The "Down to the Countryside" Experience of the Chairman of the Board and the Firm's Innovation Decision

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Abstract

Early life experience may influence an executive's psychology and behavior, which affects the company's financial policy. This paper studies how the "Down to the Countryside" experience of the chairmen of the boards in China impacts the firms' innovation decisions. The empirical results show that: (1) This exogenous experience increases chairmen's risk aversion and reduces their innovation investments. (2) Higher education further intensifies such an effect. (3) The increased risk aversion of the chairmen also causes them to make more conservative decisions in other aspects of the firms. And our results are robust to a series of tests.

Key Words: Chairman of board; Up to the Mountains and Down to the Countryside Movement; Innovation; Risk taking;

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1. Introduction

Existing literature has documented that, apart from firm-, industry-, and market-level factors, personal characteristics of the top managers, such as their age, gender, educational background etc., are also playing important roles in determining a firm's corporate decisions (Bamber Jiang and Wang., 2010, Malmendier, Tate and Yan., 2011; Barker and Mueller, 2002). More recently, another stream of literature finds that the early life experience of the executives imposes a significant impact on their personal psychology and behavior, and thus influences the corporate strategies and decisions that they make. For example, researchers have found that the executives' military service (Bamber et al., 2010; Benmelech and Frydman, 2015), disaster experience (Bernile, Bhagwat and Rau, 2017), hobby of flying airplanes (Sunder, Sunder and Zhang, 2017; Cain and Mckeon, 2016), and foreign experience (Yuan and Wen, 2018) etc., all have significant explanatory power to the variation in a firm's corporate decisions. One problem that these studies have in common is that the experiences are not totally exogenous. For example, the military experience of the executives could be a result of self-selection. In general, people with relatively tough characteristics are more likely to choose to serve the army. Hence, their military experience and the corporate decisions they make are both affected by their tough characteristics. This self-selection issue makes it difficult to draw a causal relationship between the military experience of the executives and their corporate decisions.

This study is clear of the self-selection problem as we look at a purely exogenous life experience of top managers, namely the "Up to the Mountains and Down to the Countryside Movement" (often known simply as the "Down to the Countryside Movement") that took place in China around 1960s and 1970s, to explore its impact on the firms' corporate decisions. In December 1968 the Chairman of China Mr. Mao Zedong called on secondary school students and graduates to go to the mountainous and countryside to "develop their talents to the full

through education amongst the rural population"[1]. These people have a special title as "educated youth", or also known in China as "sent-down youth" and abroad as "rusticated youth". We choose such an event to study for the following reasons: Firstly, although this movement initially started on a voluntary basis, it soon became compulsory. During the 10 years' period of time from the late 1960s to the late 1970s, approximately 17 million educated youth were forced to leave their homes in the urban cities and immigrate to the rural areas. The enforcement feature of such a movement makes it entirely exogenous and helps us to avoid the self-selection problem. Secondly, in rural areas, these young people were required to perform simple but exhausting physical farming work. The scarcity of the basic living supplies, the inadaptability to the new and poor environment, and particularly the feeling that such a movement seems interminable had been wearing down these youth's fighting spirits and their hopes for the future. And the repetitive and long-lasting negative experience tremendously enhanced their dread of the complicated environment and their uncertainty about the future. Such an impact had a significant influence on their emotion and psychology, as well as their feeling about risk, causing them to become more pessimistic and conservative. This influence is long lasting and affects every aspect of their lives, even after the end of the movement around 1976 when the majority of the educated youth moved back to their urban home cities. Now some of these educated youth have become the top managers and executives in listed companies. We hence wonder whether and how this special early experience affects their corporate decisions. Finally, compared with other experience of the executives, this movement has a more profound impact on the economy, as it involves almost all the educated youth from the whole country, lasts for more than a decade, and has influenced a whole generation of Chinese people. Therefore, studying the impact of such experience on the firm corporate decisions becomes particularly important and meaningful.

[1] https://en.wikipedia.org/wiki/Down_to_the_Countryside_Movement

In this study, we focus on one particular aspect of corporate decisions—firm innovation, though we expect that the "Down to the Countryside" experience would affect many corporate decisions. Firm innovation, one of the most important strategic decisions of a firm on the level of research and development (R&D) expenses on developing new products, technologies or processes, determines the sustainability, competitive advantage and future growth of the firm. Prior research has found that firm's level of innovation intensity is significantly associated with the top managers' personal characteristics (Barker and Mueller, 2002), as well as their early-life-experience (Benmelech and Frydman, 2015; Bernile, Bhagwat and Rau, 2017; Sunder, Sunder and Zhang, 2017; and Yuan and Wen, 2018, etc.). This study extends this stream of research, as the "Down to the Countryside" experience of the educated youth may affect their risk aversion which is one important factor in determining the innovation investment.

In China, the chairman of the board of directors of a firm has the overall control of the firm, including the determination of the firm' innovation policy. The chairman is more like the CEO of the firm in other countries in terms of the roles he/she plays. Therefore, we focus on the chairmen of the boards and investigate whether their prior experience, particularly their involvement in the "Down to the Countryside Movement" in their early life, has any impact on their innovation investment decisions.

Our study mainly finds that: There is a significant negative relation between the chairmen's "Down to the Countryside" experience and the firms' innovation investments. Firms with educated youth as the chairmen of the board of directors (hereafter "*EY* chairmen") on average invest less on R&D compared with firms whose chairmen are not educated youth (hereafter non-educated-youth chairmen, or "*non-EY* chairmen"). Further analysis shows that such effect is caused through the enhanced risk aversion of the *EY* chairmen. We also find that the higher education received by the *EY* chairmen later, does not help to reverse such an effect.

On the contrary, compared with the *EY* chairmen with incomplete education, those with higher education are more inclined to make conservative decisions and exhibit significantly stronger negative relation between the "Down to the Countryside" experience and the investments in innovation. The results are robust to a series of tests, such as the dynamic comparison around the turnover of chairmen, the propensity score matching (PSM) test, variation in variables definition, and various regression models stability tests. Further analysis finds that chairmen with "Down to the Countryside" experience exhibit their risk aversion not only in their innovation decisions but also in their other corporation decisions. We also find that for different firms with different ownership structures, the relation between the chairmen's experience and the innovation investments are not significantly different. Therefore, the difference in the monitoring and incentives towards board chairmen among firms with different ownership structures does not affect the observed relation between the chairmen's experience and their innovation decisions. Finally, we also find that the "Down to the Countryside" experience reduces the chairmen's risk tolerance and increases their required rates of returns from the investments. Such a practice prevents wasting of firm resources on low valued innovation activities and increases the firms' investment efficiency.

Compared with prior studies, we contribute to the literature in the following aspects: First, our study adds to the literature on factors determining firms' level of innovation investments. Prior research looks at how factors such as the size of the firms, the market competition, macroeconomic condition, and corporate governance affect the firms' innovation decisions. Another stream of literature examines how executives' personal characteristics, such as age, tenure, education background, overconfidence, etc., affect their innovation decisions. However, the early life experience of the executives, especially the exogenous experiences that are totally free of the self-selection bias, is largely missing from the literature. Our findings show that exogenous life experience affects the top managers' valuation and

preference of risks, and thus affects their firm decisions. These conclusions have important implications to the firms, especially to the firms' recruiting, monitoring and incentive planning of the top managers. What's more, the generation that is affected by the "Down to the Countryside Movement" in China is now playing very important roles in the whole economy in China, including governments, corporations as well as all other fields of the whole society. As they are mostly in their 60s or late 50s years old now, many of them are currently taking leading roles in their organizations. As these people constitute one of the main driving forces of the Chinese economy, if their early experience does affect their decision making, then such an impact on the whole economy of China and even the economy of the entire Asia-Pacific region and the world is tremendous, given the growing importance of China in the global economy. However, such a study has been missing in the literature. For example, despite the fast growth of Chinese economy, China's innovation intensity, measured as the aggregate R&D expenditure as a percentage of the GDP, has been relatively low compared with other countries[2]. Our findings on the connection of the "Down to the Countryside Movement" with the lower innovation input, may contribute to explaining the relatively low innovation intensity in China. Therefore, our study also contributes to the literature on the "Down to the Countryside Movement" as well as its economic and societal effect.

The rest of the paper is organized as follows. Section 2 introduces the research design, followed by Section 3 where we present and analyze the empirical results. Section 4 introduces our various robustness tests and Section 5 concludes the paper.

[2] For example, in 2000, the innovation intensity of China is 0.89%, compared to 2.61% of the U.S., 2.39% of Germany, 2.91% of Japan and 2.18% of South Korea. During the past years, the R&D expenditure in China has steadily increased to 2.07% in 2015, but is still much lower than that of U.S (2.74%), Germany (2.93%), Japan (3.29%) and South Korea (4.23%). Data are sourced from National Science Board. https://www.nsf.gov/statistics/2018/nsb20181/report/sections/overview/r-d-expenditures-and-r-d-intensity

2. Empirical research design

2.1 Sample selection and sources of data

This study looks at all the A-shares[3] from the non-financial companies listed on the main boards of Shanghai and Shenzhen stock exchanges. The qualitative information on the prior experience of the chairmen of the boards of directors and the firms' financial data are obtained from the China Stock Market & Accounting Research Database (CSMAR). The information on R&D investments is obtained from WIND database. As there are lots of missing values in WIND before 2009, our sample period runs from 2009 to 2015. After removing observations with missing values, and firms with special treatment (denoted as ST or ST*) [4], we have 1,866 firms and 10,530 firm-year observations as our final sample.

2.2 Defining variables

They key variable that we focus on is innovation investments, measured as the R&D expenses (*RD*). Following prior research, we measure both the absolute and relative values of the innovation investments. For the former, we use the logarithm transformation of the firms' R&D expenditure (*LnRD*), and for the latter, we calculate the ratio of R&D to the sales revenue (*RD/sales*). In our robustness checks, we also measure innovation investments using the R&D expenditure to total assets ratio (*RD/assets*). Also, taking into account the lag effect, we look at the innovation investments with 2 and 3 periods of lags, to check the robustness of our results.

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[3] A-shares, also known as domestic shares are shares that denominated in Renminbi and traded in the Shanghai and Shenzhen stock exchanges. This is contrast to B-shares that are denominated in foreign currency and traded in Shanghai and Shenzhen, as well as H-share, that are denominated in Hong Kong dollar and traded in the Stock Exchange of Hong Kong.

[4] Under the regulations of Shenzhen Stock Exchange and Shanghai Stock Exchange, for the group of companies that have suffered two straight years of losses, have unusual financial conditions or have been fined for regulatory violation, the stock exchanges take "special treatment to warn the risks of termination of listing" to fully disclose the risks of stocks that might be terminated from being listed.

The main explanatory variable we focus on is chairmen's "Down to the Countryside Movement" experience. We use a dummy variable "*EY*" to separate educated youth chairmen that experienced the movement from other chairmen who did not. According to the census by the National Bureau of Statistics of China on the youth that went to the mountainous and rural countryside areas from 1968 to 1979, the movement concentrated in the period of 1968 to 1976, and the youth migrated are mainly graduates of junior and senior middle schools. The eldest youth would be those who graduated from senior middle school in 1968, while the youngest ones would be the junior school graduates in 1976. Given the fact that in the 1950s to 1980s in China, people started schooling at the age of seven, and that the primary, junior and senior high schools took six, three and three years to complete, respectively, and also taking into account the possible delays in schooling in China, we can conjecture that the youth that were targeted by the movement were born between 1947 and 1960. Therefore, in our sample firms, if the chairman of the board was born during this period of time, he/she is categorized as having experienced the movement and thus is one of the so-called "educated youth", and the dummy variable *EY* is set to be 1. Otherwise, *EY* is equal to 0[5].

Control variables. Based on prior literature, we control for firm-level characteristics and the personal features of the chairmen of the boards in our regression models. The personal features are: age of the chairman (*Age*) where we use the logarithm transformation (*Lnage*); gender (*Gender*) which equals 1 if the chairman is male, and 0 otherwise; education background (*Edu*) that takes the value of 1 if the chairman has a bachelor degree or higher, and 0 otherwise; tenure (*Tenure*) which is calculated as the logarithm of the number of months that the chairman has been in the position. The firm-level variables are: size of the company (*Size*) calculated as the logarithm of the total assets of the firms by the end of the year; leverage of the firm (*Lev*) calculated as the ratio of the total liability of the firm to its total assets; growth

[5] Such a classification is likely to group some *non-EY* chairmen to the *EY* chairmen category. However, it would bias against us finding any difference in the innovation investments of the two groups of chairmen.

opportunity (*Growth*) defined as the growth rate of the sales revenue; operational cash flows (*Cash*) calculated as the ratio of the operational net cash flow to the total assets; the ownership of the largest shareholder (*Ownership*) which is the number of shares owned by the largest shareholder as a percentage of the total number of shares of the firm; proportion of independent director (*Independent*) calculated as the number of independent director as a percentage of the total board of directors; dual indicator (*Dual*) equal to 1 if the chairman of the board of directors is also the CEO of the firm, and 0 otherwise; number of years being listed (*Listage*) calculated as the logarithm of one plus the number of years that the firm has been listed; ownership structure (*SOE*) that is equal to 1 if the firm is state-owned, and 0 otherwise; Hirfindahl index of the industry (*HHI*), calculated as the sum of the squares of the market shares of the firms within the industry, where market shares are calculated based on sales and expressed as fractions.

2.3 "Down to the Countryside" experience and innovation investments

We first examine whether the chairmen's "Down to the Countryside" experience has any impact on the firms' innovation decisions, using the following regression model equation (1). We control for the personal characteristics of the chairmen ($Charateristics_{i,t}$) and the features of the firm ($X_{i,t}$). We fix the year (*YearEffect*), industry (*IndustryEffect*) and province (*ProvinceEffect*) effects, and the standard errors are clustered by firm. As the dependent variable R&D investment (*RD*) is a non-negative variable, we use the Tobit regression:

$$RD_{i,t+1} = \beta_0 + \beta_1 \times EY_{i,t} + \gamma \times Characteristics_{i,t} + \lambda \times X_{i,t} + ProvinceEffect + YearEffect + IndustryEffect + \varepsilon_{i,t} \quad (1)$$

We are interested in the coefficient β_1 which indicates the difference between the *EY* chairmen and the *non-EY* chairmen in terms of their innovation investments. If the "Down to the Countryside Movement" experience affects the chairmen's innovation decisions, particularly, if,

the experience causes the chairmen to be more averse to risk and make more conservative decisions, we expect β_1 to be significantly negative.

Prior studies find that higher education affects the top managers' innovation decisions. For example, Hitt and Tyler (1991) and Wally and Baum (1994) suggest that more educated executives exhibit greater cognitive complexity. It is generally believed that cognitive complexity provides greater ability to absorb new ideas and thus increases the executives' tendency toward accepting innovations. Consistent with such belief, several studies find that CEOs with higher levels of education, or higher education in some specific disciplines tend to invest more in innovation (Bantel and Jackson, 1989; Kimberly and Evanisko, 1981; Thomas Litschert and Ramaswamy, 1991; Barker and Mueller, 2002). As the majority of the educated youth moved back to urban cities eventually and some of them went to universities for higher education, we thus ask whether the higher education received by some of the *EY* chairmen would change their preferences toward risks and R&D investments. We answer this question by exploring the relationship between the R&D expenditure and the level of education of the chairmen as well as the interaction effect of education and the early experience using the following model:

$$RD_{i,t+1} = \beta_0 + \beta_1 \times EY_{i,t} + \beta_2 \times EY_{i,t} \times EDU_{i,t} + \beta_3 \times EDU_{i,t} + \gamma \times Characteristics_{i,t} + \lambda \times X_{i,t} + ProvinceEffect + YearEffect + IndustryEffect + \varepsilon_{i,t} \quad (2)$$

Where $EDU_{i,t}$ indicates the level of education of the board chairman: *EDU* is 1 if the chairman has a bachelor degree or above, and 0 otherwise. The control variables are defined in the same way as in model (1). In this model, we are interested in the coefficient on the interacting term β_2 which captures the effect of higher education on the relation between early experience and R&D expenditure that we explored in model (1). Specifically, a significant β_2 indicates that higher education does affect such a relation. If β_2 has the same sign with β_1, it means that the higher education further enhances the educated youth chairmen's risk aversion and causes them to invest

even less in R&D; If, however, β_2 has opposite sign with β_1, then we can conclude that higher education would reduce the higher risk aversion caused by the previous "Down to the Countryside" experience and increase the *EY* chairmen's investment in innovation.

3. Empirical results analysis

3.1 Descriptive statistics

Table 1 presents the descriptive statistics of the variables. Panel A reports the statistics based on the whole sample, whereas in Panel B, the sample is divided based on whether the chairman of the firm is *EY* or not. In Panel A, the mean of *EY* is 0.434, indicating that 43.4% of the chairmen of the boards in our sample experienced the "Down to the Countryside Movement" and are classified as the *EY* chairmen. The mean of *LnRD* is 11.311, with the maximum and minimum being 0 and 22.996, respectively, and the standard deviation is 8.304. R&D expenditures on average account for 2.1% of the total sales and 12% of the total assets of the sample firms, indicated by the mean values of *RD/sales* and *RD/assets*. These values, in general, suggest a relatively low level of innovation investment. Also, the difference between the maximum and minimum value is relatively large, indicating the variation in the level of innovation investment across different firms, which potentially facilitates our study. With respect to the personal characteristics, the average age of the chairmen is 52.667, with 95.8% of them being male, and their average tenure is about 32 months in the chairman position. The mean of *Edu* is 0.866, suggesting that 86.6% of the chairmen in our sample received a degree of bachelor or higher. With respect to firm characteristics, some of the variables exhibit extreme values. Hence, in our regression analyses, we winsorize all variables except for the age of the chairmen by the top and bottom 1% extreme values.

[Insert Table 1 here]

Panel B of Table 1 shows the difference in the innovation investments between firms with *EY* chairmen and firms with *non-EY* chairmen. For all our three R&D measures, firms with *EY* chairmen invest less in R&D than firms with *non-EY* chairmen, and the differences are statistically significant based on the t-statistics and The Wilcoxon Z-statistics. The univariate test supports our initial hypothesis that the top managers who experienced the "Down to the Countryside Movement" tend to have less innovation investments than those who didn't experience the movement.

3.2 The "Down to the Countryside" experience of the board chairmen and the firms' innovation investments

We then run the regressions to gain more insight and the results are reported in Table 2. Column (1) to (3) are the regression results with the dependent variables being the innovation investments (measured as logarithm of R&D) in the following first ($LnRD_{t+1}$), second ($LnRD_{t+2}$) and third ($LnRD_{t+3}$) years, respectively. We can see that the coefficients on *EY* are all significantly (with all the confidence levels of above 99%) negative, indicating that the prior "Down to the Countryside" experience of the chairman of the board is associated with a significant reduction in the R&D expenditure in the following 3 years. Regarding the magnitude of the coefficients, all of them have a value of below -2.2986, suggesting that relative to firms with *non-EY* chairmen, firms with *EY* chairmen has an average innovation investment that is 13.75% standard deviation below that of firms with *non-EY* chairmen. Column (4) to (6) of Table 2 present the results from similar regressions but the dependent variables are the alternative innovation investment measures $RD/Sales_{t+1}$, $RD/Sales_{t+2}$ and $RD/Sales_{t+3}$. We can see that the coefficients on *EY* are still significantly negative at above 99% confidence level. Economically, if the firms' chairmen of the board had gone to the countryside in the past, then the firms' innovation investment as a percentage of the total sales is 4.52% standard deviation below that of the firms whose chairman had no such experience. Overall, the results in Table 2 support our hypothesis that the "Down to

the Countryside" experience of the chairman of the board on average reduces the firm's innovation investments.

[Insert Table 2 here]

With respect to the control variables, the chairmen's education (*Edu*), tenure (*Tenure*), size of the firms (*Size*) are all significantly positively correlated with the innovation investment, suggesting that when a chairman receives higher education, has been in the position for a longer time, and serves at larger companies, he/she is likely to invest more in innovation. The coefficients on leverage of the firm (*Lev*) and the ownership of the largest shareholder (*Ownership*) are both significantly negative, suggesting that the financing and ownership concentration are the two main constraints toward the firms' innovation investments.

3.3 The impact of higher education

Prior studies suggest that CEOs with higher levels of education, or higher education in some specific disciplines tend to invest more in innovation (Bantel and Jackson, 1989; Kimberly and Evanisko, 1981; Thomas et al., 1991; Barker and Mueller, 2002). If the *EY* chairmen received higher level of education after they left the countryside, their enhanced risk aversion may be, at least partially, reversed. We then use equation (2) to examine the interacting effect of the chairmen's education and the "Down to the Countryside" experience on their innovation decisions. The results are reported in Table 3, where we again present the results with two alternative innovation investment measures with three time lags: $LnRD_{t+1,2,3}$ and $RD/sales_{t+1,2,3}$. We can see that for all the six regression models, the coefficients on the interacting terms are all negative and statistically significant—four of them are significant at above 99% level, one at 95% level, and one at 90% level. The negative sign of the coefficients indicates that the higher education, while increasing the non-*EY* chairmen's investments on innovation, further reduces the *EY*

chairmen's innovation inputs, resulting in an even larger difference between these two types of firms in their innovation investments. Such results suggest that, after the educated youth came back to their hometown at the end of the movement and even went to universities to receive higher education, their increased risk aversion did not restore but, on the contrary, even increased further, causing them to make even more conservative innovation investment decisions when they are leading their firms.

[Insert Table 3 here]

3.4 How the early experience affects the innovation decision

We then explore why the early experience of "Down to the Countryside Movement" affects the board chairmen's decision-making. The most plausible reason is that such an experience increases the chairman's risk aversion, which will affect his/her corporate decisions such as reducing the investments in risky innovation projects. In this section, we specifically test such conjecture. In so doing, we use the Sobel test (Baron and Kenny, 1986) to examine whether risk aversion is an intermediate between the early experience and the innovation investments. Particularly, we run the following three regressions:

$$RD_{i,t+1} = \beta_0 + \beta_1 \times EY_{i,t} + \gamma \times Characteristics_{i,t} + \lambda \times X_{i,t} + ProvinceEffect + YearEffect + IndustryEffect + \varepsilon_{i,t} \quad (3)$$

$$EBIT_{vol_{i,t+1}} = \varphi_0 + \varphi_1 \times EY_{i,t} + \gamma \times Characteristics_{i,t} + \lambda \times X_{i,t} + ProvinceEffect + YearEffect + IndustryEffect + \varepsilon_{i,t} \quad (4)$$

$$RD_{i,t+1} = \mu_0 + \mu_1 \times EBIT_{vol_{i,t}} + \gamma \times Characteristics_{i,t} + \lambda \times X_{i,t} + ProvinceEffect + YearEffect + IndustryEffect + \varepsilon_{i,t} \quad (5)$$

Where, following prior research (Acharya, Amihud and Litov, 2011; Kim and Lu, 2011), we use the variance of the earnings before interest and tax in the previous five years (*EBIT_vol*) to measure the risk aversion of the chairmen. If the early experience of the chairmen affects their innovation decisions by influencing their risk aversion, we shall see a significant association between *RD* and *EY*, *EBIT_vol* and *EY*, and *RD* and *EBIT_vol*. And the Sobel mediator that is calculated based on the regression results on φ_1 and μ_1 as well as their standard deviations should be statistically significant. The regression results are reported in Table 4.

[Insert Table 4 here]

From Table 4 we can see that: First, the coefficient β_1 is statistically different from 0, indicating that the "Down to the Countryside" experience does affect the chairmen's innovation decisions; Second, the significantly negative coefficient φ_1 in column (2) shows that *EY* chairmen show significantly higher risk aversion than *non-EY* chairmen, suggesting that the "Down to the Countryside" experience enhances the *EY* chairmen's intention to avoid risks. Third, the positive and significant coefficient μ_1 in column (3) shows a positive relation between the variance of *EBIT* with the R&D expenses, suggesting that higher risk aversion (reflected by lower *EBIT_vol*) of the chairmen leads to lower investments in innovation. What's more, the *P-value* of the Sobel mediator is 0.0781, suggesting that the risk aversion variable *EBIT_vol* is an intermediator between *EY* and *RD* at a confidence level of above 90%. Therefore, the results from this test support our conjecture that the "Down to the Countryside" experience of the chairmen affects their innovation investment decision by influencing their risk aversion.

3.5 Further analysis

3.5.1 The difference-in-difference analysis on chairmen turnover

To control for the firm-level fixed effect, we further consider the change in the innovation investment around the turnover of the board chairmen, particularly, we look at the cases when the newly appointed chairman is an *EY* chairman who did experience the "Down to the Countryside Movement", and test if there is any significant drop in the innovation investments after the replacement of the chairman. Considering the lag effect of the firms' innovation behavior, the observation window should not be too short. Otherwise, we may not be able to observe the impact of the new chairmen on the firm's innovation behavior. On the other hand, the window cannot be too long, as the results may be contaminated by some other factors. Hence, we look at the three years before and after the appointment of the new chairmen (-3, 3). We also establish a new dummy variable $New_{i,t}$, taking the value of 1 if the firm replaces a non-*EY* chairman with an EY chairman, and 0 if the firm replaces an *EY* chairman with another *EY* chairman. We also use another dummy variable *Post* to indicate the time window: *Post* takes the value of 1 in year 0, 1 and 2, and the value of 0 in the year -1, -2 and -3, where year 0 indicate the year when the chairman is replaced. We run the following regression and summarize the results in Table 5:

$$RD_{i,t+1} = \alpha_0 + \alpha_1 \times New_{i,t} + \alpha_2 \times New_{i,t} \times Post_{i,t} + \alpha_3 \times Post_{i,t} + \gamma \times Characteristics_{i,t} + \lambda \times X_{i,t} + ProvinceEffect + YearEffect + IndustryEffect + \varepsilon_{i,t} \quad (6)$$

[Insert Table 5 here]

From Table 5 we can see that the coefficients on *New*Post* are all significantly negative, suggesting that when an *EY* chairman replaces a *non-EY* chairman, there is a significant drop in the investments on R&D in the following two years. Such difference-in-difference analysis, while controlling for the firm fixed effect, further supports our conclusion.

3.5.2 Testing of the EY chairmen's risk aversion

Our study shows that the "Down to the Countryside" experience increases the chairmen's risk aversion and causes them to make more conservative innovation investment decisions. If this is the case, the increased risk aversion should also affect the chairmen's other corporate decisions. In this session, we then look at how the "Down to the Countryside" experience affects the Chairmen's decisions on the firms' current operating cash holding (*Cash*), underinvestment (*underINV*) , diversification in operation (*DivOp*) and number of segments (*NSeg*), to examine whether *EY* chairmen consistently make more conservative decisions than non-*EY* chairmen. In particular, we measure the above variables and perform the test in the following way:

1) Current operating cash holding (*Cash*), is calculated as the end-of-year cash holdings as a percentage of the total assets, and then compared with the same measures of other sample companies for the same year. It takes a value of 1 if it is above the median and 0 otherwise.

2) Underinvestment (*underINV*) is measured based on Richardson (2006)'s model as follows:

$$INV_{it} = \alpha + \beta_1 Growth_{i,t-1} + \beta_2 Lev_{i,t-1} + \beta_3 Cash_{i,t-1} + \beta_4 Size_{i,t-1} + \beta_5 Age_{i,t-1} + \beta_6 Return_{i,t-1} + \beta_7 INV_{i,t-1} + \varepsilon_{i,t}$$

Where $INV_{i,t}$ is the increase in investment of firm *i* in year *t*, calculated as the firm's cash spending on fixed, intangible and other long-term assets less the cash received from the selling of fixed, intangible and other long-term assets, and then scaled by the total assets at the beginning of the period. $Growth_{i,t-1}$ is the growth in sales of the firm *i* in year *t-1*. $Lev_{i,t-1}$ is the total liability to total asset ratio of firm *i* in year *t-1*, measuring the leverage of firm; $Cash_{i,t-1}$ measures the cash holding of firm *i* at year *t-1*, calculated as the firm's cash assets and short-term investments in year *t-1* as a percentage of the firm's total assets at the beginning of year *t-1*. $Size_{i,t-1}$ is the logarithm of firm *i*'s total assets in year *t-1; Age* $_{i,t-1}$ is the number of years that firm *i* has been listed by year *t-1*; $Return_{i,t-1}$ is firm i's stock return in year *t-1*, calculated as the market-adjusted return from

May of year *t-1* to April of year *t*. The residual from the regression represents the difference between the actual and the predicted investments. The underinvestment (*underINV*) is defined as equal to 1 if the residual is negative, or 0 otherwise.

3) Diversification of the firm, measured as Herfindahl index $H = \sum_{i=1}^{n} S_i^2$, where S*i* is the revenue from the *i*th industrial operation within the firm as a percentage of the total revenue of the firm, and *n* is the total number of industrial operations that the firm involves. The industrial operations are classified according to the SIC code published by the government. The value of the Herfindahl index thus ranges from 0 to 1. A value of 1 indicates that the firm's operation focuses on one single industry; while a lower value that is closer to 0 indicates that the firm's operation is more diversified across different industries. We again compare the index across the sample firms and assign a value of 1 to the firms whose index is above the sample median and 0 otherwise.

4) Number of segments (*NSeg*), relative to the sample median. It takes the value of 1 if it is above the sample median and 0 otherwise.

Because all the four measures above as dependent variables are binary variables, we use probit regressions with the independent variables being again the *EY* dummy and other control variables. The regression results are presented in Table 6.

[Insert Table 6 here]

From Table 6 we can see that while the coefficient on *EY* is insignificant for model (1), it is statistically significant for model (2), (3) and (4). The positive sign in the test of underinvestment indicates that the *EY* chairmen are more likely to underinvest, which is consistent with our previous finding that "Down to the Countryside" experience increases the chairmen's risk aversion and causes them to be more conservative in making investment decisions. The negative coefficients on *EY* in model (3) and (4) suggest that firms with *EY* chairmen are less diversified and have fewer number of segments. Such results indicate that the *EY* chairmen are more inclined

to focus on their core business and are less willing to expand their lines of business. In general, tests from this session confirm our conjecture that *EY* chairmen make more conservative decisions in many aspects of the firms relative to *non-EY* chairmen.

3.5.3 Different ownership structure

The state-owned and private companies may differ in the appointing and monitoring of the chairman of the boards as well as their incentives. In this section, we examine whether these differences affect the relation between the chairmen's early experience and their innovation decisions. We separate our sample into state-owned and private firms and examine the relation between R&D expenditure and the "Down to the Countryside" experience of the chairmen. The results from Table 7 show that for both types of firms, the negative relation between the countryside experience and the innovation investments is significant and robust. We also refine the regression by using a dummy variable to separate different types of firms. However, the regression produces an insignificant coefficient on the interaction term of the dummy variable and the *EY* indicator, suggesting that there is no difference between private and state-owned firms in the negative relation between the early countryside experience and the innovation investments. Hence, our results suggest that this observed negative relation is not caused by outside factors such as different ownership structures, but is prevalent among any type of firms.

[Insert Table 7 here]

3.5.4 Firm value

As we have revealed that the "Down to the Countryside" experience causes the chairmen of the boards to have an increased risk aversion and thus reduce the firms' investment in innovation, a natural question to ask is how does this affect the value of the firms? To answer this question, we run the following regression:

$$TobinQ_{i,t+1} = \alpha_0 + \alpha_1 \times EY_{i,t} + \alpha_2 \times EY_{i,t} \times RD_{i,t} + \alpha_3 \times RD_{i,t} + \gamma \times Characteristics_{i,t} + \lambda \times X_{i,t} + ProvinceEffect + YearEffect + IndustryEffect + \varepsilon_{i,t} \quad (7)$$

Where the coefficient α_2 captures the interacting effect of *EY* and R&D investment on the firms' value, measured by Tobin's Q (*TobinQ*) in the following 1 and 2 years. As before, R&D is measured in both absolute (*LnRD*) and relative (*RD/sales*) terms. The regression results are presented in Table 8.

[Insert Table 8 here]

Table 8 shows that the coefficients on *EY*RD,* α_2 , is statistically significant at an above 90% level. And the positive sign shows that, if the board chairman had been to the countryside during the movement, his/her investment decisions create more value for the firm than that of a chairman who had not. This result suggests that, while the countryside experience lowers the chairman's risk tolerance and their total levels of investments in innovation, on the other hand, such experience also makes these chairmen more prudent in selecting investment opportunities and require higher rates of return from the investments. Hence, each dollar they invest may bring more value to the firms. Therefore, we can see that the "Down to the Countryside" experience of the top managers potentially increases the investment efficiency of the firms.

4. Robustness checks

To check the robustness of our results, we perform the following analyses.

4.1 Alternative measure of innovation investment

In our previous tests, we use the logarithm transformation of R&D *(LnRD)* and the ratio of R&D expenses to sales *(RD/sales)* to measure the levels of investments in innovation. To

enhance the robustness of our results, we employ an alternative measure, the ratio of R&D expenses to total assets (*RD/assets*) and re-run the regressions. The results are presented in Table 9. We can see that the countryside experience of the chairmen is still positively correlated with the new R&D measures, with a significance level of above 99%, a result that is consistent with those from previous tests. The coefficients on other control variables all have the same sign and similar values as before. Such results show that the conclusions we made in the previous sessions are robust to the different R&D measures.

[Insert Table 9 here]

4.2 OLS regression

In our previous tests, taking into account that the R&D expenses cannot be negative and thus are bounded downside by 0, we use the Tobit regression framework in our regression analysis. In this session, we use OLS regression instead, to check the robustness of the results. The regression results are summarized in Table 10, where we can see that both the *LnRD* and the *RD/sales* measures are significantly negatively associated with the countryside experience of the chairmen of the firms. Hence, the OLS regression results are also consistent with our previous findings.

[Insert Table 10 here]

4.3 Matched sample analysis

In our analysis, one potential problem that could generate the endogeneity issue is that there might be some missing variable that is associated with both the countryside experience of the chairmen and the firm's innovation investments. This is particularly true if the control variables in the regression framework could not entirely capture the differences between the *EY* chairmen and the *non-EY* chairmen. Therefore, we use the Propensity Score Matching (PSM) method to correct the potential endogeneity problem in the observed variables. In so doing, we first run the

Profit regression, using the countryside experience of the chairmen (*EY*) as the dependent variable. We then based on the control variables in equation (1) as matching criteria, estimate the propensity score of each of the chairmen in the sample. Then from the firms with *non-EY* chairmen, we select the matching samples that have the closest propensity scores to those of the firms with *EY* chairmen. Following this process, we obtain 9,132 matching samples. We then perform the same regression as we did before on this matching sample and report the results in Table 11. We can see that consistent with our previous findings, all coefficients on *EY* are negative and statistically significant at above 99% level.

[Insert Table 11 here]

4.4 Re-measure the countryside experience of the Chairman

In the previous tests, we use the years of birth of the chairmen to determine whether they experienced the "Down to the Countryside Movement". In this session, we searched from the internet for the detailed Curriculum Vitae of the chairmen which give us more precise information on their early experience. If any of the keywords "educated youth (or rusticated youth)", "farm", "re-education", "down to the countryside", "up to the mountains and down to the countryside" appears in their early experience between 1968 and 1976, the chairman is considered as an *EY* chairman and our new independent dummy variable *Experiment* takes the value of 1. Our searching results in 246 chairmen that are confirmed as having the countryside experience based on their CVs.

Given that such sample accounts for a small portion of our whole sample, we further use the PSM method to find the matching sample for our *Experiment* chairmen. Then we perform the regression analysis on the matching sample. The regression results are presented in Table 12. We can see that the results are consistent and comparable with those from Table 2: The *Experiment* is significantly negatively associated with the future R&D investment in the following two years.

[Insert Table 12 here]

4.5 Placebo test

If our regression results from equation (1) remain despite how we define the years of birth to determine the countryside experience of the chairmen, then our whole analysis becomes void. Therefore, we perform the Placebo test, where we move our defined years of birth for *EY* chairmen, 1947-1960, three years forward and three years backward. That is, we define chairmen born between 1944 and 1946, or between 1961 and 1963, as those with countryside experience, indicated by two new dummy variables *EY1* and *EY2*. We then replace the *EY* variable in equation (1) with the two new variables, one at a time, and report the results in Table 13. We can see that neither of the new *EY* measures is associated with any of the R&D measures. This test confirms our conclusion that the countryside experience of the chairmen is associated with the lowered innovation investment of the firms.

[Insert Table 13 here]

5. Conclusions

This study looks at the non-financial companies listed in Shanghai and Shenzhen A-share main board Exchanges during 2009-2015, to examine whether the early experience, particularly the participation of "Down to the Countryside Movement" of the board chairman of a firm affects his/her investments in innovation. We find that: (1) The countryside experience of the chairmen is negatively associated with their investments in innovation, suggesting that in general, firms whose board chairmen had the countryside experience invest less on innovation than firms whose chairmen did not. (2) The underlying reason could be that the countryside experience of the chairmen increases their fear of the complicated macro-environment and their aversion to the unexpected uncertainty, and thus increases their risk aversion. The reduced risk tolerance causes the chairmen to be more conservative in making investment decisions. (3) The higher education of the chairmen with countryside experience does not reduce their risk aversion. On the contrary,

the *EY* chairmen with higher education invest even less on R&D than the *EY* chairmen with incomplete education. (4) Further analyses show that the risk aversion of the *EY* chairmen also affects their other corporate decisions aside from the R&D investments. (5) We also find that the increased risk aversion also makes the *EY* chairmen more prudent and make more efficient investment decisions.

Conclusions from this study have important implications for both firms and investors. On one hand, with the separation of ownership and management of the firms, and with the development of the human power market, the selection and hiring of the chairmen of the board of directors are becoming market-based. Hence, our findings suggest that, when hiring, monitoring or establishing incentive mechanisms toward chairmen of the board, the firms need to take into account their early experience, especially such experience as the "Down to the Countryside Movement", as well their education background and how these experiences affect their psychological motivation and risk tolerance. The incentive would be most effective if it is based on the chairmen's characteristics including their risk aversion. On the other hand, besides the firm features, the personal characteristics of the top managers also have significant more explanatory power to the firm policies. Hence, if investors can know more about the experiences of the firm's decision makers, have a better understanding of the psychological motivation behind each of the decisions, they can make better investment choices.

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Table 1 Descriptive Statistics

This table presents the descriptive statistics of the variables: Dummy variable *EY*, equal to 1 if the chairman experienced the "Down to the Countryside Movement" and 0 otherwise. Panel A reports the statistics for the whole sample, whereas in Panel B, the sample is divided based on whether the chairman of the firm is *EY* or not. *,***,***indicates a significant level of 90%, 95% and 99%, respectively.

Panel A: Whole sample

Variable	N	Mean	Std.Dev	Min	p25	Median	p75	Max
EY	10530	0.434	0.496	0	0	0	1	1
LnRD	10530	11.311	8.304	0	0	16.277	17.801	22.996
RD/sales	10530	0.021	0.068	0	0	0.006	0.032	5.729
RD/assets	10530	0.120	0.200	0	0	0.004	0.019	0.659
TobinQ	10530	2.252	2.427	0.684	1.292	1.704	2.486	126.952
Lnage	10530	52.677	6.959	27	48	52	57	85
Gender	10530	0.958	0.201	0	1	1	1	1
Edu	10530	0.866	0.341	0	1	1	1	1
Tenure	10530	3.505	1.002	0	2.944	3.611	4.317	5.663
Size	10530	22.072	1.301	16.520	21.187	21.898	22.772	28.509
Lev	10530	0.483	0.583	0.007	0.307	0.468	0.626	41.939
Growth	10530	13.213	1311.784	-1.000	-0.041	0.097	0.251	134607.1
Cash	10530	0.045	0.082	-1.674	0.004	0.043	0.088	1.127
Ownership	10530	0.367	0.156	0.022	0.242	0.350	0.477	0.894
Independent	10530	0.370	0.055	0.091	0.333	0.333	0.400	0.800
Dual	10530	0.210	0.408	0	0	0	0	1
Listage	10530	2.183	0.715	0	1.609	2.398	2.773	3.258
SOE	10530	0.489	0.500	0	0	0	1	1
HHI	10530	0.012	0.027	0.000	0.001	0.003	0.010	0.461

Panel B: Sub-samples: EY chairmen and non-EY chairmen

Variable	Non-EY chairmen		EY chairmen		T test	Wilcoxon Z
	Mean	Median	Mean	Median		
LnRD	12.448	16.634	9.825	15.166	16.267***	12.856***
RD/ales	0.025	0.012	0.016	0.001	6.653***	18.192***
RD/assets	0.014	0.008	0.010	0.001	9.773***	17.169 ***

Table 2 “Down to the Countryside” Experience and the Innovation Investments

Regression results of the model $RD_{i,t+1} = \beta_0 + \beta_1 \times EY_{i,t} + \beta_2 \times EY_{i,t} \times EDU_{i,t} + \beta_3 \times EDU_{i,t} + \gamma \times Characteristics_{i,t} + \lambda \times X_{i,t} + ProvinceEffect + YearEffect + IndustryEffect + \varepsilon_{i,t}$ where Dummy variable *EY*, equal to 1 if the chairman experienced the “Down to the Countryside Movement” and 0 otherwise. We control for the personal characteristics of the chairmen (*Charateristics*$_{i,t}$) and the features of the firm ($X_{i,t}$). We fix the year (*YearEffect*), industry (*IndustryEffect*) and province (*ProvinceEffect*) effects, and the standard errors are clustered by firm. As the dependent variable R&D investment (*RD*) is a non-negative variable, we use the Tobit regression. t-statistics are reported in parentheses. *,***,***indicates a significant level of 90%, 95% and 99%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	$LnRD_{t+1}$	$LnRD_{t+2}$	$LnRD_{t+3}$	$RD/Sales_{t+1}$	$RD/Sales_{t+2}$	$RD/Sales_{t+3}$
EY	-2.2986***	-2.3244***	-2.4538***	-0.0062***	-0.0071***	-0.0086***
	(-7.533)	(-7.565)	(-7.517)	(-4.099)	(-3.465)	(-3.457)
Lnage	-0.4662	-0.2739	-0.1753	-0.0002	-0.0021	-0.0017
	(-0.503)	(-0.294)	(-0.179)	(-0.036)	(-0.332)	(-0.250)
Gender	-0.1680	-0.5913	-0.7615	0.0016	0.0002	-0.0013
	(-0.218)	(-0.788)	(-1.004)	(0.470)	(0.050)	(-0.372)
Edu	0.0938	0.0728	0.0048	0.0029***	0.0029***	0.0029***
	(0.626)	(0.482)	(0.029)	(3.299)	(2.963)	(2.866)
Tenure	0.1540	0.2159*	0.2016*	-0.0005	0.0002	-0.0008
	(1.228)	(1.847)	(1.717)	(-0.514)	(0.287)	(-0.730)
Size	1.1259***	1.2122***	1.2004***	-0.0011	-0.0008	0.0001
	(7.228)	(7.741)	(7.484)	(-1.004)	(-0.663)	(0.086)
Lev	-2.3422***	-2.5848***	-2.6839***	-0.0268***	-0.0259***	-0.0310***
	(-2.839)	(-2.977)	(-2.916)	(-4.157)	(-3.644)	(-6.350)
Growth	-0.4305*	0.3016	0.5571**	-0.0022*	0.0002	-0.0000
	(-1.920)	(1.112)	(2.023)	(-1.733)	(0.128)	(-0.000)
Cash	-1.0099	-3.3045**	-1.9991	0.0171	0.0034	0.0071
	(-0.671)	(-2.146)	(-1.136)	(1.565)	(0.357)	(0.694)
Ownership	-0.7484	-0.3627	0.3469	-0.0152***	-0.0142**	-0.0133**
	(-0.788)	(-0.377)	(0.342)	(-2.620)	(-2.275)	(-2.068)
Independent	-2.3518	0.0331	2.1971	0.0022	-0.0071	-0.0004
	(-0.998)	(0.014)	(0.836)	(0.166)	(-0.481)	(-0.025)
Dual	0.1350	-0.0591	-0.0652	0.0025	0.0039	0.0035
	(0.430)	(-0.187)	(-0.188)	(1.388)	(1.552)	(1.604)
Listage	-1.3852***	-1.1374***	-0.8089***	-0.0075***	-0.0063***	-0.0048***
	(-6.294)	(-5.136)	(-3.392)	(-5.976)	(-4.863)	(-3.833)
SOE	0.4259	0.4056	0.1583	-0.0004	-0.0005	-0.0010
	(1.204)	(1.132)	(0.425)	(-0.208)	(-0.242)	(-0.514)
HHI	-75.6329**	-44.3095	4.5523	-0.1783	-0.4507**	-0.1150
	(-2.511)	(-1.517)	(0.212)	(-1.225)	(-2.339)	(-0.649)
Constant	-6.4642	-8.1868	-8.7447	0.0386	0.0530*	0.0350
	(-1.266)	(-1.591)	(-1.641)	(1.327)	(1.688)	(1.138)
Province	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,664	6,880	5,159	8,664	6,880	5,159
Pseudo R^2	0.1691	0.1909	0.2168	-0.3535	-0.3909	-0.5023
F	52.24	53.13	57.34	12.11	10.17	8.85

Table 3 Higher Education, "Down to the Countryside" Experience and the Innovation Investments

Regression results of the model $RD_{i,t+1} = \beta_0 + \beta_1 \times EY_{i,t} + \beta_2 \times EY_{i,t} \times EDU_{i,t} + \beta_3 \times EDU_{i,t} + \gamma \times Characteristics_{i,t} + \lambda \times X_{i,t} + ProvinceEffect + YearEffect + IndustryEffect + \varepsilon_{i,t}$ where Dummy variable *EY*, equal to 1 if the chairman experienced the "Down to the Countryside Movement" and 0 otherwise. $EDU_{i,t}$ indicates the level of education of the board chairman: *EDU* is 1 if the chairman has a bachelor degree or above, and 0 otherwise. We control for the personal characteristics of the chairmen ($Charateristics_{i,t}$) and the features of the firm ($X_{i,t}$). We fix the year (*YearEffect*), industry (*IndustryEffect*) and province (*ProvinceEffect*) effects, and the standard errors are clustered by firm. As the dependent variable R&D investment (*RD*) is a non-negative variable, we use the Tobit regression, with standard errors are clustered by firm. t-statistics are reported in parentheses. *,***,***indicates a significant level of 90%, 95% and 99%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	$LnRD_{t+1}$	$LnRD_{t+2}$	$LnRD_{t+3}$	$RD/sales_{t+1}$	$RD/sales_{t+2}$	$RD/sales_{t+3}$
EY	-0.5380	-0.1891	0.0311	-0.0007	0.0009	0.0025
	(-0.833)	(-0.293)	(0.045)	(-0.242)	(0.266)	(0.659)
*EY*EDU*	-2.0961***	-2.5319***	-2.9327***	-0.0065*	-0.0094**	-0.0131***
	(-2.890)	(-3.485)	(-3.771)	(-1.912)	(-2.261)	(-2.586)
EDU	0.8562**	1.1659***	1.2209**	0.0078***	0.0097***	0.0106***
	(2.004)	(2.682)	(2.557)	(3.545)	(4.024)	(3.672)
Lnage	-0.4306	-0.0945	0.1329	-0.0021	-0.0034	-0.0030
	(-0.471)	(-0.103)	(0.141)	(-0.343)	(-0.524)	(-0.442)
Gender	-0.1769	-0.6233	-0.8288	0.0017	0.0002	-0.0014
	(-0.228)	(-0.829)	(-1.098)	(0.497)	(0.068)	(-0.397)
Tenure	0.1568	0.2174*	0.2020*	-0.0005	0.0003	-0.0007
	(1.249)	(1.862)	(1.727)	(-0.445)	(0.364)	(-0.661)
Size	1.1412***	1.2237***	1.2076***	-0.0009	-0.0006	0.0003
	(7.390)	(7.899)	(7.618)	(-0.821)	(-0.504)	(0.232)
Lev	-2.4102***	-2.6879***	-2.8121***	-0.0270***	-0.0263***	-0.0316***
	(-2.923)	(-3.107)	(-3.067)	(-4.184)	(-3.705)	(-6.431)
Growth	-0.4342*	0.3037	0.5602**	-0.0022*	0.0002	-0.0000
	(-1.940)	(1.123)	(2.043)	(-1.782)	(0.124)	(-0.015)
Cash	-1.2057	-3.5395**	-2.2784	0.0167	0.0029	0.0062
	(-0.802)	(-2.307)	(-1.303)	(1.524)	(0.297)	(0.609)
Ownership	-0.7259	-0.3399	0.3436	-0.0150***	-0.0139**	-0.0129**
	(-0.765)	(-0.354)	(0.340)	(-2.590)	(-2.239)	(-2.017)
independent	-2.2132	0.3005	2.5633	0.0025	-0.0062	0.0013
	(-0.940)	(0.124)	(0.976)	(0.189)	(-0.423)	(0.081)
Dual	0.1298	-0.0758	-0.0963	0.0024	0.0039	0.0034
	(0.414)	(-0.240)	(-0.279)	(1.365)	(1.525)	(1.543)
SOE	0.4707	0.4354	0.1890	-0.0000	-0.0002	-0.0006
	(1.338)	(1.223)	(0.513)	(-0.016)	(-0.094)	(-0.292)
Listage	-1.3590***	-1.1113***	-0.7756***	-0.0075***	-0.0062***	-0.0047***
	(-6.165)	(-5.014)	(-3.247)	(-5.952)	(-4.852)	(-3.732)
HHI	-74.8096**	-43.5573	4.8892	-0.1735	-0.4481**	-0.1132
	(-2.484)	(-1.493)	(0.228)	(-1.197)	(-2.333)	(-0.644)
Constant	-7.4870	-10.0005*	-11.2537**	0.0445	0.0550*	0.0360
	(-1.464)	(-1.952)	(-2.156)	(1.541)	(1.762)	(1.148)
Province	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,664	6,880	5,159	8,664	6,880	5,159
Pseudo R^2	0.1695	0.1915	0.2175	-0.3530	-0.3909	-0.5025
F	51.69	52.64	56.90	11.65	9.863	8.575

Table 4 Intermediate Effect

We use the Sobel test (Baron and Kenny, 1986) to examine whether risk aversion is an intermediate between the early experience and the innovation investments. Particularly, we run the following three regressions:

$$RD_{i,t+1} = \beta_0 + \beta_1 \times EY_{i,t} + \gamma \times Characteristics_{i,t} + \lambda \times X_{i,t} + ProvinceEffect + YearEffect + IndustryEffect + \varepsilon_{i,t} \quad (3)$$

$$EBIT_{vol_{i,t+1}} = \varphi_0 + \varphi_1 \times EY_{i,t} + \gamma \times Characteristics_{i,t} + \lambda \times X_{i,t} + ProvinceEffect + YearEffect + IndustryEffect + \varepsilon_{i,t} \quad (4)$$

$$RD_{i,t+1} = \mu_0 + \mu_1 \times EBIT_{vol_{i,t}} + \gamma \times Characteristics_{i,t} + \lambda \times X_{i,t} + ProvinceEffect + YearEffect + IndustryEffect + \varepsilon_{i,t} \quad (5)$$

Where, we use the variance of the earnings before interest and tax in the previous five years (*EBIT_vol*) to measure the risk aversion of the chairmen. And the Sobel mediator that is calculated based on the regression results on φ_1 and μ_1 as well as their standard deviations should be statistically significant. Standard errors are clustered by firm. t-statistics are reported in parentheses. *,***,***indicates a significant level of 90%, 95% and 99%, respectively.

	Intermediate Variable：EBIT_vol		
	(1) $LnRD_{t+1}$	(2) EBIT_vol	(3) $LnRD_{t+1}$
EY	-2.2986***	-0.0780***	
	(-7.533)	(-4.674)	
EBIT_vol			0.9459*
			(1.902)
Lnage	-0.4662	0.0229	-4.2487***
	(-0.503)	(0.350)	(-4.211)
Gender	-0.1680	0.0177	-0.0288
	(-0.218)	(0.620)	(-0.034)
Edu	0.0938	-0.0066	0.0896
	(0.626)	(-0.836)	(0.543)
Tenure	0.1540	-0.0120**	0.0995
	(1.228)	(-2.323)	(0.731)
Size	1.1259***	-0.0090	1.1605***
	(7.228)	(-1.058)	(7.040)
Lev	-2.3422***	0.0090	-2.4039***
	(-2.839)	(0.189)	(-2.715)
Growth	-0.4305*	0.1084***	-0.6313***
	(-1.920)	(7.717)	(-2.652)
Cash	-1.0099	-0.1008	-1.3306
	(-0.671)	(-1.304)	(-0.808)
Ownership	-0.7484	0.1897***	-0.9188
	(-0.788)	(3.371)	(-0.875)
Independent	-2.3518	0.2594*	-3.4780
	(-0.998)	(1.802)	(-1.380)
Dual	0.1350	0.0032	0.1373
	(0.430)	(0.219)	(0.395)
Listage	-1.3852***	0.1002***	-1.9694***
	(-6.294)	(6.207)	(-7.082)
SOE	0.4259	-0.0767***	0.3691
	(1.204)	(-4.321)	(0.976)
HHI	-75.6329**	-0.7439	-87.3819***
	(-2.511)	(-1.337)	(-2.746)
Constant	-6.4642	0.0630	7.4201
	(-1.266)	(0.183)	(1.356)
Province	Yes	Yes	Yes
Year	Yes	Yes	Yes
Industry	Yes	Yes	Yes
Observations	8,664	9,923	8,117
Pseudo R^2	0.1691	0.1737	0.1664
F	52.24	3.305	50.03

Table 5 The Difference-in-Difference Analysis on Chairmen Turnover

This table reports the regression results of $RD_{i,t+1} = \alpha_0 + \alpha_1 \times New_{i,t} + \alpha_2 \times New_{i,t} \times Post_{i,t} + \alpha_3 \times Post_{i,t} + \gamma \times Characteristics_{i,t} + \lambda \times X_{i,t} + ProvinceEffect + YearEffect + IndustryEffect + \varepsilon_{i,t}$ on firms with new EY chairmen appointed. Dummy variable $New_{i,t}$, taking the value of 1 if the firm replaces a non-*EY* chairman with an EY chairman, and 0 if the firm replaces an *EY* chairman with another *EY* chairman. dummy variable *Post* to indicate the time window: *Post* takes the value of 1 in year 0, 1 and 2, and the value of 0 in the year -1, -2 and -3, where year 0 indicate the year when the chairman is replaced. Standard errors are clustered by firm. t-statistics are reported in parentheses. *,***,***indicates a significant level of 90%, 95% and 99%, respectively.

	(1)	(2)	(3)	(4)
	$LnRD_{t+1}$	$LnRD_{t+2}$	$RD/Sales_{t+1}$	$RD/Sales_{t+2}$
New	1.1538	0.9373	0.0009	0.0014
	(0.851)	(1.113)	(0.142)	(0.206)
New_Post	-2.6513*	-3.2818***	-0.0010**	-0.0120**
	(-1.655)	(-3.674)	(-2.184)	(-2.002)
Post	1.4293	3.9373***	-0.0037	0.0071
	(0.952)	(2.950)	(-0.579)	(1.148)
Lnage	0.2092	-0.8320	0.0022	0.0022
	(0.072)	(-0.363)	(0.211)	(0.152)
Gender	1.5231	2.9514**	0.0029	0.0049
	(0.935)	(2.314)	(0.505)	(0.864)
Edu	-0.5846	-0.5505	-0.0002	0.0008
	(-1.133)	(-1.274)	(-0.119)	(0.339)
Tenure	-0.0165	0.0616	-0.0007	0.0012
	(-0.033)	(0.133)	(-0.456)	(0.871)
Size	1.7853***	1.4006***	0.0029	0.0011
	(3.963)	(3.309)	(1.547)	(0.623)
Lev	-3.1875	-1.8995	-0.0348***	-0.0301***
	(-1.446)	(-0.849)	(-3.933)	(-3.685)
Growth	-0.5047	0.5381	0.0004	0.0028
	(-0.871)	(0.841)	(0.251)	(1.223)
Cash	-9.1353*	6.3219	-0.0190	0.0246
	(-1.832)	(1.363)	(-1.322)	(1.252)
Ownership	2.9277	2.3639	-0.0169	-0.0147
	(0.844)	(0.816)	(-1.212)	(-1.005)
Independent	4.2205	-0.0745	0.0454*	0.0446
	(0.582)	(-0.009)	(1.789)	(1.382)
Dual	-0.8750	-1.1622	0.0051	0.0094
	(-0.660)	(-1.227)	(1.159)	(1.585)
Listage	-3.8451***	-2.0115**	-0.0243***	-0.0166***
	(-3.759)	(-2.379)	(-4.974)	(-3.655)
SOE	2.1413	1.7091	0.0060	0.0060
	(1.571)	(1.433)	(0.929)	(0.959)
HHI	-73.1180	-108.3511	-0.4173	-1.3119*
	(-0.508)	(-0.576)	(-0.939)	(-1.923)
Constant	-17.9239	-13.1772	-0.0060	0.0018
	(-1.512)	(-1.242)	(-0.128)	(0.025)
Province	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
Observations	454	369	454	369
Pseudo R^2	0.2190	0.2798	-0.4531	-0.5299

Table 6 Testing of the EY Chairmen's Risk Aversion

In this session, we then look at how the "Down to the Countryside" experience affects the Chairmen's decisions on the firms' current operating cash holding (*Cash*), underinvestment (*underINV*) , diversification in operation (*DivOp*) and number of segments (*NSeg*). *Cash* is calculated as the end-of-year cash holdings as a percentage of the total assets, and then compared with the same measures of other sample companies for the same year. It takes a value of 1 if it is above the median and 0 otherwise. Underinvestment (*underINV*) is measured based on Richardson (2006)'s model, equal to 1 if the actual investment is below the predicted value, and 0 otherwise. *DivOp* is 1 if the firm's Herfindahl index is above the sample median and 0 otherwise. *NSeg* is the number of segments relative to the sample median. It takes the value of 1 if it is above the sample median and 0 otherwise. Standard errors are clustered by firm. t-statistics are reported in parentheses. *,***,***indicates a significant level of 90%, 95% and 99%, respectively.

	(1)	(2)	(3)	(4)
	Cash	underINV	DivOp	NSeg
EY	0.0233	0.0632*	-0.0578**	-0.1088**
	(1.279)	(1.751)	(-2.183)	(-2.547)
Lnage	-0.0840	-0.3983***	0.0767	0.3228**
	(-1.183)	(-3.091)	(0.709)	(2.021)
Gender	0.0691*	0.1031	-0.0183	0.0240
	(1.863)	(1.146)	(-0.374)	(0.282)
Edu	0.0033	-0.0164	-0.0207	0.0061
	(0.398)	(-0.898)	(-1.538)	(0.285)
Tenure	-0.0365**	-0.0534***	0.0224	0.0391**
	(-2.503)	(-3.008)	(1.422)	(2.034)
Size	0.0423***	-0.1627***	0.0113	0.0131
	(6.456)	(-9.704)	(0.956)	(0.696)
Lev	-0.3742***	-0.1724*	0.0121	-0.1512
	(-7.363)	(-1.872)	(0.166)	(-1.427)
Growth	0.2068***	-0.0674*	-0.0340	-0.0390
	(6.753)	(-1.787)	(-1.095)	(-1.071)
Cash	0.7107***	-1.0600***	-0.1180	0.6058***
	(4.246)	(-4.598)	(-0.631)	(2.602)
Ownership	-0.1878***	0.2398**	-0.1431*	-0.1249
	(-4.308)	(2.136)	(-1.898)	(-0.967)
Independent	-0.1301	0.3085	-0.0770	-0.2566
	(-0.742)	(1.030)	(-0.348)	(-0.756)
Dual	-0.0078	-0.0706*	0.0028	0.0430
	(-0.332)	(-1.794)	(0.093)	(0.954)
Listage	-0.1525***	-0.1662***	0.0783***	0.0545*
	(-13.290)	(-5.479)	(4.286)	(1.788)
SOE	0.0411***	-0.1164***	0.0507*	0.2043***
	(2.728)	(-3.210)	(1.871)	(4.572)
HHI	-0.4216	-0.1406	-5.0108	5.3348
	(-0.119)	(-0.034)	(-1.474)	(1.324)
Constant	0.3376	4.3868***	-0.2568	-1.1662
	(1.105)	(7.108)	(-0.526)	(-1.588)
Year	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
Observations	10,530	9,727	10,530	10,530
Adj R^2	0.0370	0.0817	0.0125	0.0603
F	568.60	756.84	195.96	375.18

Table 7 Impact of Ownership Structure

We separate our sample into state-owned and private firms and examine the relation between R&D expenditure and the "Down to the Countryside" experience of the chairmen as we did in Table 2. Standard errors are clustered by firm. t-statistics are reported in parentheses. *,***,***indicates a significant level of 90%, 95% and 99%, respectively.

	State-owned						Private					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8	(9)	10)	(11)	(12)
	$LnRD_{t+1}$	$LnRD_{t+2}$	$LnRD_{t+3}$	$RD/Sales_{t+1}$	$RD/Sales_{t+2}$	$RD/Sales_{t+3}$	$LnRD_{t+1}$	$LnRD_{t+2}$	$LnRD_{t+3}$	$RD/Sales_{t+1}$	$RD/Sales_{t+2}$	$RD/Sales_{t+3}$
EY	-2.9348***	-2.9414***	-3.0227***	-0.0058***	-0.0084**	-0.0111**	-1.5117***	-1.4847***	-1.6051***	-0.0058**	-0.0050*	-0.0053**
	(-6.257)	(-6.384)	(-6.319)	(-2.740)	(-2.407)	(-2.562)	(-3.967)	(-3.682)	(-3.607)	(-2.549)	(-1.934)	(-2.064)
Lnage	-2.0498	-2.4874	-1.8036	0.0049	0.0020	0.0096	0.0252	0.3176	0.2506	-0.0021	-0.0027	-0.0063
	(-1.067)	(-1.318)	(-0.988)	(0.474)	(0.201)	(0.855)	(0.026)	(0.317)	(0.228)	(-0.306)	(-0.370)	(-0.823)
Gender	-0.7551	-1.5450	-1.7213	-0.0014	-0.0038	-0.0036	-0.2852	-0.4796	-0.7529	0.0031	0.0028	0.0002
	(-0.460)	(-1.082)	(-1.175)	(-0.219)	(-0.624)	(-0.508)	(-0.394)	(-0.645)	(-0.986)	(0.762)	(0.674)	(0.047)
Edu	-0.2612	-0.3432	-0.4451	0.0014	0.0010	0.0007	0.1908	0.2427	0.2185	0.0037***	0.0039***	0.0046***
	(-0.889)	(-1.238)	(-1.622)	(0.982)	(0.655)	(0.416)	(1.221)	(1.446)	(1.125)	(3.152)	(2.935)	(3.291)
Tenure	0.0773	0.1901	0.1362	-0.0011	-0.0002	-0.0011	0.3435**	0.3060*	0.3039*	0.0002	0.0008	-0.0005
	(0.434)	(1.219)	(0.870)	(-0.668)	(-0.212)	(-0.558)	(2.087)	(1.864)	(1.893)	(0.191)	(0.881)	(-0.622)
Size	1.2220***	1.3640***	1.3815***	-0.0012	-0.0009	-0.0003	0.9699***	1.0569***	1.0205***	-0.0011	-0.0007	0.0012
	(5.809)	(6.762)	(6.844)	(-1.050)	(-0.531)	(-0.130)	(4.174)	(4.257)	(3.845)	(-0.532)	(-0.333)	(0.981)
Lev	-2.5862**	-3.5388***	-4.3024***	-0.0190***	-0.0223***	-0.0269***	-2.6226***	-2.3314**	-1.6275	-0.0345***	-0.0298**	-0.0350***
	(-1.962)	(-2.801)	(-3.345)	(-2.742)	(-3.087)	(-4.112)	(-2.631)	(-2.010)	(-1.254)	(-3.085)	(-2.381)	(-4.875)
Growth	-0.6261**	0.4117	0.8823***	-0.0027*	0.0004	0.0006	-0.0563	0.4047	0.4114	-0.0016	0.0007	0.0004
	(-2.061)	(1.021)	(2.878)	(-1.669)	(0.216)	(0.211)	(-0.169)	(1.111)	(0.840)	(-0.890)	(0.351)	(0.182)
Cash	-5.0528**	-8.7123***	-3.6051	-0.0143	-0.0335**	-0.0128	2.5734	1.6194	-0.1574	0.0462**	0.0373***	0.0304**
	(-1.992)	(-3.493)	(-1.405)	(-1.238)	(-2.241)	(-0.896)	(1.559)	(0.920)	(-0.068)	(2.371)	(2.696)	(2.127)
Ownership	1.8706	1.9512	1.8272	-0.0039	-0.0021	-0.0011	-4.0920***	-3.7183***	-2.1600	-0.0245***	-0.0253***	-0.0228**
	(1.261)	(1.339)	(1.221)	(-0.508)	(-0.283)	(-0.139)	(-3.549)	(-3.073)	(-1.622)	(-3.271)	(-2.970)	(-2.475)
Independent	-0.0330	1.4765	2.1353	-0.0094	-0.0235	-0.0256	-3.9553	-0.0720	3.5364	0.0146	0.0137	0.0273
	(-0.009)	(0.413)	(0.566)	(-0.559)	(-1.102)	(-1.004)	(-1.478)	(-0.022)	(0.950)	(0.660)	(0.668)	(1.222)
Dual	-0.4491	-0.2633	0.2426	0.0016	0.0014	0.0050	0.3001	-0.0572	-0.3937	0.0027	0.0049	0.0018
	(-0.648)	(-0.422)	(0.395)	(0.600)	(0.503)	(1.570)	(0.938)	(-0.162)	(-0.967)	(1.256)	(1.401)	(0.670)
Listage	-1.3783***	-0.9875***	-0.7050*	-0.0118***	-0.0092***	-0.0060**	-1.5495***	-1.4193***	-1.0948***	-0.0058***	-0.0055***	-0.0047***
	(-3.525)	(-2.627)	(-1.812)	(-4.706)	(-3.981)	(-2.478)	(-5.893)	(-5.103)	(-3.435)	(-3.872)	(-3.546)	(-2.914)

HHI	-109.1169***	-54.4341	1.5847	-0.5765*	-0.5491	-0.3681	-56.3499	-36.0322	4.6650	0.0438	-0.4304*	0.0527
	(-2.657)	(-1.478)	(0.061)	(-1.941)	(-1.571)	(-1.069)	(-1.487)	(-0.894)	(0.157)	(0.272)	(-1.726)	(0.253)
Constant	-2.4264	-0.8390	-3.1966	0.0424	0.0614	0.0214	-3.4132	-7.3410	-7.5646	0.0326	0.0351	0.0071
	(-0.266)	(-0.094)	(-0.359)	(0.791)	(1.297)	(0.415)	(-0.520)	(-1.048)	(-1.017)	(0.843)	(0.698)	(0.192)
Province	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,312	3,492	2,695	4,312	3,492	2,695	4,352	3,388	2,464	4,352	3,388	2,464
Pseudo R^2	0.1649	0.1905	0.2156	-0.3369	-0.3593	-0.4344	0.1907	0.2081	0.2325	-0.3725	-0.4377	-0.6397
F	205.09	172.54	94.29	7.45	7.59	9.14	38.19	41.41	46.70	8.65	7.45	6.45

Table 8 Firm Value

This table reports the regression results of $TobinQ_{i,t+1} = \alpha_0 + \alpha_1 \times EY_{i,t} + \alpha_2 \times EY_{i,t} \times RD_{i,t} + \alpha_3 \times RD_{i,t} + \gamma \times Characteristics_{i,t} + \lambda \times X_{i,t} + ProvinceEffect + YearEffect + IndustryEffect + \varepsilon_{i,t}$ where Dummy variable *EY*, equal to 1 if the chairman experienced the "Down to the Countryside Movement" and 0 otherwise. Standard errors are clustered by firm. t-statistics are reported in parentheses. *,***,***indicates a significant level of 90%, 95% and 99%, respectively.

	LnRD		RD/sales	
	(1) $TobinQ_{t+1}$	(2) $TobinQ_{t+2}$	(3) $TobinQ_{t+1}$	(4) $TobinQ_{t+2}$
EY	-0.1880***	-0.1284	-0.0460	-0.0035
	(-3.013)	(-1.490)	(-0.952)	(-0.069)
*EY*RD*	0.0156***	0.0090*	2.0453*	0.1460**
	(4.808)	(1.918)	(1.900)	(2.202)
RD	-0.0042	-0.0030	0.3623	0.4044
	(-1.142)	(-0.743)	(0.701)	(0.800)
Lnage	0.0494	0.1654	0.0332	0.1633
	(0.281)	(0.903)	(0.190)	(0.894)
Gender	0.0057	0.0241	-0.0024	0.0171
	(0.070)	(0.280)	(-0.029)	(0.200)
Edu	0.0551**	0.0525*	0.0515**	0.0509*
	(2.185)	(1.959)	(2.039)	(1.901)
Tenure	0.0027	-0.0006	0.0017	-0.0011
	(0.153)	(-0.030)	(0.098)	(-0.061)
Size	-0.5283***	-0.5225***	-0.5194***	-0.5165***
	(-18.658)	(-17.862)	(-18.194)	(-17.536)
Lev	-0.3598**	-0.3015*	-0.3597**	-0.3037*
	(-2.306)	(-1.859)	(-2.297)	(-1.859)
Growth	0.0547	-0.0058	0.0576*	-0.0044
	(1.597)	(-0.156)	(1.667)	(-0.115)
Cash	1.6359***	1.0457***	1.5800***	1.0170***
	(5.744)	(3.692)	(5.575)	(3.604)
Ownership	0.3269**	0.5238***	0.3410**	0.5273***
	(2.319)	(3.595)	(2.436)	(3.650)
Independent	1.0647***	0.8084**	1.0429***	0.8048**
	(3.113)	(2.266)	(3.054)	(2.262)
Dual	-0.0646	-0.0448	-0.0638	-0.0473
	(-1.367)	(-0.852)	(-1.348)	(-0.900)
Listage	0.3047***	0.2103***	0.3101***	0.2145***
	(8.362)	(5.419)	(8.535)	(5.595)
SOE	-0.0901*	-0.0859	-0.0920*	-0.0885*
	(-1.755)	(-1.603)	(-1.796)	(-1.653)
HHI	4.2588	10.1262**	4.3928	10.2027**
	(1.165)	(2.426)	(1.217)	(2.457)
Constant	12.7465***	11.5407***	12.6002***	11.3850***
	(14.955)	(13.070)	(14.757)	(12.992)
R-squared	0.374	0.360	0.374	0.360
Year	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
Observations	8,664	6,880	8,664	6,880
R-squared	0.3744	0.3605	0.3742	0.3603
F	45.57	35.09	45.10	35.04

Table 9 Robustness Check: Alternative Innovation Investment Measure

We employ an alternative measure, the ratio of R&D expenses to total assets (*RD/assets*) and re-run the regressions in Table 2. Dummy variable *EY*, equal to 1 if the chairman experienced the "Down to the Countryside Movement" and 0 otherwise. Standard errors are clustered by firm. t-statistics are reported in parentheses. *,***,***indicates a significant level of 90%, 95% and 99%, respectively.

	(1)	(2)	(3)
	$RD/Assets_{t+1}$	$RD/Assets_{t+2}$	$RD/Assets_{t+3}$
EY	-0.0029***	-0.0029***	-0.0033***
	(-3.258)	(-2.925)	(-3.236)
Lnage	0.0018	0.0012	0.0010
	(0.584)	(0.364)	(0.280)
Gender	-0.0009	-0.0017	-0.0021
	(-0.409)	(-0.839)	(-1.064)
Edu	0.0014**	0.0013**	0.0013*
	(2.569)	(2.174)	(1.798)
Tenure	0.0005	0.0007**	0.0005
	(1.537)	(2.121)	(1.345)
Size	-0.0008*	-0.0007	-0.0005
	(-1.703)	(-1.446)	(-1.005)
Lev	-0.0080***	-0.0092***	-0.0109***
	(-2.589)	(-2.611)	(-3.624)
Growth	0.0003	0.0014*	0.0018***
	(0.448)	(1.898)	(2.584)
Cash	0.0229***	0.0150***	0.0190***
	(4.206)	(2.857)	(3.076)
Ownership	-0.0022	-0.0021	-0.0022
	(-0.774)	(-0.694)	(-0.680)
Independent	-0.0055	-0.0045	0.0013
	(-0.822)	(-0.623)	(0.163)
Dual	0.0005	0.0009	0.0004
	(0.554)	(0.751)	(0.381)
Listage	-0.0031***	-0.0025***	-0.0020***
	(-4.722)	(-3.493)	(-2.674)
SOE	0.0005	0.0006	0.0002
	(0.466)	(0.507)	(0.175)
HHI	-0.0784	-0.2559***	-0.0700
	(-1.274)	(-3.093)	(-1.159)
Constant	0.0141	0.0209	0.0158
	(1.002)	(1.306)	(0.955)
Province	Yes	Yes	Yes
Year	Yes	Yes	Yes
Industry	Yes	Yes	Yes
Observations	8,664	6,880	5,159
Pseudo R^2	-0.2456	-0.2692	-0.3373
F	12.09	10.95	10.18

Table 10 Robustness Check: OLS Regressions

We run OLS regressions on equation (1). Dummy variable *EY*, equal to 1 if the chairman experienced the "Down to the Countryside Movement" and 0 otherwise. Standard errors are clustered by firm. t-statistics are reported in parentheses. *,***,***indicates a significant level of 90%, 95% and 99%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	$LnRD_{t+1}$	$LnRD_{t+2}$	$LnRD_{t+3}$	$RD/Sales_{t+1}$	$RD/Sales_{t+2}$	$RD/Sales_{t+3}$
EY	-1.5659***	-1.6036***	-1.6238***	-0.0009***	-0.0015**	-0.0028**
	(-7.473)	(-7.746)	(-7.815)	(-2.747)	(-2.098)	(-2.327)
Lnage	-0.2750	-0.1588	0.0610	-0.0001	-0.0015	-0.0001
	(-0.414)	(-0.242)	(0.095)	(-0.020)	(-0.322)	(-0.012)
Gender	-0.0222	-0.3941	-0.4244	0.0022	0.0015	0.0010
	(-0.043)	(-0.780)	(-0.856)	(1.128)	(0.789)	(0.581)
Edu	0.0993	0.0764	0.0466	0.0024***	0.0024***	0.0025***
	(0.966)	(0.748)	(0.447)	(3.946)	(3.663)	(3.849)
Tenure	0.1028	0.1147	0.0824	-0.0007	-0.0005	-0.0014*
	(1.171)	(1.370)	(1.009)	(-0.924)	(-0.945)	(-1.679)
Size	0.8691***	0.9354***	0.8933***	-0.0015*	-0.0014*	-0.0005
	(8.273)	(8.884)	(8.682)	(-1.918)	(-1.703)	(-0.658)
Lev	-1.8751***	-2.0146***	-2.0615***	-0.0191***	-0.0174***	-0.0203***
	(-3.326)	(-3.427)	(-3.416)	(-3.871)	(-3.234)	(-6.911)
Growth	-0.3017*	0.1723	0.4639**	-0.0013*	-0.0005	-0.0004
	(-1.956)	(0.964)	(2.542)	(-1.865)	(-0.579)	(-0.272)
Cash	-0.7307	-1.7898*	-1.2111	0.0165**	0.0120*	0.0118*
	(-0.692)	(-1.685)	(-1.035)	(2.036)	(1.839)	(1.937)
Ownership	-0.4001	-0.1637	0.2571	-0.0108***	-0.0101**	-0.0103**
	(-0.616)	(-0.254)	(0.398)	(-2.707)	(-2.423)	(-2.436)
Independent	-1.5355	-0.1598	1.2862	0.0051	-0.0071	-0.0037
	(-0.940)	(-0.098)	(0.753)	(0.530)	(-0.722)	(-0.336)
Dual	0.0400	-0.0561	-0.0807	0.0017	0.0032*	0.0028*
	(0.186)	(-0.264)	(-0.370)	(1.359)	(1.719)	(1.893)
Listage	-1.0384***	-0.8080***	-0.4770***	-0.0048***	-0.0036***	-0.0025***
	(-6.762)	(-5.317)	(-3.127)	(-5.466)	(-3.984)	(-2.942)
SOE	0.3235	0.3181	0.1472	-0.0010	-0.0010	-0.0011
	(1.335)	(1.306)	(0.604)	(-0.673)	(-0.719)	(-0.883)
HHI	-30.3894	-9.7675	23.6336	0.0318	-0.4488***	-0.1449
	(-1.473)	(-0.444)	(1.588)	(0.505)	(-2.973)	(-0.997)
Constant	-2.7621	-3.4498	-3.6629	0.0470**	0.0641***	0.0409**
	(-0.775)	(-0.974)	(-1.059)	(2.280)	(2.792)	(2.082)
Province	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,664	6,880	5,159	8,664	6,880	5,159
Adj R^2	0.595	0.638	0.680	0.222	0.206	0.239
F	245.8	240.5	236.3	28.68	27.30	24.47

Table 11 Robustness Check: Matching Sample Analysis using Propensity Score Matching Method

We first run the Profit regression, using the countryside experience of the chairmen (*EY*) as the dependent variable. We then based on the control variables in equation (1) as matching criteria, estimate the propensity score of each of the chairmen in the sample. Then from the firms with *non-EY* chairmen, we select the matching samples that have the closest propensity scores to those of the firms with *EY* chairmen. Following this process, we obtain 9,132 matching samples. We then perform the same regression as we did before on this matching sample and report the results in the following table. Standard errors are clustered by firm. t-statistics are reported in parentheses. *,***,***indicates a significant level of 90%, 95% and 99%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	$LnRD_{t+1}$	$LnRD_{t+2}$	$LnRD_{t+3}$	$RD/Sales_{t+1}$	$RD/Sales_{t+2}$	$RD/Sales_{t+3}$
EY	-2.2916***	-2.3518***	-2.4543***	-0.0058***	-0.0072***	-0.0086***
	(-7.297)	(-7.403)	(-7.247)	(-3.894)	(-3.429)	(-3.188)
Lnage	-1.7700	-2.3514*	-1.6523	-0.0017	-0.0104	-0.0043
	(-1.385)	(-1.818)	(-1.236)	(-0.233)	(-1.267)	(-0.489)
Gender	-0.4392	-0.7670	-0.9219	0.0002	-0.0011	-0.0029
	(-0.496)	(-0.874)	(-1.030)	(0.044)	(-0.288)	(-0.755)
Edu	0.0546	-0.0092	-0.1030	0.0018**	0.0015	0.0017
	(0.320)	(-0.053)	(-0.546)	(2.093)	(1.529)	(1.559)
Tenure	0.1747	0.2582**	0.2708**	-0.0006	0.0004	-0.0003
	(1.255)	(1.996)	(2.063)	(-0.470)	(0.443)	(-0.305)
Size	1.2324***	1.3127***	1.3185***	-0.0010	-0.0008	0.0002
	(7.239)	(7.577)	(7.358)	(-0.929)	(-0.626)	(0.125)
Lev	-2.5539***	-2.9678***	-3.1434***	-0.0220***	-0.0211***	-0.0260***
	(-2.761)	(-3.017)	(-2.994)	(-3.144)	(-2.769)	(-5.144)
Growth	-0.5005**	0.2212	0.6841**	-0.0025*	-0.0005	-0.0002
	(-1.999)	(0.717)	(2.286)	(-1.728)	(-0.293)	(-0.088)
Cash	-1.9363	-4.0317**	-2.7999	0.0097	-0.0027	0.0019
	(-1.133)	(-2.269)	(-1.362)	(0.831)	(-0.260)	(0.163)
Ownership	-0.1693	0.1238	0.6849	-0.0098*	-0.0087	-0.0076
	(-0.158)	(0.113)	(0.585)	(-1.680)	(-1.384)	(-1.163)
Independent	-3.1242	-0.7218	0.6383	-0.0014	-0.0175	-0.0104
	(-1.163)	(-0.261)	(0.213)	(-0.097)	(-1.059)	(-0.568)
Dual	0.0339	-0.2010	-0.1377	0.0001	0.0020	0.0015
	(0.088)	(-0.512)	(-0.317)	(0.047)	(0.715)	(0.659)
Listage	-1.3721***	-1.1341***	-0.7676***	-0.0074***	-0.0061***	-0.0046***
	(-5.365)	(-4.346)	(-2.731)	(-5.348)	(-4.203)	(-3.394)
SOE	0.2775	0.2099	-0.0415	0.0003	-0.0007	-0.0007
	(0.697)	(0.507)	(-0.094)	(0.132)	(-0.292)	(-0.311)
HHI	-91.4176***	-76.5268**	3.4903	-0.1823	-0.5741**	-0.2951
	(-2.709)	(-2.184)	(0.173)	(-1.072)	(-2.379)	(-1.522)
Constant	-3.1112	-1.0533	-4.5556	0.0441	0.0927**	0.0501
	(-0.482)	(-0.161)	(-0.673)	(1.203)	(2.261)	(1.441)
Province	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,445	5,856	4,343	7,445	5,856	4,343
Pseudo R^2	0.1675	0.1870	0.2118	-0.3498	-0.3849	-0.4811
F	46.10	46.86	49.59	9.86	8.64	7.59

Table 12 Robustness Check: Re-Measure the Countryside Experience of the Chairmen

We manually collect the information on chairmen's early experience by searching their CVs, and assign the dummy variable *Experiment* the value of 1 if the chairman experienced "Down to the Countryside" and 0 otherwise. We then use PSM method to find the matching sample and perform the regression as in Table 2. Standard errors are clustered by firm. t-statistics are reported in parentheses. *,***,***indicates a significant level of 90%, 95% and 99%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	$LnRD_{t+1}$	$LnRD_{t+2}$	$LnRD_{t+3}$	$RD/Sales_{t+1}$	$RD/Sales_{t+2}$	$RD/Sales_{t+3}$
EY	-3.4595***	-3.1971***	-1.1682	-0.0036***	-0.0503	0.0040
	(-14.723)	(-3.105)	(-1.149)	(-4.310)	(-1.495)	(0.672)
Lnage	2.1313***	-1.2212	-5.3859	0.0018***	0.0763	0.0010
	(26.885)	(-0.301)	(-1.088)	(6.671)	(0.851)	(0.047)
Gender	0.9155***	-2.7849	-2.9192	-0.0089***	-0.0125	-0.0003
	(2.988)	(-1.205)	(-1.082)	(-8.321)	(-0.540)	(-0.026)
Edu	0.2339***	0.4316	0.3388	-0.0001	-0.0051	0.0009
	(2.814)	(0.680)	(0.520)	(-0.247)	(-0.541)	(0.275)
Tenure	0.0109	0.0016	-0.0909	-0.0017***	-0.0019	-0.0053**
	(0.130)	(0.004)	(-0.210)	(-5.939)	(-0.390)	(-2.511)
Size	2.1931***	1.8410***	1.2060**	0.0034***	-0.0204	-0.0011
	(155.423)	(3.955)	(2.071)	(71.594)	(-1.116)	(-0.479)
Lev	-7.1039***	-7.3132**	-4.2934	-0.0444***	0.1133	-0.0222
	(-13.380)	(-2.347)	(-1.253)	(-24.420)	(0.841)	(-1.358)
Growth	-2.2144***	-0.2434	1.5607	0.0050***	-0.0171	-0.0299*
	(-6.989)	(-0.174)	(0.786)	(3.471)	(-1.077)	(-1.824)
Cash	-14.1314***	-14.7267**	-4.6652	-0.0418***	0.0445	0.0340
	(-10.685)	(-2.506)	(-0.549)	(-8.881)	(0.431)	(0.964)
Ownership	6.4383***	-0.2956	4.1612	0.0032	-0.0024	-0.0345
	(9.853)	(-0.063)	(0.808)	(1.511)	(-0.047)	(-1.465)
Independent	13.1165***	10.0125	13.6693	0.0290***	0.1413	0.0957*
	(15.995)	(1.232)	(1.468)	(10.493)	(1.352)	(1.835)
Dual	-1.3164***	2.1640	2.7751	-0.0003	0.1148	-0.0007
	(-4.681)	(1.467)	(1.386)	(-0.277)	(1.486)	(-0.093)
Listage	-2.1546***	-2.0231**	-1.6819*	-0.0111***	-0.0052	-0.0103**
	(-17.233)	(-2.137)	(-1.823)	(-26.346)	(-0.464)	(-2.190)
SOE	-1.2707***	0.8809	1.6745	0.0055***	-0.0324	0.0150*
	(-4.621)	(0.554)	(1.026)	(6.034)	(-0.938)	(1.814)
HHI	-225.8386***	-159.5997	24.5939	-0.6056***	-0.8467	-0.1007
	(-55.284)	(-1.556)	(0.666)	(-56.588)	(-0.764)	(-0.476)
Constant	-40.0277***	-13.6089	11.2143	-0.0415***	0.1670	0.0529
	(-126.471)	(-0.660)	(0.457)	(-38.181)	(0.585)	(0.494)
Province	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
Observations	390	318	254	390	318	251

Table 13 Robustness Check: Placebo Test

We move our defined years of birth for *EY* chairmen, 1947-1960, three years forward and three years backward. That is, we define chairmen born between 1944 and 1946, or between 1961 and 1963, as those with countryside experience, indicated by two new dummy variables *EY1* and *EY2*. We then replace the *EY* variable in equation (1) with the two new variables, one at a time, and run the regression. Standard errors are clustered by firm. t-statistics are reported in parentheses. *,***,***indicates a significant level of 90%, 95% and 99%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	$LnRD_{t+1}$	$LnRD_{t+2}$	$LnRD_{t+3}$	$RD/Sales_{t+1}$	$RD/Sales_{t+2}$	$RD/Sales_{t+3}$	$LnRD_{t+1}$	$LnRD_{t+2}$	$LnRD_{t+3}$	$RD/Sales_{t+1}$	$RD/Sales_{t+2}$	$RD/Sales_{t+3}$
EY1	1.4437	1.3749	1.2296	0.0014	0.0017	0.0017						
	(0.669)	(1.385)	(1.107)	(0.449)	(0.487)	(0.456)						
EY2							0.7875	0.7173	0.9307	0.0030	0.0022	0.0028
							(1.110)	(1.143)	(1.328)	(1.599)	(1.143)	(1.272)
Lnage	-4.5617***	-4.2528***	-4.1282***	-0.0103*	-0.0132*	-0.0145*	-3.9287***	-3.6110***	-3.4455***	-0.0092	-0.0121*	-0.0132*
	(-4.669)	(-4.341)	(-3.937)	(-1.679)	(-1.881)	(-1.742)	(-4.243)	(-3.905)	(-3.484)	(-1.533)	(-1.800)	(-1.666)
Gender	0.0467	-0.3727	-0.5035	0.0022	0.0009	-0.0003	0.0258	-0.3865	-0.5357	0.0021	0.0008	-0.0004
	(0.060)	(-0.489)	(-0.654)	(0.658)	(0.263)	(-0.088)	(0.033)	(-0.508)	(-0.698)	(0.617)	(0.240)	(-0.126)
Edu	0.1102	0.0825	0.0146	0.0030***	0.0029***	0.0030***	0.0914	0.0655	-0.0085	0.0029***	0.0028***	0.0029***
	(0.730)	(0.540)	(0.088)	(3.354)	(3.002)	(2.923)	(0.605)	(0.430)	(-0.052)	(3.250)	(2.923)	(2.832)
Tenure	0.1349	0.2067*	0.2044*	-0.0006	0.0002	-0.0007	0.1314	0.2059*	0.2049*	-0.0006	0.0002	-0.0007
	(1.065)	(1.744)	(1.710)	(-0.554)	(0.258)	(-0.708)	(1.042)	(1.742)	(1.717)	(-0.572)	(0.244)	(-0.717)
Size	1.1123***	1.1961***	1.1812***	-0.0011	-0.0008	0.0000	1.1219***	1.2063***	1.1926***	-0.0011	-0.0008	0.0001
	(7.036)	(7.546)	(7.236)	(-1.052)	(-0.721)	(0.029)	(7.095)	(7.610)	(7.327)	(-1.018)	(-0.695)	(0.054)
Lev	-2.2415***	-2.4957***	-2.6002***	-0.0265***	-0.0257***	-0.0307***	-2.2720***	-2.5264***	-2.6222***	-0.0265***	-0.0257***	-0.0307***
	(-2.665)	(-2.823)	(-2.776)	(-4.127)	(-3.616)	(-6.270)	(-2.706)	(-2.866)	(-2.809)	(-4.130)	(-3.627)	(-6.273)
Growth	-0.4601**	0.2787	0.5302*	-0.0022*	0.0001	-0.0001	-0.4451*	0.2892	0.5395*	-0.0022*	0.0002	-0.0001
	(-2.025)	(1.009)	(1.902)	(-1.784)	(0.091)	(-0.045)	(-1.957)	(1.049)	(1.934)	(-1.752)	(0.102)	(-0.039)
Cash	-0.9980	-3.3018**	-2.0156	0.0171	0.0034	0.0070	-1.0142	-3.3352**	-2.0841	0.0172	0.0034	0.0069
	(-0.653)	(-2.123)	(-1.128)	(1.563)	(0.357)	(0.693)	(-0.664)	(-2.146)	(-1.167)	(1.575)	(0.357)	(0.680)
Ownership	-0.7895	-0.4375	0.2126	-0.0153***	-0.0145**	-0.0138**	-0.8916	-0.5537	0.0556	-0.0157***	-0.0148**	-0.0142**
	(-0.817)	(-0.446)	(0.205)	(-2.634)	(-2.308)	(-2.136)	(-0.920)	(-0.564)	(0.054)	(-2.691)	(-2.362)	(-2.194)
Independent	-2.7424	-0.3498	1.7978	0.0011	-0.0083	-0.0020	-2.6262	-0.2277	1.9524	0.0017	-0.0078	-0.0015
	(-1.141)	(-0.141)	(0.666)	(0.084)	(-0.555)	(-0.118)	(-1.094)	(-0.092)	(0.723)	(0.129)	(-0.525)	(-0.089)
Dual	0.1460	-0.0486	-0.0664	0.0024	0.0039	0.0035	0.1321	-0.0680	-0.0848	0.0025	0.0039	0.0035
	(0.460)	(-0.151)	(-0.189)	(1.368)	(1.536)	(1.568)	(0.417)	(-0.212)	(-0.242)	(1.389)	(1.540)	(1.571)

Listage	-1.4210***	-1.1723***	-0.8625***	-0.0077***	-0.0064***	-0.0050***	-1.4419***	-1.1974***	-0.8884***	-0.0077***	-0.0064***	-0.0051***
	(-6.347)	(-5.171)	(-3.513)	(-6.033)	(-4.930)	(-3.995)	(-6.434)	(-5.288)	(-3.633)	(-6.047)	(-4.944)	(-4.018)
SOE	0.2086	0.1664	-0.1031	-0.0010	-0.0013	-0.0019	0.1831	0.1505	-0.1045	-0.0011	-0.0013	-0.0019
	(0.580)	(0.458)	(-0.274)	(-0.508)	(-0.597)	(-0.976)	(0.510)	(0.414)	(-0.277)	(-0.529)	(-0.607)	(-0.973)
HHI	-73.8523**	-43.3823	6.2519	-0.1741	-0.4508**	-0.1103	-74.2128**	-43.9256	5.3379	-0.1753	-0.4523**	-0.1124
	(-2.465)	(-1.499)	(0.292)	(-1.198)	(-2.339)	(-0.623)	(-2.492)	(-1.523)	(0.248)	(-1.208)	(-2.345)	(-0.634)
Constant	8.4298	6.3324	5.7000	0.0753**	0.0936***	0.0818***	5.9260	3.7723	2.9740	0.0707**	0.0891***	0.0764**
	(1.603)	(1.201)	(1.036)	(2.572)	(3.014)	(2.694)	(1.158)	(0.735)	(0.555)	(2.432)	(2.924)	(2.562)
Province	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,664	6,880	5,159	8,664	6,880	5,159	8,664	6,880	5,159	8,664	6,880	5,159
Pseudo R^2	0.1665	0.1880	0.2134	-0.3518	-0.3887	-0.4984	0.1665	0.1880	0.2135	-0.3520	-0.3888	-0.4986
F	51.46	52.04	55.88	11.82	9.942	8.819	51.34	51.99	55.77	11.83	10.22	9.028