DBJ Discussion Paper Series, No.1404

Amenity Potential, Private Benefits of Control, and the Value of Levered Family Firms

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July 2014

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July 13, 2011

Abstract

Family firms are usually affected by the agency cost associated with the conflict between the family and minority shareholders. However, another conflict that usually co-exists in family firms is that between debt holders and shareholders which results in the agency cost of debt. The two agency costs may not always add up; they may reinforece or offset each other. In this paper, we explore how amenity potential and private benefits of control affect different claim holders in family firms. We show how minority and debt claim holders may also gain from the benefits of control the family shareholders have. These gains come from the reduction in the agency cost of debt and is different from the benefits derived of monitoring or from the competitive advantages of the family. The amenity potential and private benefits also have implication on the debt capacity of family firms. Under a plausible range of parameters, family firms tend to have lower debt capacity.

Acknowledgement: This paper was written while I was a Shimomura Research Fellow at the Development Bank of Japan (DBJ). I would like to thank everyone at DBJ, especially people at the Research Institute of Capital Formation, for their inputs and supports. All errors are my own.

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1 Introduction

Control of a corporation offers benefits to the controlling party. The type of benefits to the controller that does not come at the expense of other claims holders is referred to as amenity potential, and the type that the controller appropriates from other claim holders is referred to as private benefits of control (Demsetz (1983), and Burkart et al. (2003)). These benefits create two types of agency conflict which receive much attentions among research on corporate governance: that between the shareholders and managers and that between the large and small shareholders. The first type of conflict occurs in firms with disperse ownership that are controlled by a manger who has incentives to entrench the firms and expropriate the shareholders (Berle and Means (1932) and Jensen and Meckling (1976)). Demsetz and Lehn (1985) argue that ownership concentration can mitigate this kind of conflict by bringing greater alignment of incentives between the manager and the shareholders.

However, the benefits from the concentration of ownership may be offset by a second type of agency conflict which controlling shareholders take advantage of minority shareholders, especially if there is a separation of ownership and control of a firm (Shleifer and Vishny (1997)). For example, Johnson et al. (2000) present the argument that the controlling shareholders may "tunnel" resources out of the firms for their own wealth, and Bae et al. (2002) offer the empirical supports for this hypothesis for the case of Korean business groups.

Burkart, Panunzi, and Shleifer (2003) point out that the type of agency cost firms choose to bare depends, among other things, on the degree of legal protection of minority shareholders. However, on top of these two types of agency costs, levered firms face another type of agency cost: that between the debt holders and the shareholders . Throughout the world, debt usually represents a significant part of the firms' balance sheet, and the agency cost associated with it can be significant; Debt can cause underinvestment, asset substitution, and inefficient liquidation problems (Jensen and Meckling (1976), Leland (1998)). In this paper we investigate how the presence of debt affects the other agency conflicts in the firm, focusing on the family and non-family firms.

Family-controlled firms are an example of the case in which the controlling family may expropriate the minority shareholders. Villalonga and Amit (2008) report that in large U.S. corporations founding families are the only blockholders whose control exceeds ownership, and the primary sources of control wedge are dual-class share. The founding family members often seem themselves as stewards of the business for future generations, and thus seem to have longer horizon. In this paper, we model a family as "deep-pocket" controlling shareholders who enjoy amenity potential and the private benefits of control. We first consider dual-class shares as a control mechanism and then investigate other mechanism such as voting agreements.

We view non-family firms as a publicly held firm, with large shareholders who monitor the controlling manager. The managers also enjoy both amenity potential and private benefits of control. The non-family firm has only one class of shares with one share eligible for one vote. The family and non-family firms have debt on their balance sheets.

Theories of family firms usually argue that family-control firms may have competitive advantage over non-family firms (Bertrand and Schoar (2006)). The benefits from this competitive advantage may compensates for losses from the agency conflict for the minority investors. To focus on the role of the roles of amenity potential, private benefits of control, and the controlling mechanism, we abstract from this competitive advantage argument in the model and assume that the family firms and non-family firms have similar growth rate and risk profile. However, because a limited pool of talents, the family firms may not be run efficiently and might incur some inefficiency costs, the aspect that we retain in the model.

We show that the amenity potential and private benefits of control in the family firm have different effects on different claim holders. They increase the agency costs of debt for non-family firms, but reduce the agency costs for family firms. When minority shareholders receive preferential dividends, they also gain from these benefits. Debt holders also gain since the family have incentives to keep the firm alive longer. It is also shown that, in family firms that do not pay preferential dividends, while these private benefits of control may reduce the value of the minority's shares, they may still increase the value of debt claims, because it aligns the interests of the controlling family shareholders and that of the debt holders.

When the control mechanism allows for the possibility of negotiation for higher dividends for the minority shareholders, the value of the minority's claims increases. Therefore, the value of minority shares in a firm that uses dual-class share structure, which makes negotiations difficult, tends to be lower than that of a firm that use "softer" control mechanisms such as voting agreements which make negotiations more likely.

We begin with a basic model of a family firm, financed both with debt and equity. The assumptions of the model are outlined in Section 2. Section 3 computes the values of different claims in the family firm that promises to pay preferential dividends. Section 4 determines the values of the claims in the non-family firm. Section 5 discusses the agency costs in the family and non-family firms. Section 6 presents a numerical example of the model. Section 7 examines the family firm that does not promise preferential dividends. Section 8 discusses the difference in the results if the controlling mechanism of the family firm is voting agreements. Section 9 highlights the main conclusion.

2 Assumptions

Consider a firm controlled by family shareholders that has unlimited wealth ("deep-pocket assumption"). The founders of the family business are participating in management of an asset-in-place which generates a stochastic instantaneous stream of cash flow revenue X. The evolution of X is assumed to be governed by a geometric Brownian motion

$$dX = \mu X dt + \sigma X dZ, \tag{1}$$

where μ is the drift rate, and σ is the volatility rate, and Z is a standard Brownian motion. There is a constant instantaneous risk-free interest rate of r. The initial value of the revenue stream is $X_0 > 0$, and all the agents in the the economy are risk neutral.

Following Miller (1977), define τ_c as the corporate tax rate, τ_i the interest income tax rate, and τ_d the shareholders' personal dividend tax rate. Then the effective tax shield rate is

$$\tau = 1 - \frac{(1-\tau_c)(1-\tau_d)}{1-\tau_i}. \tag{2}$$

Next, define V as the present value of the revenue flows, or the market value of the asset-in-place, then

$$V = \frac{(1-\tau_c)(1-\tau_d)}{(1-\tau_i)r - \mu} X, \tag{3}$$

assuming that $(1-\tau_i)r > \mu$, and define V_0 as the initial value of the present value corresponding to $X = X_0$. As Goldstein et al. (2001) shows, V has the same dynamic as X, so for the rest of the paper, we use V instead of X as a state variable.

The firm has a perpetual debt with instantaneous coupon payment c, and the value of debt is denoted by D. The coupon is tax deductible, and the debt have a covenant prohibiting the controlling family from issuing additional debt to pay dividends. Whenever the revenue is lower than the coupon payment, the shareholders of the firm pay the difference; otherwise the firm defaults on its debt and is liquidated. In such case, the value of the asset-in-place is lost by a fraction $\xi \in [0, 1)$. Thus ξV can be thought of as a present value of the deadweight cost from liquidating the business. In the event of bankruptcy, the absolute priority rule applies and the asset-in-place is turned overed to the debt holders, and the tax benefits are lost.

The firm may operates with some inefficiency. We assume that the cash flows generated within the firm is lost by a fraction θ, so a present value of the lost due to inefficiency is θV.

2.1 Amenity Potential

These are the benefits that accrue to the controlling family shareholders that do not come at the expenses of other claim holders. These benefits may include the increases in the utility the controlling shareholders attribute to being in charge of the firm, or valuable private information they acquires from operating the business. It is assumed that the instantaneous amenity potential the controlling party receives is a fraction α of the instantaneous cash flows, so a present value of the amenity potential is αV, and when the firm defaults, it is lost.

2.2 Private Benefits of Control

The controlling family may divert cash flows from other claims holders into its own pockets. One example is the use of the firm's money to pay for the family's perquisites. The appropriations reduce cash flows left to the other claim holders by β, and a present value of the benefits of control is βV. However, the appropriation does not affect the underlying asset-in-place, and does not change the total cash-flows. Therefore, the family shareholders want to appropriate the maximum amount possible, and the value of β is determined by factors outsides the model such as corporate governance environment the firm operates in. When the firm defaults, the control of the asset is turned to the debt holders, and the appropriations stop.

2.3 Control Mechanism

The family may sell part of the firm's equity to outside investors. We first consider the case in which the family retains the control of the firm by using duel-class shares and explicit preferential dividends are promised. The family holds all Class-B shares, each with the right to multiple votes, and the outside investors hold Class-A shares, each with the right to only one vote. The portion of Class-B shares in the firm is denoted by b, and that of Class-A by $1-b$. Class-A shares are compensated with higher cash-flow right than Class-B shares, i.e., holders of Class-A shares have a claim over $1-b+n$ of the payouts, while those Class-B shares have a claim of $b-n$, where $n \geq 0$. The parameter n can be thought of as a transfer between the two classes of shares. The firm announces b and n at the time when it sells shares to the outside investors.

The following promise by Presidio Oil is an example of shares with promised preferential dividends.

"If cash dividends are paid on Class B Common Stock, a cash dividend must also be paid on Class A Common Stock in an amount equal to 110% of the per share amount of the cash dividend paid on Class B Common Stock."

For the rest of the paper, we refer to Class-B shares as family's shares and Class-A shares as minority's shares. The value of the shares of minority investors are denoted by M, and those of the family by F.

3 The Value Functions of the Family Firm

Define G as a value function of a claim paying instantaneously $zV + y$; G satisfies the following ordinary differential equation:

$$r(1-\tau_i)G = \frac{1}{2}\sigma^2 V^2 G_{VV} + \mu V G_V + zG + y. \tag{4}$$

The general solution of the above ODE is

$$G = G_1 V^{\lambda_1} + G_2 V^{\lambda_2} + \frac{zV}{r(1-\tau_i)-\mu} + \frac{y}{r(1-\tau_i)}, \tag{5}$$

where $\lambda_1 > 0$ and $\lambda_2 < 0$ are the roots of the quadratic equation

$$\frac{1}{2}\sigma^2\lambda^2 + (\mu - \frac{1}{2}\sigma^2)\lambda - r(1-\tau_i) = 0. \tag{6}$$

Denote V_B as the level of V that the firm defaults on its debt. For an arbitrary chosen default threshold V_B, the coefficients for each claim are solved using the claim's boundary conditions.

3.1 The Value of Debt Claims

We use a superscript F to denote the value functions of the claims in the family firm. D^F is defined as a value function of debt; it satisfies the above ODE, and the relevant boundary conditions are:

Condition 1: $D^F|_{V=V_B} = (1-\xi)V_B$.

Condition 2: $D^F|_{V\to\infty} = \frac{c}{r}$.

Using the above conditions D^F can be solved analytically and is given by

$$D^F = \frac{c}{r} + \left((1-\xi)V_B - \frac{c}{r}\right)\left(\frac{V}{V_B}\right)^{\lambda_2}. \tag{7}$$

Notice that α andβ do not appear explicitly in the above equation. However, they are embedded in the default threshold V_B.

3.2 The Value of Family's Claims

Define F^F as a value function for the family's claims. F^F also satisfies the ODE, and the boundary conditions of F^F are

Condition 3: $F^F|_{V=V_B} = 0$.

Condition 4: $F^F|_{V\to\infty} = (\alpha+\beta+(b-n)(1-\beta-\theta))\,V - \frac{b(1-\tau)c}{r}$.

Using the above conditions, F^F can be solved analytically and is given by

$$\begin{aligned} F^F &= (\alpha+\beta+(b-n)(1-\beta-\theta))\,V - \frac{b(1-\tau)c}{r} \\ &\quad - \left((\alpha+\beta+(b-n)(1-\beta-\theta))\,V_B - \frac{b(1-\tau)c}{r}\right)\left(\frac{V}{V_B}\right)^{\lambda_2}. \end{aligned} \tag{8}$$

3.3 The Value of Minority's Claims

Define M^F as the value function of the minority's claims. The boundary conditions are

Condition 5: $M^F|_{V=V_B} = 0$.

Condition 6: $M^F|_{V\to\infty} = (1-b+n)(1-\beta-\theta)(1-\gamma)V - \frac{(1-b)(1-\tau)c}{r}$.

Solving for M^Fyields

$$\begin{aligned} M^F &= (1-b+n)(1-\beta-\theta)V - \frac{(1-b)(1-\tau)c}{r} \\ &\quad - \left((1-b+n)(1-\beta-\theta)V_B - \frac{(1-b)(1-\tau)c}{r}\right)\left(\frac{V}{V_B}\right)^{\lambda_2}. \end{aligned} \tag{9}$$

The total value of the firm is the sum of all claims: $T^F = D^F + F^F + M^F$, and the equity of the firm is $E^F = T^F - D^F$.

3.4 Preferential Dividends and Endogenous Default

Because of the difference in the benefits they receive, the family and minority shareholders have different default thresholds. Define V_B^f as the the default threshold preferred by the family shareholders. To find V_B^f, differentiate F^F with respect to V_B, and solve the first-order condition. Then

$$V_B^f = \frac{\lambda_2}{\lambda_2 - 1}\frac{bc(1-\tau)}{r\,(\alpha+\beta+b(1-\beta-\theta)-n(1-\beta-\theta))}. \tag{10}$$

Next, define V_B^m as the default threshold preferred by the minority shareholders. Differentiating M^F with respect to V_B and then solving the first-order condition yield

$$V_B^m = \frac{\lambda_2}{\lambda_2 - 1}\frac{(1-b)c(1-\tau)}{r\,(1-b+n)(1-\beta-\theta))}. \tag{11}$$

To resolve this conflict, n has to be chosen such that $V_B^f = V_B^m$. Denote n^F as the value of n that resolves the conflict between the two types of shareholders, then

$$n^F = (1-b)\frac{\alpha+\beta}{1-\beta-\theta}. \tag{12}$$

Preferential dividends, denoted by PD, and defined as the ratio between the dividends that the family receives over the dividends that the minority shareholders receive is

$$PD = \frac{(1-b+n)/(1-b)}{(b-n)/b}. \tag{13}$$

. Next, let V_B^F denote the default threshold corresponding to n^F. This default threshold is given by

$$V_B^F = \frac{\lambda_2}{\lambda_2 - 1} \frac{c(1-\tau)}{r(1+\alpha-\theta)}. \tag{14}$$

Notice that β does not enter into the above equation because when n is chosen optimally through bargaining between the family and the minority shareholders, β does not affect the total value of the firm T^F.

3.5 Optimal Debt and the Minority's Shares

At the initial date, the family shareholders determine how much 1) debt and 2) minority shares the firm sells. In total the family shareholders receive $F^F + M^F + D^F = T^F$.

For debt issuance, the firm chooses the optimal coupon rate, denoted by c^F, which trades off the expected bankruptcy costs and tax benefits. To find c^F, differentiate T^F with respect to c and solve the first-order condition

$$c^F = \frac{r(1-\alpha+\theta)V}{(1-\tau)} \frac{\lambda_2 - 1}{\lambda_2} \left(1 - \lambda_2 \frac{\alpha - \theta + \xi + \tau - \xi\tau}{(1-\alpha+\theta)\tau}\right)^{\frac{1}{\lambda_2}}. \tag{15}$$

The debt ratio, DR^F, is thus

$$DR^F = \frac{D^F}{T^F}, \tag{16}$$

and the face value of debt, FV^F, is

$$FV^F = \frac{c^F}{r}. \tag{17}$$

This is the difference between the internal rate of return the debt holders receive and the risk-free rate. Next, the credit spread, CS^F, is

$$CS^F = \frac{c^F}{D} - r, \tag{18}$$

For the portion of minority's shares, if n is chosen to resolve the conflict between the family and minority shareholders, i.e., $n = n^F$, b is irrelevant; it doesn't affect T^F. To see see substitute n^F into T^F, then b drops off expression for T^F.

The control premium, denoted by CP^F, is the ratio between the value of one share of family shares over that of minority shares, .i.e.,

$$CP^F = \frac{F^F/b}{M^F/(1-b)}. \tag{19}$$

It can be verified that if $n = n^F$, $CP = 1$.

4 The Value Functions of the Non-Family Firm

We next derive the value functions of claims in the non-family firms, assuming that it is managed by a manager whose amenity potential is a fraction δ of cash flows, and whose private benefits equals a faction ϵ of cash flows. So a present value of his total benefits is $(\delta + \epsilon)V$. A superscript N is used to denote the value functions of the claims in the non-family firm. The manager's claim, denoted by S^N, is given by

$$S^N = (\delta + \epsilon)V - (\delta + \epsilon)V_B^N \left(\frac{V}{V_B^N}\right)^{\lambda_2}, \tag{20}$$

and the value function of debt D^N is given by

$$D^N = \frac{c^N}{r} + \left((1-\xi)V_B^N - \frac{c^N}{r}\right)\left(\frac{V}{V_B^N}\right)^{\lambda_2}, \tag{21}$$

and the value function of equity is given by

$$E^N = (1-\epsilon)V - \frac{(1-\tau)c^N}{r} - \left((1-\epsilon)V_B^N - \frac{(1-\tau)c^N}{r}\right)\left(\frac{V}{V_B^N}\right)^{\lambda_2}, \tag{22}$$

and the endogenous default threshold is

$$V_B^N = \frac{\lambda_2}{\lambda_2 - 1}\frac{c(1-\tau)}{r(1-\epsilon)}. \tag{23}$$

The optimal coupon c^N is given by

$$c^N = \frac{r(1-\epsilon)V}{(1-\tau)}\frac{\lambda_2 - 1}{\lambda_2}\left(1 - \lambda_2\frac{\xi + \tau - \xi\tau - \epsilon}{(1-\epsilon)\tau}\right)^{\frac{1}{\lambda_2}}, \tag{24}$$

and DR^N, FV^N, CS^N, and CP^N are defined similarly to those of the family firm.

The difference in credit spreads between the family and the non-family firms, denoted by DCS, is

$$DCS = S^F - S^N, \tag{25}$$

and the value added to the family shares, denoted by VAF, is

$$VAF = \frac{F^F/b}{E^N} - 1, \tag{26}$$

and the value added to the minority shares, denoted by VAM, is

$$VAM = \frac{M^F/(1-b)}{E^N} - 1, \tag{27}$$

and the difference in the debt capacity between the family and the non family firms, denoted by DDC, is

$$DDC = \frac{c^F}{c^N} - 1. \tag{28}$$

5 Agency Cost of Debt in Family and Non-Family Firms

In the basic model, there is no investment or the possibility of asset substitution, so the only agency cost of debt is inefficient liquidation of the firm. First, notice that there is no fixed costs in the model, suggesting that the first-best result is achieved when there is no default and no liquidation, i.e., $V_B = 0$. This outcome takes into account the costs and benefits of all claim holders, so it is Pareto efficient. However, the first-best result cannot be achieved because of the presence of debt in the firm, which creates the agency cost of debt. The closer the default threshold gets to zero, the lower the agency cost of debt, and vice versa. Now, notice that if inefficiency in the family firm is not too high, i.e., θ is close to zero, $V_B^F < V_B^N$, suggesting lower agency cost of debt in the family firm. Notice also that V_B^F declines with α, suggesting that the amenity potential help reduce the agency cost of debt in the family firm. Next, notice also that V_B^N increases with ϵ, suggesting that private benefits of control increase the agency cost of debt in the non-family firm.

6 Example

Example A

An example is helpful to illustrate how the model can be used to understand how amenity potential and private benefits of control change the values of claims in the family and non-family firms. We first investigate the case in which the family uses dual-class shares and preferential dividends and compare it to that in which non-family firm uses no such structures. The following parameter values are used in the following example: $r = 0.06$, $\tau_i = .30$, $\tau_c = 0.31$, $\tau_d = 0.10$, $\xi = 0.25$, $b = 0.2$, $\alpha = 0.02$, $\beta = 0.02$, $\delta = 0.02$, $\in = 0.02$. With is configuration, The current value of the asset-in-place $V = 0.5175$ for both family and non-family firms

The base case outputs are given in Table 1. The default threshold of the family firm is higher than that of the non-family firm. The preferential dividends are 1.244, suggesting that for one dollar payment to the family shareholders, the minority shareholders should receive 1.244 dollar. The value of family's shares is equal to that of minority shareholders, so the control premium is 1.

Comparing to that of non-family firm, the value of family's shares is higher for both family and minority shareholders. The face value of debt of the family firm is lower than that of the non-family firm, suggesting a lower debt capacity. Lower debt capacity lowers the debt ratio for the family firm. Because the family firm has lower level of debt and the default threshold is lower, the credit spread is lower.

Figures 1 and 2 show how the values of family and minority claims change as μ changes for four different value of σ: 0.1, 0.2, 0.3, and 0.4. As expected, the value of both claims increases with both μ

and σ. However, the effects on the value of debt claims are different. The debt value increases with μ, but decreases with σ, as seen in Figure 3. The similar effects are observed in the changes in the debt ratio in Figure 4.

Figures 5 and 6 show that, compared to the non-family firm, the value added to the family shareholders declines with μ, but increases with σ, suggesting that the benefits of family firm are higher for firms with lower growth or higher risk.

Figure 7 shows that the difference in credit spreads between the family firm and the non-family firm declines as μ increases or σ decreases. The difference in the debt capacity between the family and the non-family firms is shown in Figure 8. For most part of the figure, the difference is negative, suggesting that the family firm has lower debt capacity than that of the non-family firm. This difference becomes smaller for higher μ and lower σ. Notice that for very high μ and very low σ, the difference becomes positive, suggesting that it is possible for family firms to have higher debt capacity.

7 No Promised Preferential Dividends

In this section, we investigate what happens when the firm sets up dual-class share system, but does not explicitly promise preferential dividends. Some firms promise the low-vote shares at least the same dividend per share as paid to the high-vote shares. This structure allows for the possibility of preferential dividends without guaranteeing them. The following promise by the Alberto Culver Company is typical:

"Class A and B are entitled to cash dividends, except that no dividends may be paid in Class B unless an equal or greater dividend is paid on Class A, and dividends may be paid on Class A in excess of dividends paid, or without paying dividends on Class B."

Because of the dual-class share structure, if the family shareholders do not offer preferential dividends, the minority shareholders do not have any bargaining power to ask for extra dividends. The only credible threat they have is to stop financing the firm when cash flows are not enough to finance the coupon payments. At this point the family and the minority shareholders may negotiate preferential dividends. We use superscript R to denote the functions and variables in case no preferential dividends are promised ex ante. The negotiation threshold is denoted by V_N^R and the default threshold by V_B^R. For arbitrary

choices of V_N^R and V_B^R, the value of the family's claims is

$$\begin{aligned} F^R &= (\alpha+\beta+(b-n)(1-\beta-\theta))\,V - \frac{b(1-\tau)c}{r} \\ &\quad -n(1-\beta-\theta)V_N^R\left(\frac{V}{V_N^R}\right)^{\lambda_2} \\ &\quad -\left((\alpha+\beta+(b-n)(1-\beta-\theta))\,V_B^R - \frac{b(1-\tau)c}{r}\right)\left(\frac{V}{V_B^R}\right)^{\lambda_2}, \end{aligned} \tag{29}$$

and the value of the minority's claims is

$$\begin{aligned} M^R &= (1-b+n)(1-\beta-\theta)V - \frac{(1-b)(1-\tau)c}{r} \\ &\quad +n(1-\beta-\theta)V_N^R\left(\frac{V}{V_N^R}\right)^{\lambda_2} \\ &\quad -\left((1-b+n)(1-\beta-\theta)V_B^R - \frac{(1-b)(1-\tau)c}{r}\right)\left(\frac{V}{V_B^R}\right)^{\lambda_2}. \end{aligned} \tag{30}$$

After the negotiation of preferential dividends, the interest of the family and minority shareholders are aligned, so the default threshold is the same as that in the case in which the firm pays preferential dividends, i.e., $V_B^R = V_B^F$. Since the default threshold is the same as the case the firm pays preferential dividends, the value of debt's claims is the same, i.e., $D^R = D^F$.

The negotiation threshold in this case is the reservation threshold of the minority shareholders in case the firm never pays dividends and is given by

$$V_N^R = \frac{\lambda_2}{\lambda_2 - 1}\frac{c(1-\tau)}{r(1-\beta-\theta)}. \tag{31}$$

Example B

Table 2 shows the results of the model when there is no promised preferential dividends. The minority shareholders negotiate the dividends at $V_N^R = 0.1152$, slightly above the default threshold. The value of the family's shares increases and that of minority shares declines, resulting in the control premium of 1.3263.

Figure 9 shows that the value added for the family shareholders increases with μ and decreases with σ. Figure 10 shows the effects on the value added to the minority shareholders. It should be noted that the value added can be either negative or positive depending on the values of μ and σ.

The fact that the value added for the minority shareholders becomes negative is not surprising since they are not promised to receive preferential dividends and the cash flows are appropriated by the family. However, what should be noted as well is that the appropriation of the minority shareholders occurs when the debt holders in the family firm enjoy the lower default threshold. (Their debt become safer.) As a

result, although the value added to the minority shareholders becomes negative, the credit spread between the family firm and the non-family firm does not become positive.

Figure 10 also reveals that there are cases in which the value added to minority shareholders are still positive even after the appropriations. These are the cases in which μ is low and/or σ is high. In other words, the value added may be positive for firms with low growth and/or high risk. The intuition behind this result is that such firms have more chances of facing the states in which the controlling family shareholders have to negotiate with the minority shareholders, increasing the value of the minority's claims.

8 Voting Agreements as Control Mechanism

When the family does not set up a dual class share structure, they may retain the control of the firm by using voting agreements, under which a shareholder gives up the voting right of his share to another. We use superscript A to denote the variables and value functions of the family firm that uses voting agreements.

Compared to the dual-class share system, the voting agreements are "softer" mechanism. The minority shareholders have more chance of collectively bargaining for higher dividend payments. The possibility of collective action depends on a lot of factors such as the dispersions of shares, the cost of bargaining, etc. If the minority shareholders have more bargaining power, they will want to demand for preferential dividend payments sooner. To capture this, define ρ as the bargaining power of minority shareholders. Then the negotiation threshold is given by

$$V_R^A = \rho V + (1-\rho)\frac{\lambda_2}{\lambda_2 - 1}\frac{(1-b)c(1-\tau)}{r\,(1-b+n)(1-\beta-\theta))}. \tag{32}$$

The value functions and the rest of the variables remain the same as those in the case in which the firm does not promise preferential dividends. If the minority shareholders have all the bargaining power, i.e., $\rho = 1$, the negotiation occurs right away, and the results will be the same as those of the case of the dual-class shares in which the firm promises preferential dividends. If the minority shareholders have no bargaining power, i.e., $\rho = 0$, the results will be the same as those of the case of dual-class shares in which the firm does not promise preferential dividends.

Example C

In this example, we show that the value of minority's shares increases if the family use voting agreement as controlling mechanism. Assuming the minority shareholders has sufficient bargaining power, i.e., $\rho = 0.5$, the negotiation occurs relatively fast at the negotiation threshold of 0.3164. The value of family's shares declines and the value of minority's shares increases. The control premium reduces to 1.201.

9 Conclusion

In this paper, we show that the amenity potential and private benefits of control in family firms may have a different effects on different claim holders of a firm. The results depend on the dividends policy and the governance structure of the firm. Amenity potential and private benefits of control in family firms may increase the value of debt claims, because it aligns the interests of the family shareholders and that of the debt holders (at the expense of the minority shareholders.) When the control mechanism permits higher possibility of negotiation for higher dividends, the value of the minority's claims increases. Therefore, the value of minority shares in a firm that uses dual-class share structure, which makes negotiations difficult, tends to be lower than that of a firm that use "softer" control mechanism which makes negotiation more likely such as voting agreements.

References

Albuquerue, R., and N. Wang, 2008, "Agency Conflicts, Investment, and Asset Pricing," *Journal of Finance* 58, 1-39.

Anderson, R., A. Duru, and D. Reeb, 2009, "Founders, Heirs, and Corporate Opacity in the U.S.," *Journal of Financial Economics* 92, 205-222.

Anderson, R., and D. Reeb, 2003, "Founding Family Ownership and Firm Performance: Evidence from the S&P 500," *Journal of Finance* 58, 1301-1329.

Berle, A. and G. Means, 1932, The Modern Corporation and Private Property, New York, Harcourt, Brace, & World.

Burkart, M., F. Panunzi, and A. Shleifer, 2003, "Family Firms" *Journal of Finance* 58, 2167-2202.

Bae, K, J. Kang, and J. Kim, 2002, "Tunneling or Value Added? Evidence from Merger by Korean Business Group," *The Journal of Finance* 57, 2695-2740.

Demsetz, H., 1983 "The Structure of Ownership and the Theory of the Firm," *Journal of Law and Economics* 26, 375-390.

Demsetz, H., and K.Lehn, 1985, "The Structure of Corporate Ownership: Causes and Consequences," *Journal of Political Economy* 93, 1155-1177.

Dixit, A. K., and R. S. Pindyck, 1994, Investment Under Uncertainty, Princeton University Press, Princeton, N.J.

Friedman, E., S. Johnson, and T. Mitton, 2003, "Propping and Tunneling," *Journal of Comparative Economics* 31 732-750.

Goldstein, R.S., N. Ju, and H. E. Leland, 2001, "An EBIT-based Model of Dynamic Capital Structure," *Journal of Business* 74, 483-512.

Jensen, M.,C., and W. H. Meckling, 1976 "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics* 3, 305-360.

Johnson, S., R. La Porta, F. Lopez-de-Silanes and A. Shleifer, 2000, "Tunneling," *American Economic Review Papers and Proceedings* 90, 22-27.

La Porta, R., F. Lopez-de-Silanes, and A. Shleifer, 1999, "Corporate Ownership Around the World," *Journal of Finance* 54, 471-517.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishney, 2002, "Investor Protection and Corporate Valuation," *Journal of Finance* 57, 1147-1170.

Leland, H. E., 1998, "Agency Costs, Risk Management, and Capital Structure," *Journal of Finance*, 53, 1213 - 1243.

Miller, M., 1977 "Debt and Taxes," *Journal of Finance* 32, 261-275.

Myers, S. C., 2000, "Outside Equity," *Journal of Finance* 55, 1005-1037.

Shleifer, A., and R. Vishny, 1997, "A Survey of corporate Governance," *Journal of Finance* 52, 737-783.

Villalonga, B. and R. Amit, 2005, "Kohler Co. (A)", *Harvard Business School Case*, 205-234, Boston, MA, Harvard Business School Publishing.

Villalonga, B. and R. Amit, 2009, "How Are U.S. Family Firms Controlled?" *Review of Financial Studies* 22, 3047-3091.

Villalonga, B. and R. Amit, 2010, "Family Control of Firms and Industries," *Financial Management* 39 *(3),* 863-904.

Table 1

Family Firm Promises Preferential Dividends

Outputs	Definition	Family Firm	Non-Family Firm
Default Threshold	V_B	0.110722	0.118653
Ratio of Class-B over Class-A	(1-b+n)/(1-b)/(b-n)/b	1.243903	
Family Share Value	F/b	0.315698	
Minority Share Value	M/(1-b)	0.315698	
Manager's Claim	S		0.009634
Face Value of Debt	c/r	0.283754	0.292155
Debt Value	D	0.226519	0.230866
Equity Value	E	0.315698	0.291076
Debt Ratio	D/(D+E)	0.417764	0.442321
Credit Spread	c/D - r	0.015160	0.015928

Table 2

Family Firm Does Not Promise Preferential Dividends

Outputs	Definition	Family Firm
Negotiation Threshold	V_N	0.115241
Family Share Value	F/b	0.393066
Minority Share Value	M/(1-b)	0.296356
Control Premium	(F/b)/(M/(1-b))	1.32633

Table 3

Family Firm Uses Voting Agreements as a Controlling Mechanism

Outputs	Definition	Family Firm
Negotiatin Threshold	V_N	0.31637
Family Share Value	F/b	0.364581
Minority Share Value	M/(1-b)	0.303477
Control Premium	(F/b)/(M/(1-b))	1.20135

Figure 1: Value of Family's Claim

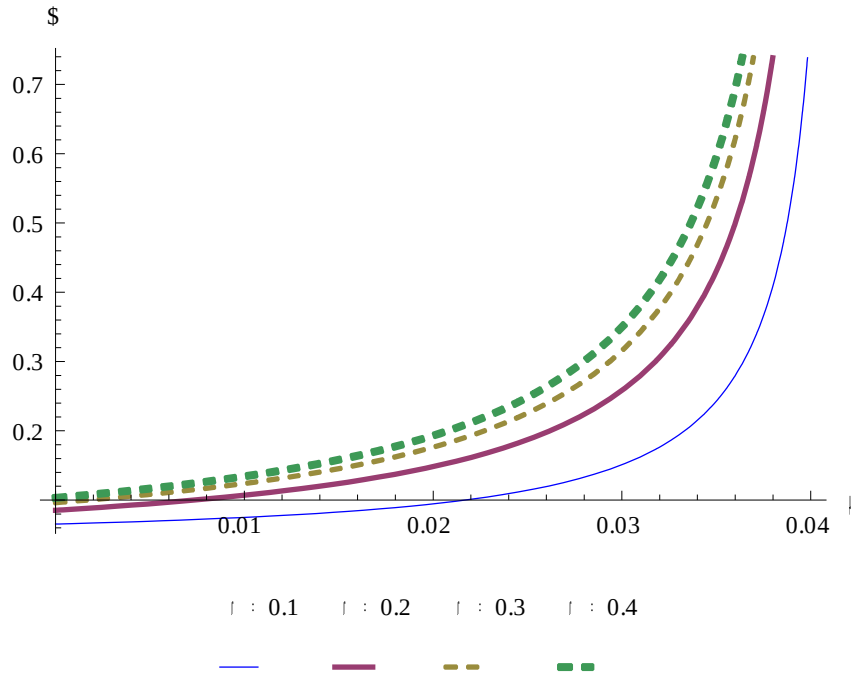

Figure 2: Value of Minority's Claim

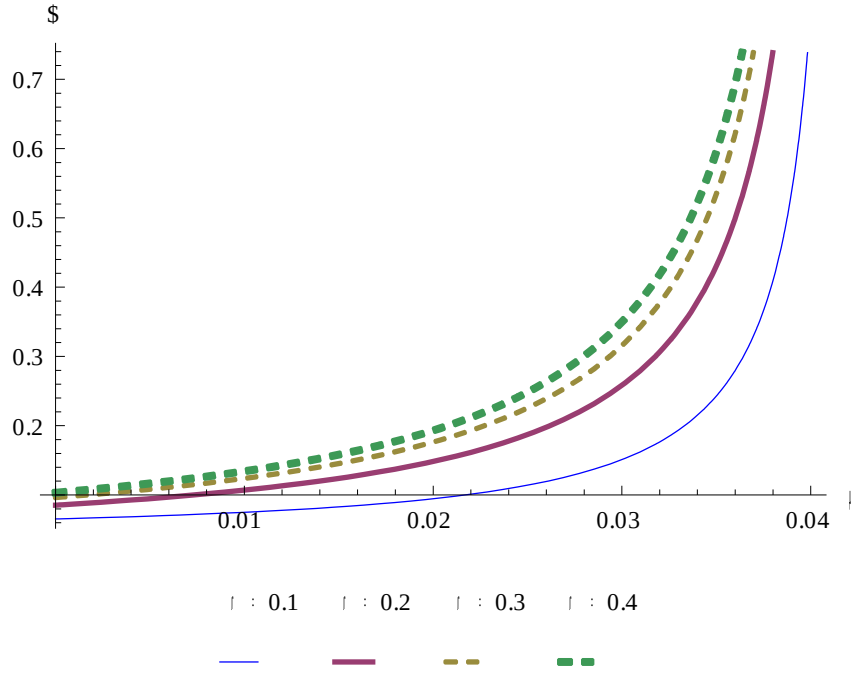

Figure 3: Value of Debtholders' Claim

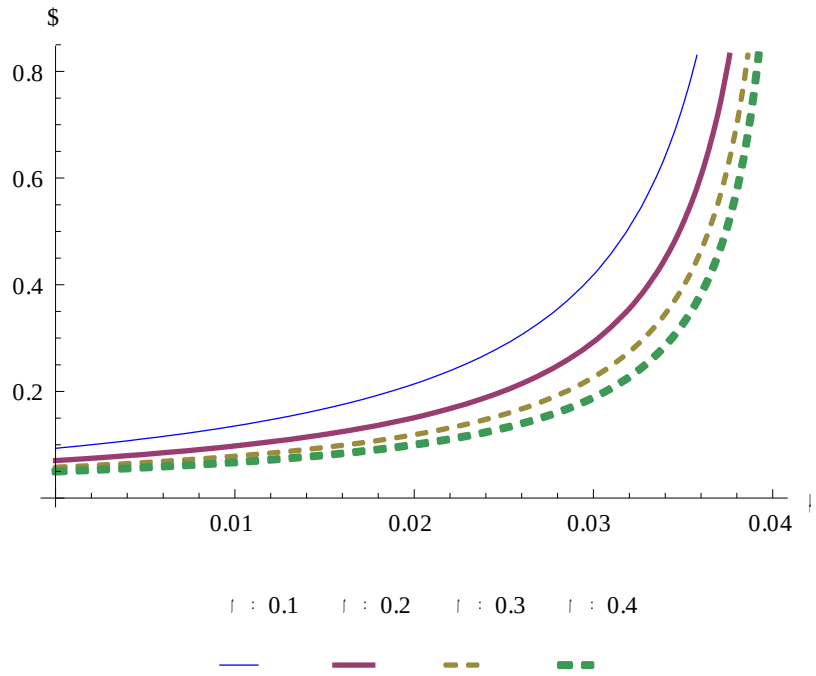

Figure 4: Debt Ratio

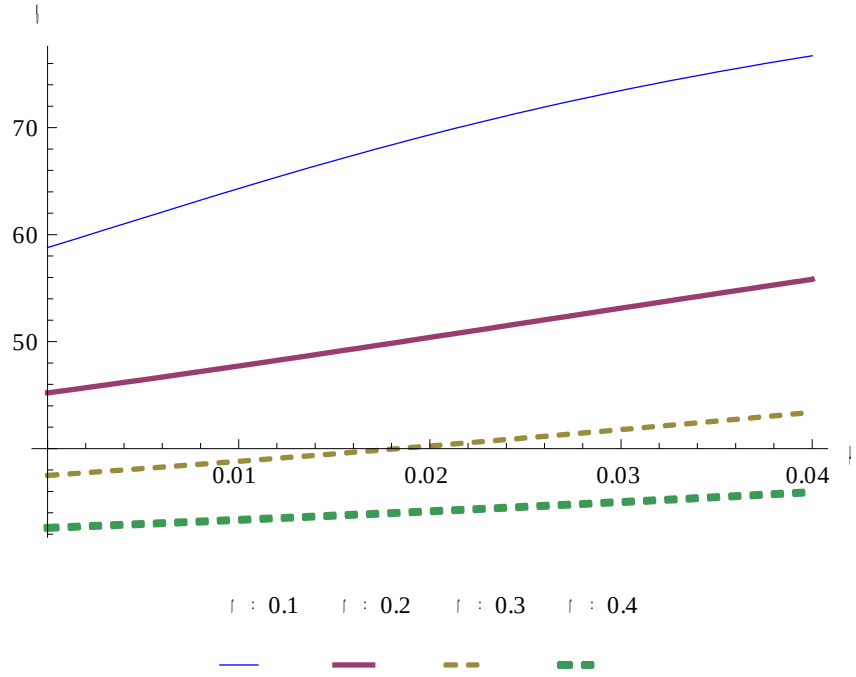

Figure 5: Value Added to Family Shareholders

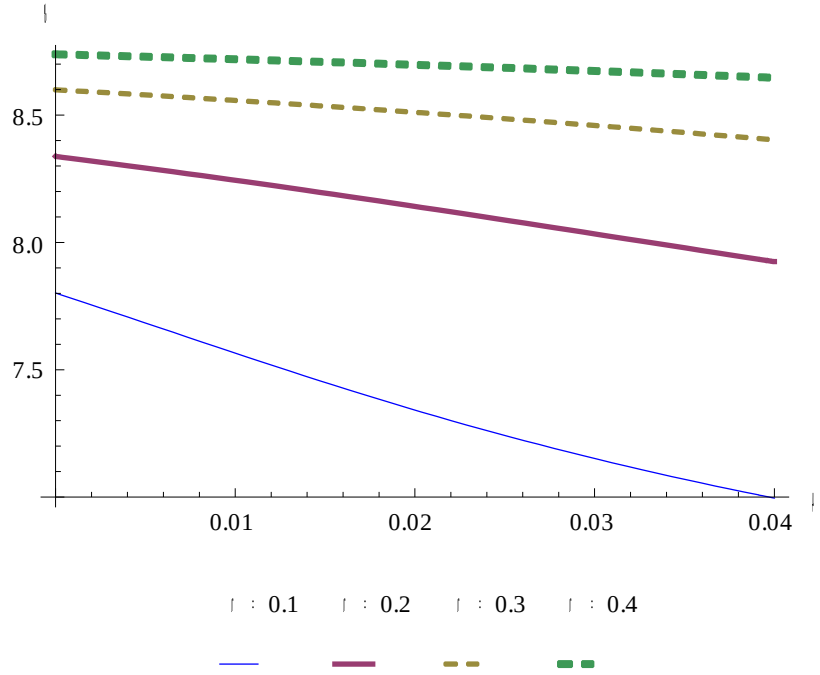

Figure 6: Value Added to Minority Shareholders

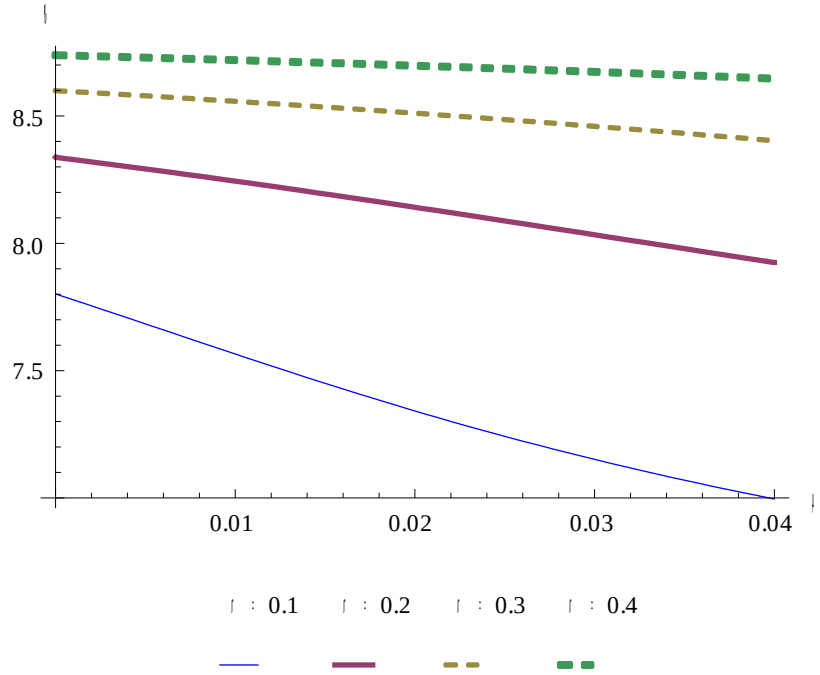

Figure 7: Difference in Credit Spreads

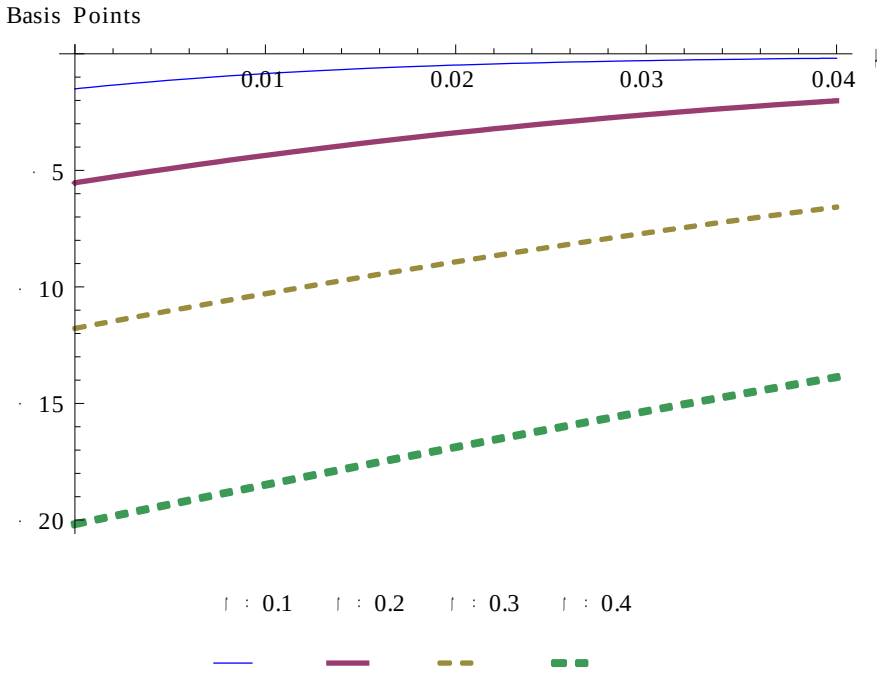

Figure 8: Difference in Debt Capacity

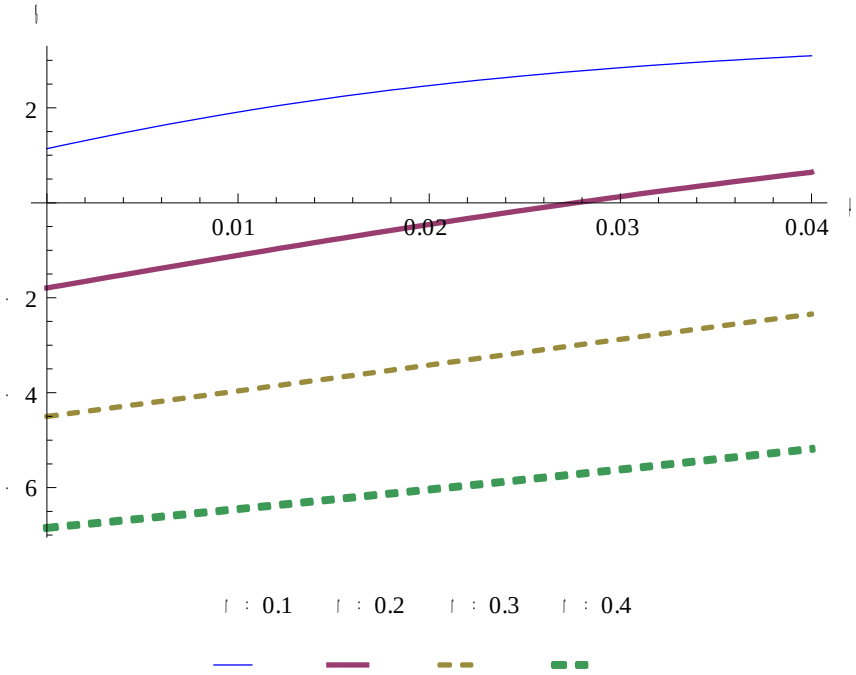

Figure 9: Value Added to Family Shareholders | No Prf . Div.|

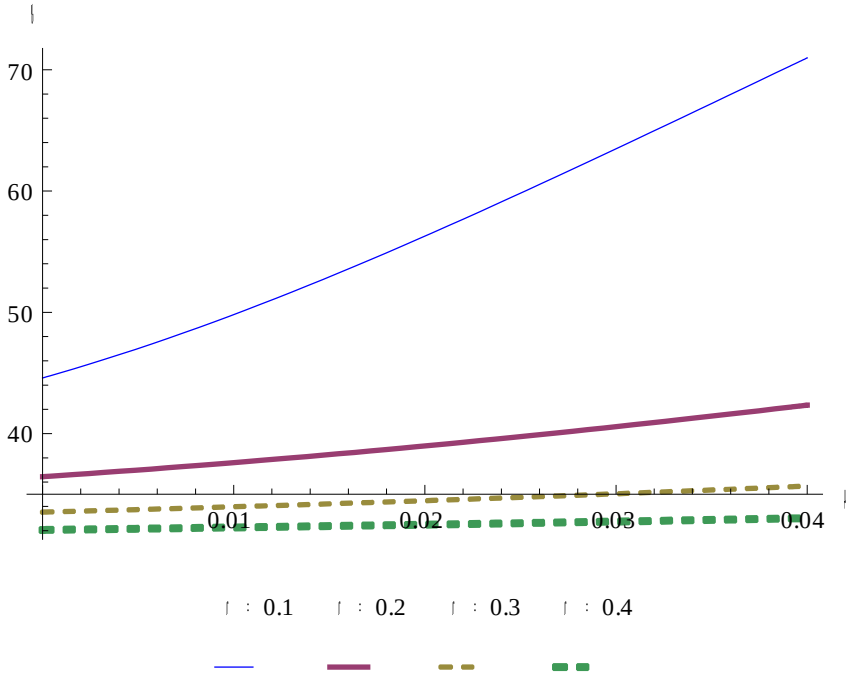

Figure 10: Value Added to Minority Shareholders | No Pref . Div.|

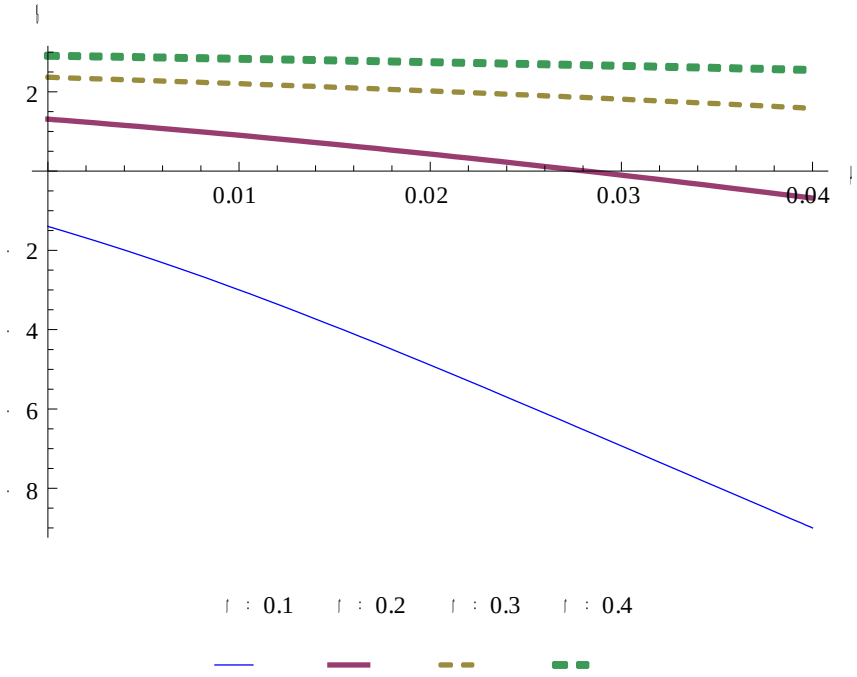

Figure 11: Control Premium