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***"Expropriators or Turnaround Artists? The Role of
Controlling Families in South Korea"***

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PRELIMINARY AND INCOMPLETE

**EXPROPRIATORS OR TURNAROUND ARTISTS?
THE ROLE OF CONTROLLING FAMILIES IN SOUTH KOREA (1985-2003)**

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1. The Role of Family Firms in the Economy

Economic activity is shaped by a large number of institutions and factors other than the prices set in markets. Among these institutions, familial and political relationships represent important nonmarket forces which impact economic decisions and firm strategies. In this paper, we study how social ties influence the organization and performance of firms in South Korea. Family firms are an important form of economic organization (La Porta et al., 1999; Allouche and Amann, 2000). In the United States, 35% of the companies in the S&P 500 are substantially owned by families (Anderson and Reeb, 2003b), and family firms account for 40% of U.S. GDP and 60% of employment. Family firms are even more important in other economies, including Canada (Morck, Strangeland and Yeung, 2000), Western Europe (Faccio and Lang, 2002) and many countries in Asia (Claessens, Djankov and Lang (2002)). In South Korea, as in most emerging economies, family firms are not just important but the ubiquitous form of business organization. It is exceptionally rare to find a Korean firm without one of the following characteristics: a founder-owner-manager, an heir-owner-manager, multiple family members with shared ownership under one family head, or multiple controlling

family members in management. These are all definitions of a family firm as used in the family literature.

Prior research on the influence of family ties on firm performance has been inconclusive. Theoretically, controlling families can extract private benefits through excessive compensation of family members, related-party transactions or special dividends. In addition, family firms often appear to pursue goals other than profit maximization, for instance when they give top positions in the firm exclusively to family members (Casson, 1999; Caselli and Gennaioli, 2003). Consistent with these disadvantages, a number of studies find that continued family ownership is associated with poorer financial performance (Morck, Strangeland and Yeung, 2000; Gomez-Mejia, Nunez-Nickel and Gutierrez, 2001; Cronquist and Nilsson, 2003; Bertrand et al., 2004.) A large part of the poor performance of many family firms appears to reflect the choice of family members as successors. In the U.S., the appointment of a family member as the successor CEO destroys on average significant firm value, presumably because family successors are selected from a smaller pool of talent (Villalonga and Amit, 2004; Barth, Gulbrandsen and Schøne, 2005). However, if the successor is a woman or if he attended a selective college, there is no such decline in performance, indicating that family members who had to prove themselves can run family firms as successfully as outsiders can (Pérez-González, 2005).

There are even reasons to believe that family control could be beneficial. Large shareholders have stronger incentives to monitor managers (Demsetz and Lehn, 1985), and families are particularly effective at mitigating managerial expropriation because they typically have substantial business experience (James, 1999). Perhaps as a result of tighter control, U.S. family firms are less diversified than their counterparts (Anderson and Reeb, 2003a). Given their interest in intergenerational wealth transfers, families are also likely to have longer investment horizons than professional managers (Stein, 1989; Harvey, 1999; Xiao et al., 2001.) Family members might derive more significant personal satisfaction from their business, and relatives of family CEOs can use their close personal ties to put pressure on poorly performing members (Davis, Schoorman and Donaldson, 1997; Kandel and Lazear, 1992).

In legal environments that afford only weak protection to minority shareholders, families may prefer to have their own members succeed the founder (Ang, Cole and Lin, 2000; Burkart, Panunzi, Shleifer, 2002). Family succession is also more attractive in these markets because weak capital markets make it more difficult to profitably sell the family firm (Bhattacharya and Ravikumar, 2001). Consistent with arguments that family control has its benefits, family firms in the U.S. outperform other firms in the S&P500 (Anderson and Reeb, 2003b), and they enjoy greater availability of credit (Bopaiiah, 1998) and a lower cost of debt (Anderson, Mansi and Reeb, 2003).

2. Data

The dependent variable of interest is ROA, as measured by operating income divided by total assets. The data on ROA come from Korea Information Service, the country's lead credit-rating agency and a data source trusted to be reliable by both the financial community and academics. Summary statistics for ROA and all independent variables are presented in Table 1.

We have collected a comprehensive data set on family structure, changes in family leadership, and family involvement in management over time for 2,090 of the largest public and private firms in South Korea. The family data set covers the 1985-2004 period, during which time South Korea underwent a series of important shocks (from military dictatorship to initial democracy to the Asia crisis and opposition government). We worked together with a team of 10 undergraduate and graduate RAs during the period of June 2004-June 2005. During that time, data on family structure and individual family members' resumes were collected and cross-checked with over 25 respected Korean data sources. Sources included the Donga Newspaper People Database and the Joongang Newspaper People Database, two sources that collect life-long resumes on over 200,000 Korean citizens. Such resumes typically include information on the individual's date of birth, place of birth, high school, university, university major, graduate school, entire work history, and family relationships. While these two sources were highly impressive in their coverage, there were numerous missing data points. To maximize the

comprehensive nature of our data set, we collected further data and cross-checked all observations with over 25 other sources respected in South Korea. This foremost included the Korean Integrated News Database System (KINDS), the Korean version of Lexis-Nexis.

Next, we electronically and manually searched a number of newspapers directly for years that were not already covered in the KINDS database. These newspapers included: the Chosun Newspaper (www.chosun.co.kr); the Dong-A Newspaper (www.donga.com); the Financial Newspaper (www.fnnews.com); the Hankook Newspaper (www.hankooki.com); the Hankyoreh Newspaper (www.hani.co.kr); the Herald Media Business Newspaper (www.heraldbiz.com); the Korea Economic Daily Newspaper (www.hankyung.com); the Kukmin Daily Newspaper (www.kukminilbo.co.kr); the Kyung Hang Newspaper (www.khan.co.kr); Maeil Business Newspaper (www.mk.co.kr); the Money Today online newspaper (www.moneytoday.co.kr); the Munhwa Newspaper (www.munhwa.com); the Naeil Newspaper (www.naeil.com); the Segye Times (www.segye.com); the Seoul Economic Daily Newspaper (economy.hankooki.com); and the Seoul Newspaper (www.seoul.co.kr). In searching these newspapers, we focused on wedding announcements and obituaries for valuable information on family structure over time.

Finally, after searching the various newspapers directly, we search other sites as well. A leading Korean NGO on corporate governance, the People's Solidarity for Participatory Democracy (PSPD), collect data on the very largest of the country's business groups that we used to compare and cross-check with our own data set. The PSPD lists its data at the website www.peoplepower21.org. We also cross-checked the family structure and family work history data with outside data collected from the Korea Information Service (www.kisinfo.com), Korea's leading credit-rating agency. Finally, we also cross-checked our data set with data from Korea's Data Analysis, Retrieval and Transfer System (dart.fss.or.kr), the Korean Annual Book of Listed Companies, and the KOSDAQ Annual Book of Listed Companies. The final database is one that relies not on any single source, but on 25 of the most respected sources in Korea.

In the process of collecting the data, we selected our preferred coding system. We were first interested in identifying the family or individual that controlled every significant business group and independent non-business-group affiliated company. Next, we looked for who was the individual controlling shareholder who had the majority of voting rights in each significant business group and independent non-business-group-affiliated company. We particularly were focused on coding changes in the identity of the control shareholder for each company over time. With that information in hand, we next coded all of the following family relations: wife, son, daughter, mother, father, brother, sister, brother-in-law, sister-in-law, son-in-law, daughter-in-law, grandson, grandson's spouse, granddaughter, granddaughter's spouse, cousin, cousin's spouse, cousin's children, niece, niece's spouse, niece's children, nephew's spouse, and nephew's children. Each individual was coded according to their family relationship to the family head. Every time the identity of a firm's controlling shareholder changed, we updated the longitudinal family data set to reflect each family member's new relationship to the new controlling shareholder (aka family head). We also kept track of the number of generational changes in the controlling shareholder for each firm. Because a single individual in the data set could be related in some way to as many as 8 different business group and as many as 31 different controlling shareholders over time, we purposely focused on confirm all multiple family connections across the data set. Finally, every individual in the data set was given a unique ID together, and across each individual's row in the data set is her "fixed" set of characteristics for place of birth, high school name, university name, university major, graduate school education, and complete work history.

For the present study, we are focused on a few variable of central interest within the literature on family firms. In particular, we want to know what happens to the firm's profitability when the head of the controlling family chooses to take a senior management role in the firm. Whereas some studies have argued that family managerial involvement leads to tunneling and/or performance deterioration due to incompetence, other papers have argue that family managers bring valuable firm-specific human capital and carry longer-term and thus more beneficial investment horizons. Therefore, we code an indicator variable equal to 1 for every year in which the family head occupies a senior management position of i-sa level or above in one of the firms that s/he controls. The

indicator variable is set equal to zero otherwise. Another key variable of interest is the cumulative number of successions that have taken place within the controlling family. Whereas some studies have argued that family succession leads to deterioration in the quality of human capital (aka the dumb heir hypothesis), it is possible that with each generational change the pool of qualified family managers with firm-specific human capital actually improves. Some families have the same head throughout the 1985-2003 period of observation in this paper, while other families have as many as three changes in family head during the same period. We therefore code a count variable for the cumulative number of changes in family head that a given firm has experienced through the year of the observation. As shown in the summary statistics presented in Table 1, this variable ranges from 0 to 3 with a mean of 0.20.

In conjunction with the two main variables of interest above, we are also in the process of coding a continuous variable to measure the quality of human capital. From shortly after World War II until the 1990s, South Korea's universities relied almost exclusively for their admissions decisions on a national aptitude test. Each department in each university set a very narrow range of scores for admission to that department. Also, we have examined the data, and the university-department rankings are quite stable over the 1973-1985 period. We are presently collecting admission score information for more years and mapping that onto each manager's and family member's resume. In the next iteration, we plan to run interaction variables between the two variables of interest and this aptitude test variable. [Note: One challenge has been to decide what to do with managers and family members who did not attend university at all. Another challenge has been to decide what to do with the small but nontrivial percentage of managers and family members who attended university overseas.]

For control variables, we include measures for the log of total assets, leverage as measured by total liabilities divided by total assets, marketing intensity (advertising expenditures divided by sales), and export orientation (export sales divided by total sales). Summary statistics are presented in Table 1. The four variables come from Korea Information Service, Korea's leading credit-rating agency and the most widely-used data source by local and foreign academics as well as local and foreign financial analysts. The

four variables cover the years 1985-2003. [When the Year 2004 financial data become available to us, we will extend the sample to 2004.] Therefore, all models run in this paper use all available company-year data points from 1985-2003. One will notice that there are a small number of extreme values for ROA and the control variable for leverage. To our knowledge, these are accurate observations and so should not be removed from the data set. However, we have confirmed that all results are robust to the exclusion of 28 extreme values out of the total sample size of 23,069 (those with ROA < -1 and/or leverage > 100). In the specifications described in the next section, we also add firm-level fixed effects and year fixed effects.

3. Empirical Approach

We are interested in studying how the involvement of family members influences the performance of firms. In our empirical models, we relate a firm's ROA to measures of family involvement:

$$(1) \quad ROA_{jt} = M_{jt}\beta_0 + F_{jt}\beta_1 + X_{jt}\beta_2 + t_t + \mu_{jt}$$

M represents the family-head-in-senior-management variable, F represents the cumulative number of changes in family head, X is a vector of firm characteristics (including size, leverage, marketing intensity, export orientation, and two alternative measures of business group affiliation) and t are year fixed effects. We also run the model with firm fixed effects. Because one of our main results on the family-head-in-senior-management variable has two possible interpretations, we go one further step in the modeling and look for the possibility of reverse causality. We will therefore take lagged values of the family-head-in-senior-management variable and the ROA variable to determine if family heads are turnaround specialists or expropriators.

4. Results

Summary statistics for all the variables of interest are presented in Table 1. We investigated our original sample and found that there were 44 observations that could be attributed to financially distressed firms. These firms were so distressed that they were engaged in fire sales, and thus their amounts of profit and leverage were highly distorted. We therefore made a decision rule to eliminate these 44 company-year observations out of the original 13,069. We are left with a few company year observations with high negative and positive ROA, in addition to a few with high leverage. Yet we have confirmed that our substantive results are the same with or without these 44 company-year observations.

The simple pairwise correlation table is presented in Table 2, and it shows that there is no significant collinearity across the main independent variables. There is a moderately high pairwise correlation between the independent variable for leverage and the dependent variable ROA. Clearly, firms with high leverage have a difficult time generating even operating profits. There is also a moderately higher pairwise correlation between one measure of business group affiliation and cumulative turnover in group head. For some reason, the largest business groups have more turnover in their family heads, and we plan to investigate why that is the case. Nevertheless, when we later compare the effects of family involvement and business group affiliation, it is family involvement that is far more significant and robust in explaining ROA.

The results of our main model are presented in Table 3, and they show two interesting results. The first result is that the cumulative number of changes in family head is positively associated with ROA. Even after controlling for both year fixed effects and firm-level fixed effects, this result is both economically and statistically significant. In Model 5, with all other variables set equal to zero, the effect of a change in family head is associated with a 0.005 higher ROA ($p < .05$). This is economically significant, as it constitutes nearly 10 percent of the average Korean firm's level of profitability for every cumulative change in group head. Some firms in the sample had as many as three cumulative changes in group head during the 1985-2003 period. The second interesting

result relates to our family-head-in-senior-management variable. In Model 5, even after controlling for both year fixed effects and firm-level fixed effects, this result is both economically and statistically significant. Having a family head in senior management is associated with a 0.019 higher ROA ($p < .001$). It is interesting to note that this was the one variable affected by the removal of the extreme outliers. As a result of their removal, the variable becomes positive. Among the control variables, leverage is always negatively associated with profitability, and the leverage variable is both economically and statistically significant. Size is of little significance, and marketing intensity and export orientation have no independent effect of significance. Business group affiliations are surprisingly negative in their association with ROA, no matter whether we use a categorical variable for when the firm belongs to a business group consisting of at least three firms or we use a continuous measure for the size of the firm's business group affiliate network. The inclusion or exclusion of those variables also has no substantive effect on the main variables of interest, including turnover in family head.

Next, we examined the source of the positive result for family-head-in-senior-management. In the recent corporate governance, even when firms are profitable authors seek to test for evidence of theft and expropriation by family shareholders. Therefore, the first potential explanation comes from the recent corporate governance literature, in which powerful families have in some studies been found to exploit their outsized voting rights to expropriate minority investors. According to that explanation, family heads are actively seeking easy opportunities to expropriate outsiders, perhaps through closer involvement with the most profitable firms in their empire, and we refer to that explanation as the "Expropriator Hypothesis." Another potential explanation is that the particular family firm runs into a period of low performance for reasons that are exogenous, the family head realizes that s/he has an incentive to step in and take managerial leadership of the trouble firm, and that the family head eventually succeeds more often than not in overseeing a successful turnaround. We call this explanation the "Turnaround Artist Hypothesis." We use three initial tests to find support for either the "Expropriator Hypothesis" or the "Turnaround Artist Hypothesis."

In the first test, we are primarily interested in finding out whether family heads choose to take senior management positions in firms that are already in trouble. So we generate lagged ROA variables to add to our main model. We generate variables for one-year-lagged ROA, two-year-lagged ROA, three-year-lagged ROA, four-year-lagged ROA, and five-year-lagged ROA. We include these lagged ROA variables one at a time and separately in Models 2-6 of Table 4, before ultimately including all of them at the same time in Model 7 of Table 4. What Models 2-4 suggest is that family heads take over firms that have been struggling for a period of at least two years. But then in years four and five, the family head as senior manager becomes associated with increased levels of firm performance. By the end of the five-year cycle, the coefficient for family management is four times larger than it was with just the recent one-year performance included in the model. Not only is four-year and five-year lagged ROA negatively and significantly associated with current year's ROA, but also the family-head-in-senior-management is now far more positively associated with ROA. In fact, as shown in the full Model 7 of Table 4, having a family head in senior management is associated with a .010 increase in ROA ($p < .05$), even after controlling for each of the five lagged ROA variables together. Interestingly, the one-year-lagged ROA variable is both positive and significantly associated with current-period ROA ($\beta = 0.365, p < .01$), whereas the three-year and four-year-lagged ROA are both negative and significantly associated with current period ROA ($p < .01$).

Next, we tested for how long it takes for the family head upon taking a senior management role to be associated with higher ROA. For this test, we generated lagged variables for the family head being in senior management. As before, we generated five lagged variables: a one-year-lagged family-head-in-senior-management variable; a two-year-lagged family-head-in-senior-management variable; a three-year-lagged family-head-in-senior-management variable; a four-year-lagged family-head-in-senior-management variable; and a five-year-lagged family-head-in-senior-management variable. We enter these lagged variables one by one separately into our main model in Table 5, before ultimately including all of them together in Model 7 of Table 5. The results in the full Model 7 suggest that the family head comes into an already struggling firm, the firm continues to struggle for at least 3-4 years, and then by the current period the family head

as senior manager is associated with an upturn in performance. The coefficient on the current-period effect of family management on ROA is highly significant, both economically and statistically ($\beta = 0.022, p < .01$).

Next, the third and final test is to include the lagged ROA and lagged family-head-in-senior-management variables together at the same time. This is the most definitive of the three tests, as it include both prior firm performance and the prior role of the family head in the model. The results shown in Table 6 lend additional support to the Turnaround Artist Hypothesis. In the full Model 7, the family head is positive associated with ROA two years into the future upon taking over a senior management position in the firm ($\beta = 0.014, p < .01$). It should be noted that to do this final test, the sample size decreases by two-thirds from its original size. Therefore, it is also interesting that the family-head-in-senior-management retains any statistical power after such a large reduction in sample size.

It is worth noting at this point why we believe the variable for cumulative number of changes in family head goes away upon the inclusion of all lagged variables. We have found that the variable for cumulative number of changes in family head stays large and robust through the inclusion of one-year, two-year, and three-year lagged variables. Then upon the inclusion of a four-year-lagged variable, the sample size drops significantly and the variable loses its importance. That is simply because by including the four-year-lagged variable, we are losing most observations from the 1980s part of our sample.

It is difficult to construct an expropriation story that explains these results. The family heads would have to target for plundering those firms that are struggling, are going to struggling for at least two years or more, and then are possible candidates for value improvement or value creation. If a country has weak rule of law, the literature has already shown that family heads are willing to expropriate in ways that can be easily discovered. So for the expropriation story to be true for even this sample, a few unlikely conditions would need to be true. First, the country would need to have strong rule of law, because otherwise family heads would find it far more efficient to target successful firms or bankrupt firms for expropriation. Second, the family heads would need to know

with great foresight which firms are currently struggling, but are likely to perform far better in two to five years. Third, the family heads would need to find it more individually profitable to plunder these firms than to focus on raising their value. Of these three conditions, it is the first and the third conditions that are the most unlikely. Korea has long been characterized in the corporate governance literature as having relatively weak rule of law among emerging economies. Furthermore, given the actual increase in performance for these turnaround candidates, it does not appear likely that plundering would be more profitable than active and honest value creation.

Nevertheless, we recognize that by studying lagged variables for ROA levels—even with the context of a fixed effects specification—we still are left with some possibility of endogeneity driving the results. Therefore, as a further test of the turnaround hypothesis, we will next test a series of GMM models to do more definitively with the question of endogeneity. We have done some early tests using the difference-GMM estimator, and these early tests have been promising, but we plan to run further robustness checks in the coming weeks.

Still, taken together, these results suggest two intriguing possibilities. First, changes in family head have actually been value-creating among Korean firms. Given this possibility, the next question to ask is whether Korean families have internal governance features that allow for value creation. We will next examine the cause of each change in family head to determine whether (a) families push out heads after a long period of poor firm performance; or (b) exogenous events such as the family head's death were primarily responsible for better firm performance. We will also examine what managerial changes occurred after a change in family head. Second, these results suggest that family heads on average play the role of turnaround artist instead of expropriator.

5. Conclusion

In conclusion, our paper suggests that family involvement in management is value-creating, and that analyses of family involvement and family performance need to control

more for the dynamic nature of family involvement. Changes in family head can lead to governance improvement, rather than inheritance by a dumb heir. Over time, the pool of available family talent is not only larger, but also potentially more stocked with high-quality human capital. Family heads on average seem to be more motivated by turning around the lower-performing firms in their portfolio than in being expropriators. Over the coming time period, we will seek to perform further tests of these working hypotheses.

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Table 1. Summary Statistics

	Mean	Std. Dev.	Median	Min	Max	Obs
[1] ROA (Operating Income/Total Assets)	0.054	0.100	0.057	-0.792	0.798	23015
[2] Cumulative Number of Changes in Group Head (or firm head in case of independent firms)	0.200	0.457	0.000	0.000	3.000	23015
[3] Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)	0.699	0.459	1.000	0.000	1.000	23015
[4] Leverage (Total Liabilities/Total Assets)	0.731	0.381	0.723	0.000	8.410	23015
[5] Size (Log of Total Assets)	17.518	1.602	17.307	10.780	24.392	23015
[6] Advertising Intensity (Advertising Expenditures/Total Sales)	0.015	0.282	0.001	0.000	37.252	23015
[7] Export Orientation (Export Sales/Total Sales)	0.034	0.144	0.000	0.000	1.000	23015
[8] Firm Is Affiliated with a Business Group (Yes =1; 0 otherwise)	0.801	0.399	1.000	0.000	1.000	23015
[9] Firm's Number of Group Affiliates	19.176	25.625	7.000	0.000	91.000	23015

Table 2. Correlation Table

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
[1] ROA (Operating Income/Total Assets)	1.000								
[2] Cumulative Number of Changes in Group Head (or firm head in case of independent firms)	-0.030***	1.000							
[3] Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)	0.040***	0.003	1.000						
[4] Leverage (Total Liabilities/Total Assets)	-0.231***	-0.022***	-0.035***	1.000					
[5] Size (Log of Total Assets)	0.010	0.199***	-0.046***	-0.026***	1.000				
[6] Advertising Intensity (Advertising Expenditures/Total Sales)	-0.037***	0.012*	0.001	-0.015**	-0.008	1.000			
[7] Export Orientation (Export Sales/Total Sales)	0.017**	-0.021***	0.021***	-0.057***	0.060***	-0.009	1.000		
[8] Firm Is Affiliated with a Business Group (Yes =1; 0 otherwise)	-0.011*	0.139***	0.159***	0.055***	0.152***	0.002	-0.049***	1	
[9] Firm's Number of Group Affiliates	-0.031***	0.295***	-0.055***	0.019***	0.294***	0.000	-0.043***	0.361***	1.000

Note: * = significance at the .10 level, ** = significance at the .05 level, and *** = significance at the .01 level

Table 3. Family Involvement and Profitability

The tables presents results of a fixed-effects specification in which ROA (operating income/total assets) is the dependent variable. Standard errors are reported below each coefficient.

Variable	DV: ROA (Operating Income/Total Assets)				
	Model Number				
	(1)	(2)	(3)	(4)	(5)
Cumulative Number of Changes in Group Head (or firm head in case of independent firms)		0.005 ** [0.002]	0.005 ** [0.002]	0.005 ** [0.002]	0.005 ** [0.002]
Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)		0.016 *** [0.004]	0.016 *** [0.004]	0.019 *** [0.004]	0.019 *** [0.004]
Leverage (Total Liabilities/Total Assets)	-0.052 *** [0.002]	-0.054 *** [0.002]	-0.054 *** [0.002]	-0.054 *** [0.002]	-0.054 *** [0.002]
Size (Log of Total Assets)	-0.011 *** [0.001]	-0.005 *** [0.001]	-0.005 *** [0.001]	-0.005 *** [0.001]	-0.005 *** [0.001]
Advertising Intensity (Advertising Expenditures/Total Sales)			-0.003 [0.002]	-0.003 [0.002]	-0.003 [0.002]
Export Orientation (Export Sales/Total Sales)			-0.003 [0.005]	-0.003 [0.005]	-0.003 [0.005]
Firm Is Affiliated with a Business Group (Yes =1; 0 otherwise)				-0.023 * [0.013]	
Firm's Number of Group Affiliates					-0.009 ** [0.004]
Firm Fixed Effects Included	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects Included	No	Yes	Yes	Yes	Yes
Joint p-value of Year Fixed Effects		0.000	0.000	0.000	0.000
Number of observations	23015	23015	23015	23015	23015
p-value	0.000	0.000	0.000	0.000	0.000
R-squared	0.036	0.052	0.052	0.052	0.052

Note: * = significance at the .10 level, ** = significance at the .05 level, and *** = significance at the .01 level

Table 4. Family Heads and Testing the Turnaround Hypothesis

The tables presents results of a fixed-effects specification in which ROA (operating income/total assets) is the dependent variable. Standard errors are reported below each coefficient.

Variable	DV: ROA (Operating Income/Total Assets)						
	Model Number						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)	0.019 *** [0.004]	0.004 *** [0.011]	0.015 **** [0.004]	0.019 *** [0.004]	0.017 *** [0.005]	0.016 *** [0.005]	0.010 ** [0.004]
One-year-lagged Firm ROA (Operating Income/Total Assets)		0.416 *** [0.006]					0.347 *** [0.009]
Two-year-lagged Firm ROA (Operating Income/Total Assets)			0.126 *** [0.007]				-0.011 [0.009]
Three-year-lagged Firm ROA (Operating Income/Total Assets)				-0.013 * [0.008]			-0.020 ** [0.009]
Four-year-lagged Firm ROA (Operating Income/Total Assets)					-0.075 *** [0.008]		-0.046 *** [0.009]
Five-year-lagged Firm ROA (Operating Income/Total Assets)						-0.063 *** [0.008]	-0.004 [0.009]
Cumulative Number of Changes in Group Head (or firm head in case of independent firms)	0.005 ** [0.002]	0.005 *** [0.002]	0.006 *** [0.002]	0.003 [0.002]	0.001 [0.002]	-0.001 [0.002]	0.000 [0.002]
Leverage (Total Liabilities/Total Assets)	-0.054 *** [0.002]	-0.033 *** [0.002]	-0.052 *** [0.002]	-0.057 *** 0.002	-0.057 *** [0.002]	-0.055 *** [0.002]	-0.038 *** [0.002]
Size (Log of Total Assets)	-0.005 *** [0.001]	-0.003 *** [0.001]	-0.002 [0.001]	0.000 [0.001]	0.002 [0.002]	0.003 ** [0.002]	0.000 [0.002]
Advertising Intensity (Advertising Expenditures/Total Sales)	-0.003 [0.002]	-0.005 ** [0.002]	-0.004 [0.003]	-0.232 *** [0.029]	-0.220 *** [0.034]	-0.237 *** [0.038]	-0.214 *** [0.036]
Export Orientation (Export Sales/Total Sales)	-0.003 [0.005]	-0.004 [0.005]	-0.005 [0.005]	-0.003 [0.005]	-0.003 [0.005]	-0.005 [0.005]	-0.003 [0.005]
Firm's Number of Group Affiliates	-0.009 ** [0.004]	-0.002 [0.004]	-0.004 [0.004]	-0.006 [0.004]	-0.005 [0.004]	-0.003 [0.004]	0.001 [0.004]
Firm Fixed Effects Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Joint p-value of Year Fixed Effects	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Number of observations	23015	20682	18634	16772	15038	13429	12977
p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000
R-squared	0.052	0.208	0.096	0.084	0.086	0.084	0.207

Note: * = significance at the .10 level, ** = significance at the .05 level, and *** = significance at the .01 level

Table 5. A Further Test of the Turnaround Hypothesis

The tables presents results of a fixed-effects specification in which ROA (operating income/total assets) is the dependent variable. Standard errors are reported below each coefficient.

Variable	DV: ROA (Operating Income/Total Assets)							
	Model Number	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)		0.019 *** [0.004]						0.022 *** [0.006]
One-year-lagged Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)			0.008 *** [0.003]					0.006 [0.005]
Two-year-lagged Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)				-0.001 [0.003]				-0.005 [0.004]
Three-year-lagged Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)					-0.007 *** [0.003]			-0.005 [0.004]
Four-year-lagged Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)						-0.012 *** [0.003]		-0.002 [0.004]
Five-year-lagged Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)							-0.016 *** [0.003]	-0.012 *** [0.003]
Cumulative Number of Changes in Group Head (or firm head in case of independent firms)		0.005 ** [0.002]	0.012 *** [0.002]	0.012 *** [0.002]	0.011 *** [0.002]	0.010 *** [0.002]	0.009 *** [0.002]	0.009 *** [0.002]
Leverage (Total Liabilities/Total Assets)		-0.054 *** [0.002]	-0.054 *** [0.002]	-0.055 *** [0.002]	-0.055 *** [0.002]	-0.056 *** [0.002]	-0.058 *** [0.002]	-0.058 *** [0.002]
Size (Log of Total Assets)		-0.005 *** [0.001]	0.004 *** [0.001]	0.003 *** [0.001]	0.002 [0.001]	0.001 [0.001]	0.000 [0.001]	0.000 [0.001]
Advertising Intensity (Advertising Expenditures/Total Sales)		-0.003 [0.002]	-0.003 [0.002]	-0.003 [0.002]	-0.003 [0.002]	-0.002 [0.002]	-0.002 [0.002]	-0.002 [0.002]
Export Orientation (Export Sales/Total Sales)		-0.003 [0.005]	-0.003 [0.005]	-0.003 [0.005]	-0.001 [0.006]	0.002 [0.006]	0.003 [0.006]	0.004 [0.006]
Firm's Number of Group Affiliates		-0.009 ** [0.004]	-0.003 [0.004]	-0.001 [0.004]	0.001 [0.004]	0.001 [0.004]	0.002 [0.004]	-0.006 [0.005]
Firm Fixed Effects Included		Yes						
Year Fixed Effects Included		Yes						
Joint p-value of Year Fixed Effects		0.000	0.000	0.000	0.000	0.000	0.000	0.000
Number of observations		23015	22234	21375	20446	19453	18414	18414
p-value		0.000	0.000	0.000	0.000	0.000	0.000	0.000
R-squared		0.052	0.063	0.061	0.058	0.054	0.056	0.057

Note: * = significance at the .10 level, ** = significance at the .05 level, and *** = significance at the .01 level

Table 6. A Final Test of the Turnaround Hypothesis

The tables presents results of a fixed-effects specification in which ROA (operating income/total assets) is the dependent variable. Standard errors are reported below each coefficient.

Variable	DV: ROA (Operating Income/Total Assets)					
	Model Number					
	(1)	(2)	(3)	(4)	(5)	(6)
One-year-lagged Firm ROA (Operating Income/Total Assets)	0.416 *** [0.006]					0.348 *** [0.009]
Two-year-lagged Firm ROA (Operating Income/Total Assets)		0.126 *** [0.007]				-0.011 [0.009]
Three-year-lagged Firm ROA (Operating Income/Total Assets)			-0.012 [0.008]			-0.020 ** [0.009]
Four-year-lagged Firm ROA (Operating Income/Total Assets)				-0.074 *** [0.008]		-0.046 *** [0.009]
Five-year-lagged Firm ROA (Operating Income/Total Assets)					-0.062 *** [0.008]	-0.004 [0.009]
One-year-lagged Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)	0.014 *** [0.004]					0.001 [0.006]
Two-year-lagged Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)		0.016 *** [0.004]				0.014 * [0.007]
Three-year-lagged Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)			0.009 * [0.005]			-0.003 [0.006]
Four-year-lagged Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)				0.005 [0.005]		-0.001 [0.006]
Five-year-lagged Group head holds senior management position in this firm (or controlling shareholder holds senior management position in case of independent firms)					0.003 [0.005]	-0.004 [0.006]
Cumulative Number of Changes in Group Head (or firm head in case of independent firms)	0.005 *** [0.002]	0.006 *** [0.002]	0.004 * [0.002]	0.002 [0.002]	0.000 [0.002]	0.000 [0.002]
Leverage (Total Liabilities/Total Assets)	-0.033 *** [0.002]	-0.052 *** [0.002]	-0.057 *** [0.002]	-0.057 *** [0.002]	-0.054 *** [0.002]	-0.038 *** [0.002]
Size (Log of Total Assets)	-0.003 *** [0.001]	-0.002 [0.001]	0.000 [0.001]	0.002 [0.001]	0.004 ** [0.002]	0.000 [0.002]
Advertising Intensity (Advertising Expenditures/Total Sales)	-0.005 ** [0.002]	-0.004 [0.003]	-0.233 *** [0.029]	-0.220 ** [0.034]	-0.237 *** [0.038]	-0.214 *** [0.036]
Export Orientation (Export Sales/Total Sales)	-0.004 [0.005]	-0.005 [0.005]	-0.003 [0.005]	-0.003 [0.005]	-0.005 [0.005]	-0.003 [0.005]
Firm's Number of Group Affiliates	-0.002 [0.004]	-0.002 [0.004]	-0.001 [0.004]	0.000 [0.004]	0.002 [0.004]	0.002 [0.004]
Firm Fixed Effects Included	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects Included	Yes	Yes	Yes	Yes	Yes	Yes
Joint p-value of Year Fixed Effects	0.000	0.000	0.000	0.000	0.000	0.000
Number of observations	20682	18634	16772	15038	13429	12977
p-value	0.000	0.000	0.000	0.000	0.000	0.000
R-squared	0.243	0.096	0.084	0.085	0.083	0.208

Note: * = significance at the .10 level, ** = significance at the .05 level, and *** = significance at the .01 level