strong impact of industry structure on performance; Luo (1999), for example, noticed that industry factors such as general sales growth, increase in the number of firms in the industry and industrial uncertainty levels significantly affected the performance of firms. As for Turkey, Karabag (2008) found that industry structure had a significant impact on firm performance.

On the basis of these studies, this paper proposes the following Hypothesis H₁: Industry characteristics, defined according to the dimensions above (high competitive intensity, high risk of substitute products, etc.) have a significant negative impact on firm performance in emerging economies.

2.2. The impact of strategy variables

Another line of study in the literature focuses on firm resources and strategies as determinants of firm performance (McGahan and Porter, 1997; Roquebert, Phillips, and Westfall, 1996; Rumelt, 1991). The impact of strategies on firm performance has been analyzed in many studies, again mostly based on firms in the US. Several different strategic typologies have been suggested. Miles and Snow (1978), for example, analyzed the pattern of firms' adaptive behavior and described four firm strategies: prospector, analyzer, defender and reactor. Another approach was proposed by Porter (1980) who argues that a firm, based on its strategic scope and strategic strength, can build its performance by implementing one of three core strategies: differentiation, low-cost, or focus. This is one of most used and discussed typology of competitive strategies (e.g. Gopalakrishna and Subramanian, 2001; Wright, Kroll, Tu & Helms, 1992), and will also be used in this paper.

A few researchers, such as Schmalensee (1985) found the impact of firm factors on performance to be insignificant or very small. Most studies conducted of American firms, however, show that firm factors significantly explain firm performance (McGahan and Porter, 1997; Roquebert et al., 1996; Rumelt, 1991, Davis and Schul, 1993; Kim and Lim, 1988; McNamee and McHugh, 1989; White, 1986). Although Porter (1980 & 1985) strongly suggests that competitive strategies are distinct from each other, and some researchers found that distinctive ("pure") strategies display better performance, empirical studies conducted in several countries show that a combination strategy might be another strategic alternative (Hill, 1988; Wright et al., 1991; Yasai-Ardekani and Nystrom, 1996). Thus, for example, the European study by Spanos et al. (2004) analyzed three different firm strategies (low cost, differentiation, and combination) and found that these strategies significantly affect firm performance.

Some studies in emerging economies have also found a significant impact of firm strategies on performance. Chen (2010) showed that firm factors explain a substantial part of

Korean and Taiwanese firm performance, and Tan and Litschert (1994) stated that in China some strategic approaches significantly explained firm performance in the studied uncertain environment.

The present study will test the impact of firm strategies on performance in Turkey, using the Porter classification, but we will also include combination strategy. The study suggests the following hypothesis H₂: Firm strategy in emerging economies has a positive and significant impact on firm performance.

2.3. Comparison of the Impact of Strategy and Structure on Firm Performance

According to the original proposition in industrial organization theory, industry structure is a primary antecedent of firm performance, whereas recent studies in OECD-economies rather find strategy to be more important for performance than industry structure (McGahan and Porter, 1997, 2002; Ruefli and Wiggins, 2003; Roquebert et al., 1996; Rumelt, 1991). This is also confirmed by a more recent study in Australia by Galbreath and Galvin (2008), which demonstrated that firm resources are more important than industry, in particular for service firms.

Many of the studies in the USA use similar databases such as COMPUSAT, similar statistical analysis (e.g. variance analysis), and similar performance measures (ROA). When other performance indicators are used, such as Tobin's q (e.g. Wernerfelt and Montgomery 1988; McGahan 1999), and operating performance (Hawawini et al., 2003), the analysis tend to produce somewhat different results. Furthermore, when different databases were used, the results also varied. When Chang and Singh's (2000) used the Trinet data base, for example, they found that the impact of firm factors and industry on performance varied depending on firm size.

Studies of industry versus strategy outside the OECD core, for example in Taiwan and Korea, report ambiguous results. Some researchers, as noted above, have found a distinctive strategy impact in these countries (Chen, 2010), whereas other studies in emerging economies display different results. Duh, Chow and Chen (2006) did not observe any positive relation between strategy and firm performance in their study of Taiwanese firms; Dong, Liu and Yin, (2008:352) found insignificant relations between strategy and performance in their study of Chinese firms. Several years ago, Kotha and Nair (1995) found the impact of industry to be much higher than firm factors also in Japan. Using growth as a firm performance indicator they found firm factors to be almost insignificant ($p>0.05$), and none of the firm factors was significantly related to this measure of firm performance. A recent study of firm factors and firm performance in a Sub-Saharan economy led to similar results. Summarizing this study Ofori-Dankwa and Julian (2012: 13) argued that “conventional wisdom drawn from developed nations....” cannot be totally employed in emerging economies and in some cases that wisdom “might work in the opposite direction”.

Studies in financial economics using stock market returns as an indicator of firm performance have tried to explain why the impact of industry on performance tends to be high in emerging economies. One important aspect here is the high proportion of non-operating income in some industries, especially in times of economic volatility (Bai and Green, 2010; see also Cavaglia, Brightman and Aked, 2000; Phylaktis and Xia, 2006). As pointed out by Kearney (2012) “greater uncertainty and risk” is a common feature of emerging economies (Kearney 2012: 162).

Turkey presents an industrial context similar to other late industrializing countries, with a track record of a rapid but uneven growth and a quadrupling of GDP from 1970 to 2005, but also with recurring financial crisis and volatility including, nine destructive crises between 1980 and 2002. Although Turkey’s economic structure is different from the

developed countries, few have investigated the relative importance of the various factors influencing firm performance in Turkey. In a recent study, Efendioglu and Karabulut (2010) did not observe any significant relation between firm factors and performance. In another study Karabag (2008) argued that industry can affect firm performance more than firm factors but her study, based on subjective (perceived) performance, could not confirm this, although several circumstances point to a huge variation of industry characteristics in Turkey. Several sectors are highly concentrated, with significant entry barriers (Zeybek, 2005) related to traditions of state intervention and protection (Kazgan, 2004), especially in some consumer commodities such as electricity, gasoline and coal, wood and rubber. Other sectors (e.g. metal products, mechanical equipment and transportation vehicles, paper products and printing, food, beverage, apparel and leather, furniture, medicine) are exposed to intensive international and domestic competition (Metin Özcan, Voyvoda and Yeldan, 2000; Zeybek, 2005). Studies of R&D and innovation of Turkish firms underline this uneven development. Whereas Turkish firms in sectors such as the automotive and home appliance industries show a significant increase of R&D investments in the last decade, other sectors exhibit an opposite trend (Karabag and Berggren, 2012).

Against this background of studies of emerging economies referred to above, as well as the available evidence of the uneven characteristics of Turkish industries, the present study assumes that industry factors are more important than firm strategies in influencing firm performance in emerging economies and suggests the following hypothesis H₃: The impact of industry structure on firm performance is higher than the impact of firm strategies.

2.4. The Impact of State Support on Firm Performance

As Goddard, Tavakoli and Wilson (2009) note, the role of the state in emerging economies is different from its role in developed countries. In comparative economic

development studies, there has been a long-time interest in government initiatives and late industrialization, from Meiji Japan and Russia (Gerschenkron, 1962) to post-war Japan, Korea and Taiwan (Johnson, 1982; Vogel, 1991; Amsden and Wan-wen 2003). In her classical study of Korea, Amsden (1989:8) emphasizes two particular “institutions of late industrialization... an interventionist state and large diversified business groups”, pointing out the similarity between the Korean *chaebol* and the *zaibatsu*, Japan’s prewar big business groups. In developed countries, the state is supposed to maintain the same distance to all market actors and to encourage market competition (Austin, 1990). In emerging economies the state tends to intervene in the market competition in several different ways (Christmann, Day, and Yip, 1999) and function as a resource allocator in many industries (Yaprak and Karademir, 2010). As Lau (2011) states this is also the case for transitional economies, for example China, where social networks and institutional support, including preferential tax treatment, have a significant influence on the strategic orientation and performance of firms. In a study of Russian banks, Okhmatovskiy (2010) also observed that firms with connection to state-owned enterprises have higher performance.

Modern Turkey was founded on the ashes of the Ottoman Empire, after the Independence War 1920-1923 following WWI, when all the non-Muslim entrepreneurial population left from the country. At that time, the level of industrial and entrepreneurial activities was extremely low in Turkey (Kazgan, 2004). In this context a regime of etatisme emerged, which can be seen as “a system with a significant degree of centralized economic planning which may include state ownership of the means of production” (Close, Askew and Xu, 2007: 64). In the case of Turkey, the state intervened and started state-owned firms in basically all sectors (Herslag, 1984). When private businesses emerged, they concentrated on local markets as contractors to the state or suppliers to state-owned companies (Boratav, 1981).

During the 1950s the Turkish state developed a regime of import substitution (Keyder, 1987), similar to the policies in many economies in Latin America and Asia. During this period, private businesses invested in the assembly of white goods and automobiles to satisfy local needs on the basis of licensing agreements with international firms (Karabag & Berggren 2011). This policy fostered high firm profits since the economy was closed to the outside world. Inspired by Korea and other fast-growing countries, Turkey changed its economic policy from import substitution to export promotion in the 1980s (Kazgan, 2004). Some consumer sectors, such as textiles, garment, food and leather, used these incentives and the availability of low-cost labor to grow rapidly and increase their exports.

In a majority of sectors, however, firms remained focused on the domestic market. When Turkey signed a customs union agreement with the European Union (EU) in 1996, the policy of tariff protection for manufactured goods ended. This significantly increased the degree of international competition in industries such as autos and pharmaceuticals, but the domestic industrial concentration ratios remained the same or increased in some sectors (Çulha and Yalçın, 2005; Zeybek, 2005). The state remained an important buyer or resource allocator, controlling the entry in industries such as energy, telecommunications, banking, and construction materials and also engaged actively in supporting internationally competing manufacturing industries, such as autos (Karabag, 2008; Karabag & Berggren 2011).

The present study needs to account for the role of state support for firm performance in emerging economies, although the indirect effects of state interventionism, for example on industry structure, cannot be measured. The study proposes the following hypothesis. H₄: State support affects firm performance positively.

More specifically, the study expects state support to be biased towards more focused and more internationally oriented operations, and correlated with higher levels of productive performance.

2.5. The Impact of Group Membership on Firm Performance

Diversified business groups are another important characteristic in many emerging economies, as discussed above (Göksen and Usdiken, 2001; Yaprak and Karademir, 2010). Studies in several Asian countries report a strong positive relationship between being member of a business group and firm performance in Korea (Chang and Hong, 2002) as well as India, Indonesia and Taiwan (Khanna and Rivkin, 2001).

Also in Turkey diversified business groups play a large role (Yurtoglu, 1999), and have important advantages, such as political ties, when government privatizes state-owned enterprises or gives special operation permission. Prior studies of business groups in Turkey have investigated specific aspects such as degree of diversification and institutional arrangements (i.e. Bugra, 2008; Göksen and Usdiken, 2001; Yaprak and Karademir, 2010). Gönenç, Kan, and Karadağlı (2004) analyzed publicly listed firms in Turkey and reported a positive relationship between group membership and firm performance, using accounting reports as a measurement tool; otherwise few studies have examined the general impact of business group membership on firm performance

In the light of this literature, the paper suggests the following hypothesis H₅: Group membership affects firm performance positively. Furthermore, a positive interaction effect between state support and business group membership could be expected.

3. The Model

This study calculates the relationships between firm performance and the independent variables based on the common profitability equation (Hansen and Wernerfelt, 1989; Kotha and Nair, 1995:499; Spanos et al., 2004:147). According to this equation, profitability is a

function of controllable and uncontrollable independent (latent) variables. Here is the model specification via a simplified regression model:

$$Y_{it} = \beta_0 + \beta_1 X_{i(t-1)} + \beta_2 Z_{i(t-1)} + \beta_3 K_{i(t-1)} + \beta_4 S_{i(t-1)} + \varepsilon_i \quad (1)$$

Herein, Y_{it} is the performance of firm i in a year t (i.e. 2008), β_0 is the constant, where the regression line intercepts the y axis, representing the value of Y when the independent (latent) variables are 0. $X_{i(t-1)}$, $Z_{i(t-1)}$, $K_{i(t-1)}$ and $S_{i(t-1)}$ represent the independent variables related to group membership, industry structure, state support and firm strategies in a lagged year (2007). The use of lagged years in the independent variables has been suggested by several authors, for example Spanos et al. (2004), based on the argument that the results of a strategy or the impact of external variables cannot be observed immediately.

4. Methods: Data and Statistical Procedure

The empirical analysis in this paper builds on a comprehensive survey of the 1000 largest manufacturing firms in Turkey listed by the Istanbul Chamber of Industry (ISO) in 2008. Of these firms, 967 companies included contact information and some financial data in this public list, such as sales, net profits and number of employees.

Therefore the performance variables could be calculated directly from the list. The data for the independent variables were gathered via a structured survey sent to the CEOs of these 967 firms, 243 of whom responded. Twelve surveys were not useful for this study; omitting those, the response rate was calculated at 23%.

The survey contained items to measure the four types of main independent variables discussed above: industry structure, competitive strategies, state support and group membership. Industry structure and firms strategy items were adapted from previous studies,

i.e. Kim & Lim (1988); Powell (1996) and Dess & Davis (1984). State support items were developed from suggestions in the studies by Bugra (2008) and Boratav (2006). (A list of items measuring industry structure, state support and strategy can be provided upon request). Group membership was coded as a categorical dummy variable (being a member = 1, not a member = 0). As control variables the study used year of establishment, national/international ownership and firm export.

For firm performance the paper followed Chakravarthy's advice (1986) and used several indicators: one being financial performance, net profit margin calculated as the ratio of net profits to total sales; and one being productivity, based on the firm's value added divided by its number of employees.

Exploratory factor analysis employing principal component analysis with Varimax and Kaiser Normalization was used to form the variables related to industry, strategy and state support from the multiple survey items. The estimation included controls for commonalities, i.e. the amount of variance the items share with all the other items in the same category. In line with suggestions by Costello & Osborne (2005), the study used 0.40 as a minimum commonality value for including an item in the further analysis. In the literature, checking minimum loading values of the items is also recommended. Following the recommendation of Costello and Osborne (2005) and Tabachnick and Fidell (2012), we used 0.40 as a minimum factor loading, and 1.0 as the minimum eigenvalue.

To assess the reliability of the variables, the value of Cronbach's alpha for each variable was calculated (Cronbach, 1951). In the literature there are several proposed ranges for evaluating Cronbach's alpha (see Hair, Black, Babin and Anderson, 2010). Following the suggestions of Powell (1996) and Schmitt (1996), this study has used variables whose alpha values exceed 0.50.

The factor analysis of the industry items resulted in four reliable industry-related variables: competitive intensity, entry barriers, power of supplier, and threat of substitute products. The variable state support was measured with four items. Its reliability was estimated by Cronbach's alpha at 0.63, showing that this variable was indeed reliable.

The factor analysis of strategy items resulted in six possible strategy variables: combination strategy, focus strategy and cost leadership strategy and three differentiation strategies (differentiation in quality, in marketing and in product). The alpha values were calculated for each variable, and the lowest alpha value was 0.69, which showed that all of them were reliable. However, a correlation analysis showed significant and strong relations (over 0.80) among the three differentiation strategies. Inspired by the study of Claver-Cortés, Pertusa-Ortega and Molina-Azorín (2012), another factor analysis was used for eliminating this source of possible multi-collinearity. As a consequence, the variables measuring different types of differentiation strategies were consolidated into one variable. Thus four strategy variables remained: overall differentiation, combination, low cost and focus.

To investigate the relative importance of the independent variables on firm performance the study used two different statistical techniques, regression models and LMG metrics. Estimating variables' importance with hierarchical multiple regressions has previously been used by e.g. Kotha and Nair (1995) and Hansen and Wernerfelt (1989). This technique involves a comparison of the changes in F values, from a base model containing only control variables to more comprehensive models containing either industry or strategy variables, or both. By doing so the method allows the researchers to determine the order of entry of the independent variables in the calculation. Seven different models were tested, using the two measurements of firm performance. The base model, Model 1, only contains control variables such as firm age, presence of foreign shareholders and firm exports. In Model 2, the industry structure variables are entered in the analysis. Calculation of ΔR^2 and

ΔF in this model shows how much industry variables improved the base model. Model 3 includes strategy variables in addition to the control variables. The values of ΔR^2 and ΔF show how much the strategy variables improved the base model.

In Model 4, strategy related variables are added to Model 2. The values of ΔR^2 and ΔF show how much the strategy variables improved Model 2 with its control and industry variables. In Model 5 industry related variables are added to Model 3. Calculating ΔR^2 and ΔF shows how much the industry variables improved this Model with its control and strategy variables. As can be seen in Table 2 and Table 3, Model 4 and Model 5 contain the same variables; but the order of entering the variables in the regressions differed and thus also the incremental values of F and R^2 (see Figure 1 and 2). Model 6 constitutes the full model regressed by the control variables and all independent variables: industry structure, firm strategy, business group and state support. A final regression (Model 7) is also estimated and contains not only all control and independent variables but also the interaction between state and other independent variables.

During the analysis, possible multi-collinearity in the models was checked by controlling several indicators. One of those indicators is the variance inflation factor (VIF) of the variables which according to Hair et al. (2010) should be lower than 10. As shown in Table 2 and Table 3 the VIF values for the studied variables range from 1.20 to 2.62, far below this limit.

Another indicator of potential multi-collinearity is the tolerance value of the variables. According to Menard (1995: 66) “a tolerance of less than 0.20 is cause for concern; a tolerance of less than 0.10 almost certainly indicates a serious multi-collinearity problem”. In this study, the lowest tolerance values of the independent variables exceeded 0.65, much higher than Menard’s suggested minimum value. Thus both the VIF and tolerance values show that multi-collinearity should be no problem in this study.

Whereas hierarchical multiple regressions (Model 1 to 5) were used to determine the impact of clusters of independent variables and Ordinary Least Squares (OLS) regressions (Model 6 and 7), the study also made use of another method to evaluate the importance of each variable. When independent variables are not correlated with each other, the importance of the variables can be determined via their standardized regression coefficients. Frequently, however, independent variables may be correlated with each other and then these coefficients cannot be used as an indicator of the variable's relative importance, since "some of the variance may be predictable from other independent variables" (Tabachnick and Fidell, 2012, 144). Inspired by proposals that the relative importance can be "obtained by averaging various partial measures of association over all possible orderings of the explanatory variables" (Soofi, Retzer and Yasai-Ardekani, 2000:3; Malešević-Perović, Mihaljević-Kosor and Filipić, 2011), methods such as ANIMP and LMG metrics have been developed. In this paper the LMG-method (Lindeman, Merande and Gold, 1980), is used to calculate the relative importance of all the independent variables, by applying a special software package, Relaimpo, designed by Grömping (2007; 2006).

5. Results

Table 1 shows descriptive statistics of the final variables, including the correlations between the all variables.

Insert Table 1 about here

According to the hypotheses as specified above, industry factors affect firm performance significantly (H1), as do firm strategies (H2), but the impact of industry structure on performance is higher than the impact of firm strategies (H3); further, both state support

and business group membership affect the performance of firms positively (H4, H5), and a positive interaction between these two latter factors is seen.

Below, hypotheses 1-3 are first evaluated by the hierarchical regression models. Table 2 and Table 3 show the results for the two performance variables in the seven different models: the base model, various restricted models and the full model containing all independent variables and interaction effects. For each model the tables contain information regarding R, R^2 , F and adjusted R^2 . The ΔF and ΔR^2 of Model 1 to 5 are shown in Figure 1 and Figure 2 which were built on the first five regressions models, reported in Table 2 and 3.

As can be seen, Model 2 in Figure 1 and 2 shows that industry-related factors have strongly significant ΔF and ΔR^2 values: industry significantly predicts firm performance both when performance is measured by Net Profit Margin ($\Delta F=8.26$, $\Delta R^2=0.13$, $p<0.001$) in Figure 1, and when it is measured by productivity ($\Delta F = 4.68$, $\Delta R^2 =0.08$ at $p<0.001$) in Figure 2. These results confirm Hypothesis 1.

Model 3 in the same figures shows that strategy related factors are related to significant but small changes in firm performance, when net profit margin is used as performance indicator ($\Delta F=3.03$, $\Delta R^2 =0.05$, $p<0.05$) in Figure 1 it is significant; but insignificant when productivity is used ($\Delta F=0.43$, $\Delta R^2 =0.01$, $p=0.78$) in Figure 2. These results mean Hypothesis 2 is partly supported.

Figures 1 and 2 also show comparisons of the impact of industry- and strategy-related variables indicated by net profit margin and productivity, respectively. Both indicators show that industry has a stronger impact than strategy. Adding industry variables to the control variables (Model 2, Figure 1), results in substantial increases in explanatory power ($\Delta F=8.26$, $\Delta R^2=0.13$, $p<0.01$); adding strategy variables to the control variables (Model 3, Figure 1) has a significant but not strong impact ($\Delta F=3.03$, $\Delta R^2=0.05$, $p<0.05$). The results for industry are similar when productivity is used as performance indicator ($\Delta F=4.68$, $\Delta R^2=0.08$, $p<0.01$),

however, this is not the case for strategy. Adding strategy variables to the control variables (Model 3, Figure 2) has an insignificant impact on firm productivity ($\Delta F=0.43$, $\Delta R^2=0.01$, $p>0.10$).

Moreover, adding industry variables to Model 3 results in significant improvements: $\Delta F= 5.92$, $\Delta R^2=0.09$, $p<0.001$ when net profit margin is used; and $\Delta F= 4.82$, $\Delta R^2=0.08$, $p<0.001$ when productivity is the indicator used. On the other hand, adding strategy variables to Model 2, which contains control and industry variables, only leads to insignificant improvements: $\Delta F=0.98$, $\Delta R^2=0.01$, $p>0.10$ in the case of net profit margin, $\Delta F=0.64$, $\Delta R^2=0.01$, $p>0.10$ when productivity is measured. Irrespective of performance indicator the comparisons of the ΔF s and ΔR^2 s across the models demonstrate that the impact of industry is higher than the impact of strategy on firm performance.

Insert Figure 1 about here

Insert Figure 2 about here

In addition to these comparisons between regression models, the LMG metrics of the variables have also been calculated. Figure 3 (net profit margin) and Figure 4 (productivity) show each individual independent individual variable's relative importance value according to their LMG metrics. Competitive intensity is the variable with the highest relative importance level (0.45 in the NPM regression and 0.27 in the productivity regression). Furthermore, the LMG metrics also highlight the importance of two other industry variables, entry barrier and threat of substitute products (when productivity is the dependent variable).

Figure 3 shows that the strategy variables have much lower importance values: 0.11 for differentiation strategy and 0.07 for combination strategy; negligible for other strategies.

In Figure 4, where productivity is the dependent variable, all strategy variables exhibit a low relative importance. Figure 4 also reveals that when productivity is used as performance measure one of the control variables, firm age, has a high importance level, second only to competitive intensity.

To sum up, both the results of the conventional multiple regressions and the LMG metrics show that industry variables are more important determinants of firm performance than strategy. These results confirm Hypothesis 3.

Insert Figure 3 about here

Insert Figure 4 about here

A detailed analysis of the impact of individual variables as calculated in Model 6 and is shown in Table 2 and 3, which presents the β values and LMG values of all independent variables for NPM and productivity. The tables confirm that competitive intensity is the dominant industry variable, related both to lower net profit margin ($\beta = -0.33$, $p < 0.01$ in Table 2) and productivity ($\beta = -0.23$, $p < 0.01$ in Table 3). As for firm strategies, the tables show that only a combination strategy has a significant and positive effect (but smaller and weaker than competitive intensity), and only when performance is measured by NPM ($\beta = 0.14$, $p < 0.10$ see Model 6, in Table 2).

Model 6 in Table 2 and 3 sheds light on Hypotheses 4 and 5. State support does not significantly explain net profit margin ($\beta = 0.04$, $p > 0.10$), but significantly and positively predicts productivity ($\beta = .11$, $p < 0.10$). These findings partly confirm Hypothesis 4. According to the descriptive statistics in Table 1, state support is positively related to firm age (a proxy for size) and export orientation, and negatively related to a strategy of cost leadership, but

these results were not confirmed in the full regression model including interaction analysis. The importance analysis, based on the LMG-metrics (Figures 3 and 4), shows that state support has a substantial impact compared to other variables, more important than firm strategies when performance is indicated by productivity.

The regression analyses of the models contain individual variables also demonstrate the impact of business group membership on performance. Model 6 in Table 2 and 3 shows that the business group variable significantly and positively explains firms' net profit margin ($\beta=.20, p<0.001$) and productivity ($\beta=.22, p<0.001$). These findings support Hypothesis 5.

The LMG-based analysis of the relative importance of all independent variables (see Figures 3 and 4) shows that business group membership is the second most important variable after the industry variable competitive intensity. The importance value of group membership is particularly high when performance is measured by productivity. In this case, however, one of the control variables, firm age, has an even higher importance level (Figure 4).

To account for the possible effects of interaction between state support and other independent variables, regression Model 7 was calculated, containing interactions between state support and all control and independent variables. Table 2 and 3 report the results of this regression. Using NPM as performance measure, Model 7 in Table 2 shows that state support and business group membership displays a positive interaction ($\beta=.13, p<0.10$ in Model 7). This positive interaction is in line with the expectations stated in conjunction to Hypothesis 5, but the positive interaction only shows up when profit margin is used as performance measure. Furthermore, when productivity is used as a performance measure, state support displays negative and significant interaction with differentiation strategy ($\beta= -.17, p<0.10$ see Model 7 in Table 3); implying that when state support is involved firms may embark on less productive forms of differentiation.

Insert Table 2 about here

Insert Table 3 about here

6. Discussion and conclusions

The starting point for this study has been the classical debate on the impact of strategy versus structure in determining firm performance. Most research on factors influencing firm performance has focused on developed economies and the results tend to converge on the conclusion that firm related factors are more important than industry structure. A central question in the current study is if the antecedents of firm performance are identical in developed and in emerging economies, with their different ownership structures and traditions of state interventionism. To examine this question, Turkey an advanced emerging economy, according to the FTSE-list, is used as an exemplar from the universe of rapidly growing emerging economies. In addition to comparing the impact of factors related to structure and strategy, the paper attempts to gauge the importance of two “emerging economy”-factors, state support and business group membership, and the interaction of state support with the other factors. Five hypotheses were formulated and tested. Hypotheses 1 - 3 proposed that both strategy and structure-related factors have an impact on firm performance in emerging economies, but that structure (industry characteristics) is more important than firm strategy. Hypotheses 4 - 5 assumed a positive influence of state support and business group membership on firm performance, and also an interaction between these two factors.

Based on a large survey of manufacturing firms combined with accounting information on profit margins and productivity, the study has found (1) the impact of industry

on firm performance is significant for both profit margin and productivity; (2) the impact of strategy related variables on firm performance is significant when performance is measured by profit margin; (3) the impact of industry structure on firm performance is consistently higher than the impact of firm strategies; 4) group membership positively influences firm performance, and 5) state support impacts firm performance when this is measured as productivity.

The finding of a dominant role of industry on firm performance contradicts results from a number of studies of strategy versus industry structure in established economies, and suggests that competitive conditions in emerging economies may be different from established economies. Previous research in emerging economies have generated ambiguous results; some studies have reported a significant impact of strategy on performance (Acquaah, and Yasai-Ardekani, 2008; Karabag, 2008), whereas other studies found firm factors to be insignificant or only weakly explaining firm performance (Dong, Liu and Yin, 2008:352; Ofori-Dankwa and Julian, 2012; Lou, 1999). The finding of this study that firm factors (i.e. strategy) are not strong predictors of firm performance in Turkey supports the results of the second group. When analyzing the type of data used by these two types of studies, one can see that studies reporting significant firm performance tend to use subjective performance measures which may yield a high relationship to other subjectively measured factors such as strategies, whereas the second group uses generally objective indicators of firm performance.

When this paper analyzed structure specifically, the most important factor is competitive intensity, followed by entry barriers. In the study high competitive intensity is related both to net profit margin and productivity. A competition-induced pressure on profit margins is in line with mainstream economics, but the negative relation to productivity suggests that excessive competition discourages firms to invest in production expansion or capital equipment which would boost their productivity. This finding needs to be qualified in

studies including other environmental variables, such as the rate of growth in the industry, but this is beyond the current study.

The importance of state support for specific firms and business groups has been discussed by Bugra (2008), Boratav (2006), and Yaprak and Karademir (2010). This study is the first to report a general impact of direct state support on firm performance in Turkey. An interesting result is that state support is positively associated with higher productivity but not with higher profit margin. With state support firms in volatile economies seem to be emboldened to invest in more capital intensive and productive operations. Interaction effects related to state support illustrate that the relation is complicated, however. When firms with a differentiation strategy enjoy state support, productivity suffers as noted above. A possible interpretation is that state support encourages managers to engage in less efficient types of differentiation. State activities could also be assumed to influence the industry variables, such as competitive intensity and entry barriers, but this indirect influence cannot be measured here. Taken together the results show that in emerging economies the state is an important non-firm factor which managers and researchers need to pay attention to. The result adds further insights to the studies by Goldszmidt, Brito, & de Vasconcelos, (2009) which observed a country effect on firm performance, but did not reveal specific country factors.

The study reported here also demonstrates that business group membership is related to significantly better firm performance when profit margin and productivity are used as indicators. This finding validates the studies of Nair and Kotha (2001) on group membership in Japan and of Khanna and Yafeh's (2005) on business group effects in Brazil, Chile and India. In the same study, Khanna and Yafeh (2005) reported distinctive effects on firm performance of group membership in Turkey; but their study is limited to firms listed on the Istanbul Stock Exchange, whereas the study reported in this paper has broader coverage.

The present study also reveals a significant interaction effect between state support and business group membership, when performance is measured by profit margin. This could be compared to the other findings that direct state support influences productivity positively. The anomaly might be explained by viewing business groups as vehicles for indirect state support, which may encourage both productive investments and rent-seeking behaviors: “preferential input prices, low-cost credits, tax rebates, foreign exchange licenses, import licenses, government contracts, as well as through export-specific measures allowing business groups to establish large export companies in the 1980s” (Khanna and Yafeh (2005: 81).

In summary the paper shows, if Turkey is interpreted as an illustrative representative of a mid-sized emerging economy, that the antecedents of firm performance in emerging economies differ significantly from established, advanced economies. Moreover, the role of state support, and of diversified business groups as influential owners, need to be factored into the analysis. The impact of these two factors is not unambiguous, however, as demonstrated by the analysis of how state support is associated both with more productive firms but also, when interacting with business group membership, is related to higher profit margins, without any equivalent improvements in productivity.

Further research is needed in several areas, including studies designed to directly compare factors influencing firm performance in developed and emerging economies, and studies in emerging economies focused on the relations between firms, business groups and the state. Such studies might fruitfully distinguish between different types of business groups, for example between those with a more short-term trade-oriented perspective, and those with a long-term investment and capability-building perspective. This could be related to the increasing interest (e.g. Amann and Cantwell, 2012) of the upgrading processes of innovator firms in late development economies, a trend of major importance in recent years.

This study entails several limitations concerning sample, measurements and time frame. Although it builds on a large survey, it is limited to one specific emerging economy, and one broad sector of the economy: manufacturing. Emerging economies tend to have distinctive economic and social structures which should make the findings applicable to similar cases of emerging economies, but future research would benefit from larger scale, cross-country studies including several emerging economies.

A second limitation concerns the measurement of factors such as industry, firm strategies and state support. Future studies might include other types of information regarding industry, for example the SIC-code(s). The study uses strategy as a firm level factor, but inclusion of other resource variables should increase explained variance. Future studies might also use a more complex approach including both firm and corporate strategy. A third limitation concerns the cross-sectional character of the paper. In emerging countries, conditions tend to change fast, as countries go through various stages in their catch-up trajectory and the finding of this study might not be relevant to all the stages in this process, from take-off to advanced development (Luo, 1999). Further, it was not possible to test how the impact of the studied antecedents might change during a macro-economic cycle. Future long term studies will be important in these respects.

With due considerations of these limitations, this study still offers important contributions regarding the relative role of firm strategy and industry structure in emerging economies, the importance of state support and business group membership, and the interaction between these factors. Hopefully it will contribute to an enlarged interest in comparative in-depth studies of emerging economies!

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Table 1 Descriptive Statistics and Correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Net Profit Margin	0.09	0.09	1.00	.32**													
2 Productivity	7.06	0.49	.32***	1.00													
3 Firm Age	30.65	30.65	0.05	.27***	1.00												
4 Foreign Shareholder	0.82	0.18	0.02	.15**	-0.06	1.00											
5 Firm Exports	0.88	0.88	0.10	-0.02	0.02	0.00	1.00										
Competitive	3.30	3.30	-.36***	-0.19**	-0.07	0.12*	-0.03	1.00									
6 Intensity																	
7 Low Entry Barriers	3.62	3.62	-0.08	-.21**	-0.12*	0.09	-0.11*	.20**	1.00								
8 Power of Suppliers	2.88	2.88	0.00	-0.02	-0.08	0.11*	0.05	-0.12*	-.17**	1.00							
9 Substitute Product	3.55	3.55	-.170***	-.187**	-0.06	0.02	-0.09	.23***	0.13*	-0.06	1.00						
10 Cost Leadership	3.57	3.57	0.02	0.10	-0.05	-0.03	-0.01	0.09	-0.04	-0.05	-0.08	1.00					
Combination	4.10	4.10	0.08	0.04	0.04	0.09	0.03	0.08	-0.10	-0.02	-0.12*	.27***	1.00				
11 Strategy																	
12 Focus Strategy	3.09	3.09	-0.03	0.08	0.05	-0.08	0.07	.19***	0.10	0.00	-0.03	0.11*	0.07	1.00			
13 Differentiation Strat.	3.73	3.73	-.16**	0.00	0.00	-0.04	-0.02	.40***	-0.02	-0.03	-0.07	.25***	.57***	.31***	1.00		
13 Group Membership	0.63	0.63	.14**	.27***	0.03	.31***	0.00	0.07	0.01	-.18***	0.08	.15*	0.04	.14*	0.10	1.00	
13 State Support	2.15	2.15	0.06	.16**	.20***	0.03	0.12*	-0.01	0.09	0.03	-.17**	-.16**	-0.04	0.12	-0.04	-0.06	1.00

***p<0.001, **p<0.05, *p<0.10

Table 2: Summary of Regression Models of NPM

	Mode 1 (CVs)	Model 2 (CVs + IVs)	Model 3 (CVs + SVs)	Model 4 (CVs + IVs + SVs)	Model 5 (CVs + SVs + IVs)	Model 6 (All variables)	VIF	LMG	Model 7 (All variables and Interaction)	VIF	LMG
	β	B	β	B	β	β			β		
<i>Control Variables</i>											
Firm Age	.06	.03	.05	.02	.02	.02	1.09	0.00	.07	1.55	0.01
Foreign Shareholder	.05	.08	.01	.06	.06	.12*	1.21	0.02	.14*	1.27	0.03
Firm Export	.12*	.10	.11	.09	.09	.09	1.05	0.03	.09	1.23	0.02
<i>Industry Variables</i>											
Competitive Intensity		-.34***		-.31***	-.31***	-.33***	1.44	0.51	-.32***	1.52	0.43
Low Entry Barriers		-.03		-.02	-.02	-.02	1.15	0.01	-.03	1.21	0.01
Power of Suppliers		-.02		-.02	-.02	.01	1.10	0.00	-.01	1.16	0.00
Substitute Product		-.08		-.07	-.07	-.08	1.16	0.08	-.07	1.27	0.07
<i>Strategy Variables</i>											
Cost Leadership			.03	.03	.03	.01	1.15	0.00	-.02	1.25	0.00
Combination Strategy			.24***	.15*	.15*	.14*	1.69	0.07	.12	1.78	0.06
Focus Strategy			-.00	.03	.03	.01	1.19	0.01	.00	1.29	0.00
Differentiation Strategy			-.26***	-.11	-.11	-.10	2.11	0.11	-.07	2.33	0.09
<i>Other variables</i>											
Group Membership						.20***	1.20	0.13	.21***	1.25	0.12
State Support						.04	1.16	0.01	.06	1.25	0.01
<i>Interaction</i>											
State Support X Firm Age									-.07	1.84	0.01
State Support X Foreign Shareholder									-.09	1.48	0.02
State Support X Internationalization									-.01	1.41	0.00
State Support X Competitive Intensity									-.12	1.73	0.02
State Support X Low Entry Barriers									.06	1.32	0.01
State Support X Power of Suppliers									-.03	1.39	0.00
State Support X Substitute Product									-.00	1.29	0.00

State Support X Differentiation Strat.								-0.02	2.62	0.01
State Support X Cost Leadership								.03	1.16	0.02
State Support X Combination Strategy								-0.02	1.71	0.00
State Support X Focus Strategy								.05	1.53	0.01
State Support X Group Membership								.13*	1.29	0.04
R	.14	.39	.27	.41	.41	.44	.48			
R ²	.02	.15	.07	.17	.17	.19	.23			
Adj R ²	.01	.12	.04	.12	.12	.15	.13			
F	1.44 ^{ns}	5.42***	2.37**	3.80***	3.80***	3.98***	2.34***			

CVs = Control Variables, IVs=Industry Variables, SVs= Strategic Variables, Other variables (business group and state support)

***p<0.001, **p<0.05, *p<0.10, ^{ns}: not significant

Table 3: Summary of Regression Models of Productivity

	Model 1 (CVs)	Model 2 (CVs + +IVs)	Model 3 (CVs + SVs)	Model 4 (CVs + IVs + SVs)	Model 5 (CVs + SVs + IVs)	Model 6 (All variables)	VIF	LMG	Model 7 (All variables and Interaction)	VIF	LMG
	β	B	β	β	β	β			β		
<i>Control Variables</i>											
Firm Age	.26***	.24***	.26***	.24***	.24***	.21***	1.09	0.26	.24***	1.55	0,20
Foreign Shareholder	-.03	-.02	-.04	-.00	-.00	-.06	1.22	0.00	.07	1.27	0,00
Firm Export	-.01	-.04	-.01	-.04	-.04	.05	1.05	0.01	-.06	1.23	0,01
<i>Industry Variables</i>											
Competitive Intensity		-.17**		-.21***	-.21***	-.23***	1.43	0.27	-.21***	1.51	0,20
Low Entry Barriers		-.09		-.09	-.09	-.10	1.15	0.07	-.11	1.20	0,06
Power of Suppliers		.05		.05	.05	.07	1.11	0.01	.08	1.16	0,01
Substitute Product		-.12*		-.10	-.10	-.10	1.16	0.10	-.07	1.26	0,07
<i>Strategy Variables</i>											
Cost Leadership			.04	.04	.04	.03	1.16	0.01	.00	1.25	0,02
Combination Strategy			.08	.02	.02	.01	1.70	0.02	-.01	1.79	0,00
Focus Strategy			.00	.03	.03	.01	1.21	0.00	.02	1.30	0,01
Differentiation Strategy			-.04	.07	.07	.09	2.12	0.01	.13	2.33	0,02
<i>Other variables</i>											
Group Membership						.22***	1.21	0.16	.23***	1.25	0,14
State Support						.11*	1.16	0.08	.13*	1.24	0,07
<i>Interaction</i>											
State Support X Firm Age									-.04	1.84	0,02
State Support X Foreign Shareholder									-.10	1.48	0,03
State Support X Internationalization									.00	1.40	0,00
State Support X Competitive Intensity									-.08	1.73	0,02
State Support X Low Entry Barriers									-.09	1.32	0,05
State Support X Power of Suppliers									-.05	1.40	0,00
State Support X Substitute Product									-.05	1.29	0,01

State Support X Differentiation Strat.								-0.17***	2.62	0,05
State Support X Cost Leadership								.01	1.16	0,00
State Support X Combination Strategy								.04	1.71	0,01
State Support X Focus Strategy								.07	1.53	0,01
State Support X Group Membership								.02	1.29	0,00
R	0.27	0.38	0.28	0.40	0.40	0.45		0.50		
R ²	.07	.15	.08	.16	0.16	.20		.25***		
Adj R ²	.06	.12	.05	.11	0.11	.16		.16		
F	5.54***	5.21***	2.59**	3.526***	3.53***	4.11***		2.66***		

CVs = Control Variables, IVs=Industry Variables, SVs= Strategic Variables, Other variables (business group and state support)

***p<0.001, **p<0.05, *p<0.10, ^{ns}: not significant

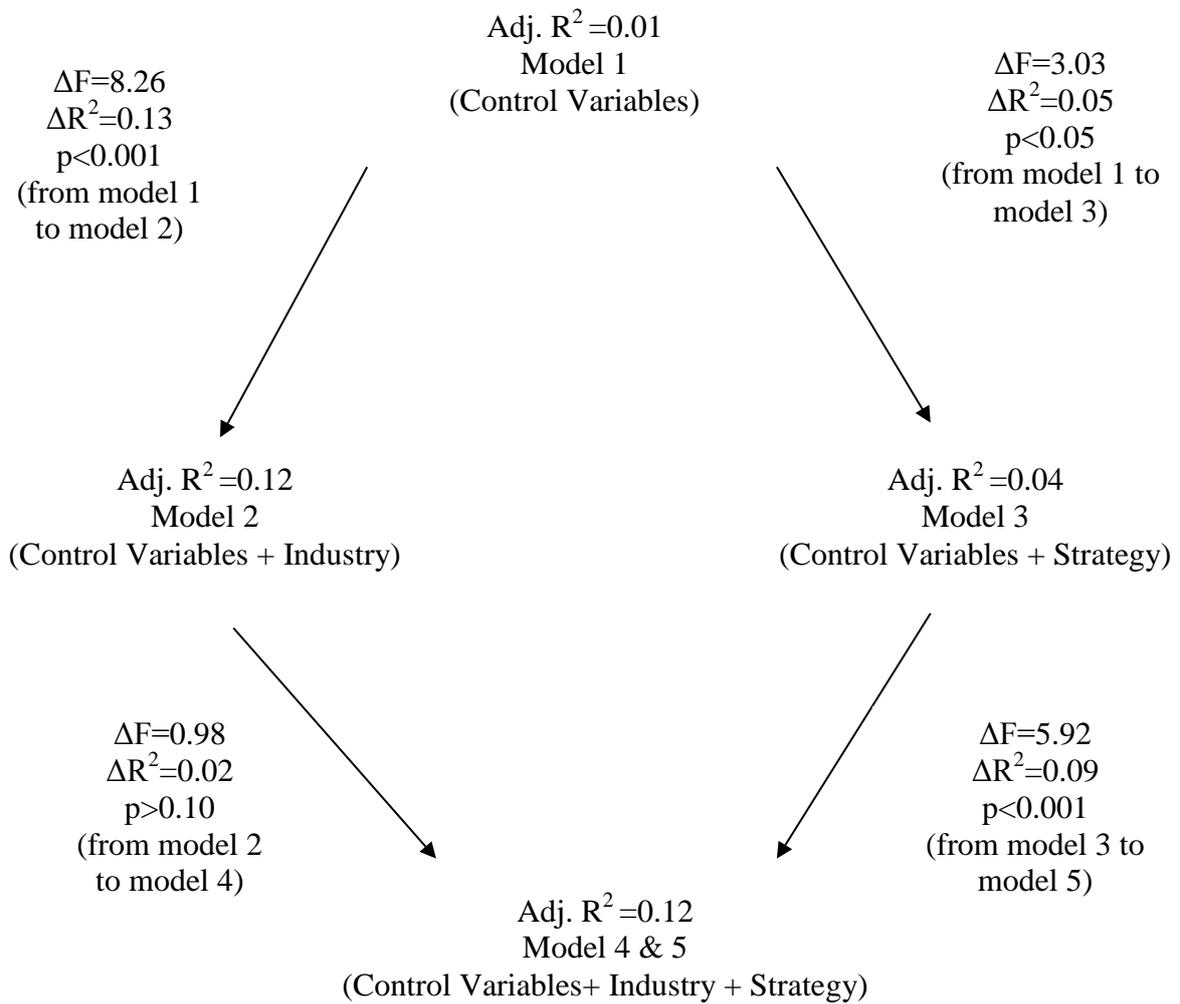


Figure 1. The impact of structure versus strategy variables (Dependent variable: NPM)

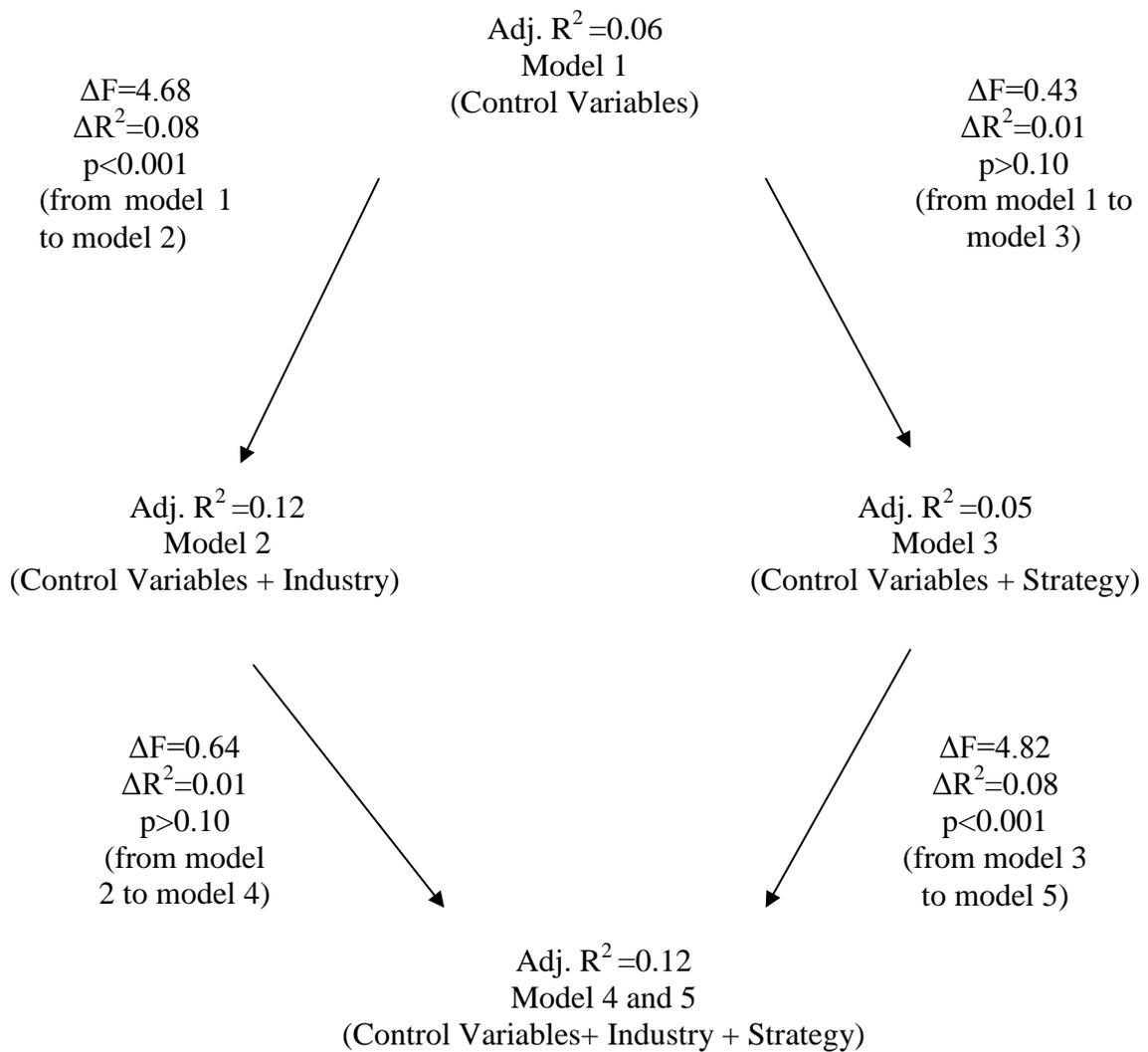


Figure 2. The impact of structure versus strategy variables (Dependent variable: Productivity)

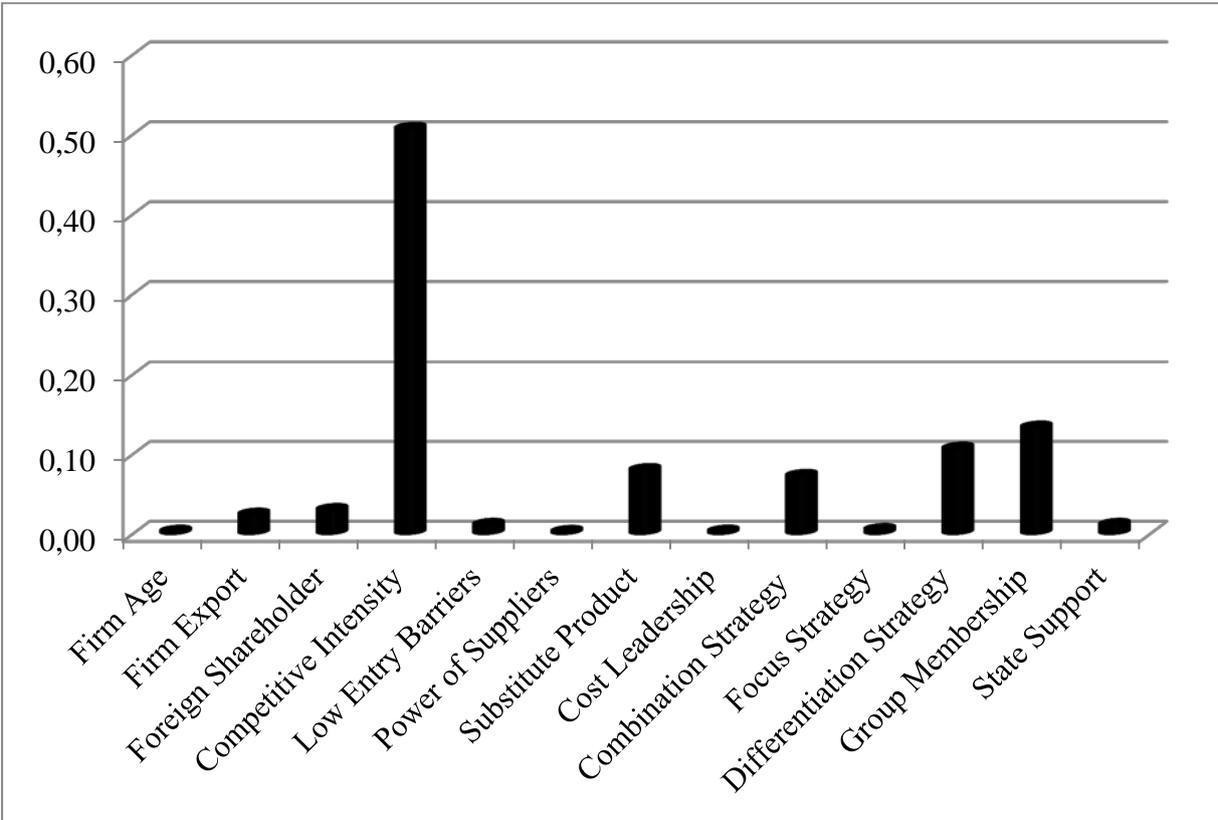


Figure 3. Relative importance of independent variables based on LMG Metrics of Model 6 (Dependent variable: Net Profit Margin)

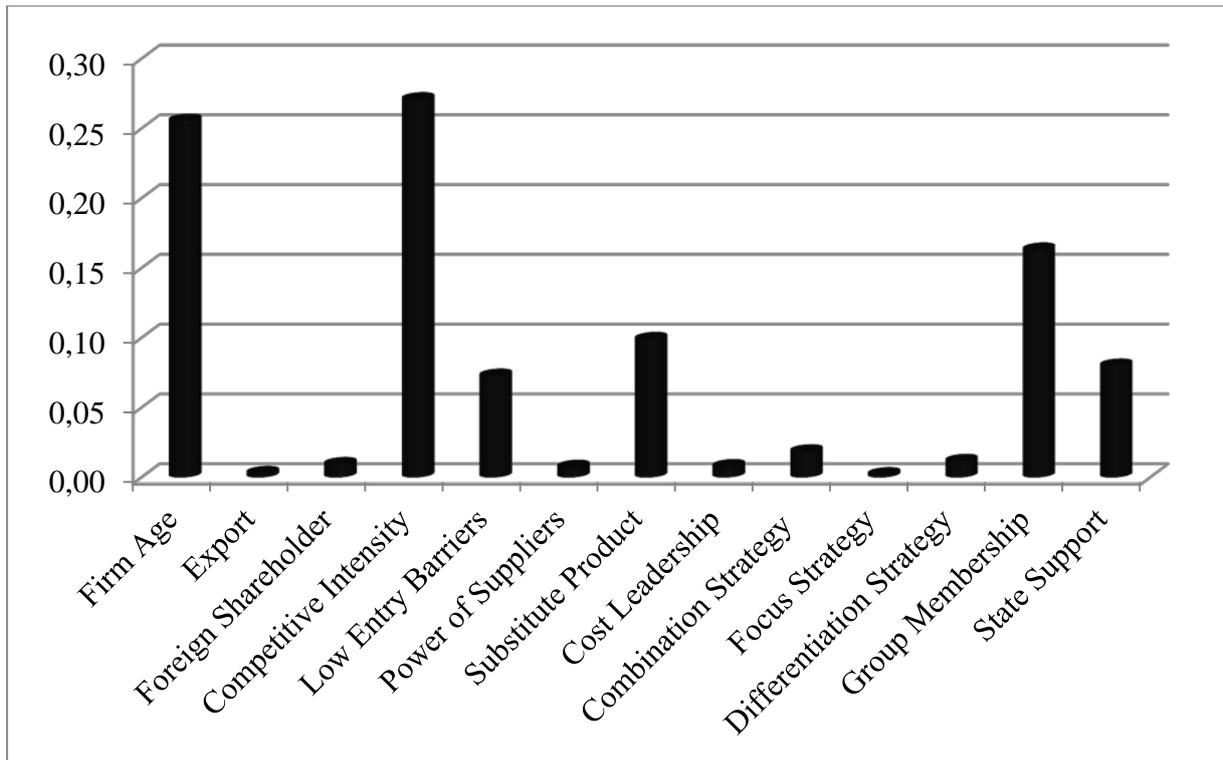


Figure 4. Relative importance of independent variables based on LMG Metrics of Model 6 (Dependent variable: productivity)