

AGENCY THEORY AND IMPLICATIONS FOR FIRM FINANCING DECISIONS

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In a lucid treatment of agency theory, which considers the relationship between two parties, 'the principal' and 'the agent', Colm Ryan comprehensively addresses the issues, specifically the costs, arising from the relationships between stockholder-managers and debtholders-stockholders. By showing that decision makers in these instances operate at the optimal level of efficiency given the constraints of reality, this paper furthers the discourse surrounding perfect rationality in contrast with its 'bounded' counterpart.

Introduction

Agency theory, a cornerstone of management theory, considers the relationship between two parties; 'the principal' and 'the agent'. Having been the subject of many authors, including, Myers (1977) and Smith and Warner (1979), agency theory has been examined rigorously in the context of firm financing. Perhaps the most significant contribution to the field came from Jensen and Meckling (1976) who defined the principal-agent relationship as:

'A contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent.' (Jensen and Meckling, 1976:308).

They go on to note that if both the principal and the agent are utility maximisers then probability would suggest that the agent will not act in the interests of the principal. This is due to the agent pursuing goals which maximise their own utility. So agency issues and therefore agency costs arise due to asymmetric information. This asymmetry then further gives way to moral hazard. If the principal knew every decision the agent made there would be no agency issue. Thus the agent must be monitored however perfect monitoring is impossible due to the high costs involved in doing so. Agency costs are borne by the principle and are involved in resolving principal-agent conflicts of self-interest.

Agency costs consist of three parts; financial costs, the costs of monitoring the agent to the principal and finally the loss of wealth the principal suffer as a result of the

the agent pursuing goals which are not in the principal's interests within an imperfect contract. The third and final cost is highest when the first two are minimised.

Jensen and Meckling (1976) asserted that firm behavior is an aggregate function of the contracts within the firm. Contracts are framed to minimise agency issues. They further contend that firm behaviour is the aggregate equilibrium of a complex set of variables. This essay will examine how decisions regarding firm financing are the aggregate equilibrium result of agency issues and costs. In particular it will be noted how companies make acquisitions that are not maximising for the shareholders of firm itself but also how bond warrants and indentures are the result of agency issues.

The Debt/Equity Choice

Along with factors such as tax incentives and ease of access of funds, the choice of source for firm financing can be driven by agency theory. Figure 1 below outlines some of the key Principal-Agent relationships that can be at play within certain types of entities. Perhaps the most interesting of these entities are the publicly held corporations. Jensen and Meckling (1976) observed that the larger a firm becomes, the larger the agency costs accrued. This is due to monitoring being inherently more expensive and difficult in large organisations.

Entity	Principals	Agent(s)
Publicly-held corporations	Stockholders	Managers
Publicly-held corporations	Debt-holders and other lenders	Stockholders
Publicly-held corporations	Consumers	Firm
Closely-held company	Lenders to the company	Owner-manager(s)
Limited partnership	Limited partners	General partner(s)
Leveraged buyout fund	Investors	Fund manager

Figure 1: Principal-Agent Relationships (Source: Emery D.R. and Finnerty J.D, 1991:221)

Outside Equity

A privately held company's actions will be the result of utility maximisation of the sole owner-manager. This utility maximisation will be dependent upon their preference for consumption i.e. does the manager get satisfaction from company profits or from job benefits such as a nice office. Jensen and Meckling (1976) formalised this rationale by noting the situation where the owner-manager to sell equity to an outsider. As the owner-manager's share in the firm falls his/her claim on the residual profits falls. Thus the owner-manager, as a utility maximiser, will use firm resources to gain perquisites in place of

profit. The conflict between owners and managers takes four principle forms (Masulis, 1988); (i) managers favour greater privilege levels and lower effort levels so long as they do not have to pay for the full costs (ii) managers favour less risky investments and lower leverage to lower the probability of bankruptcy (iii) managers prefer investments with short time horizons at the expense of more profitable long term projects (iv) managers prefer to minimise the chance of them being terminated which increases in probability with corporate control.

Figure 2 below outlines a scenario for a one hundred per cent equity financed project, if it were to be financed entirely by an owner-manager or by an owner manager and outside equity. The expansion path OBZC denotes were the project entirely financed by the owner-manager. Point C on this graph shows the point at which any additional investment will not be beneficial to the firm's value. The curve OBZC also may be considered as the scenario whereby agency costs equal zero and monitoring costs are zero. This would be the ideal scenario.

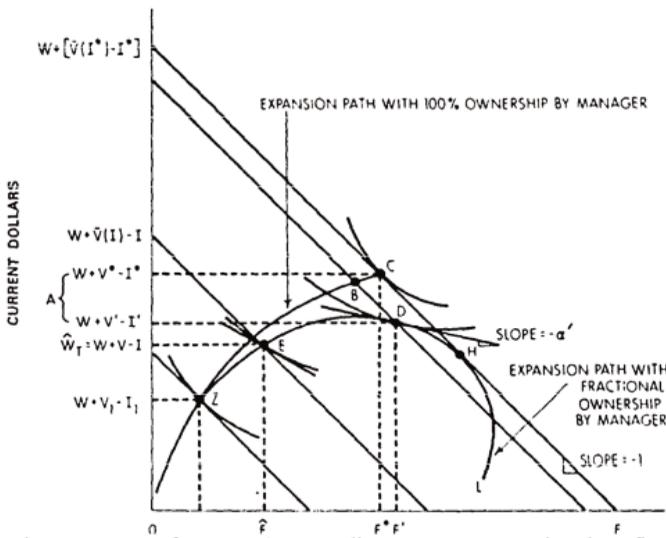


Figure 2: Equity Financed Project (Source: Jensen and Meckling, 1976)

Alternatively curve ZEDHL denotes a potential equilibrium path for the owner-managers non-pecuniary benefits at each level of investment. At points E and D his remaining claim on the firm is equal to his indifference for these factors. As we move along ZEDHL his claim on the residual value of the firm falls as the manager raises more capital. This curve shows his complete opportunity set for combinations of wealth and non-pecuniary benefits

given the costs of the agency relationship. The area highlighted by 'A' shows the probable agency costs for a similar level of investment. Agency costs in this case will equal $(V^* - I^*) - (V' - I')$.

This quite technical analysis by Jensen and Meckling is underpinned by a number of assumptions, which do diminish the real life validity of the theory. For example this scenario assumes that debt is unavailable, there are no potential convertible bonds or preferred stock and all taxes are zero. However while flawed, the analysis highlights the effects agency issues may have on an entirely equity financed firm. Ultimately the manager will stop increasing the size of the firm when the incremental gain in value is offset by the incremental loss involved in the consumption of additional benefits due to his/hers declining interest in the firm. To limit this undesirable behavior from managers' principles may engage in bonding or monitoring.

Monitoring and Bonding

As previously mentioned a principal can encourage an agent to behave in a desirable fashion through incorporating appropriate constraints, incentives and punishments in their contracts. Monitoring however is a cost of the principal-agent relationship. Figure 3 below illustrates the tradeoff scenario faced by the owner when deciding to monitor the agent. Point M denoted the point at which monitoring is optimal. At this point they will benefit from monitoring the agent i.e. revenue gains resulting from goal congruency. Their overall welfare however will not increase as much because they must forego some level of non-pecuniary benefits they previously enjoyed when they did not monitor the agent.

If the manager were able to put aside firm resources to guarantee to equity shareholders that he limited his behavior this would take the form of 'bonding costs'. These take the form of contractual obligations whereby the manager would have the financial behavior of the firm audited by an accountant and also contractual limitations on the manager's decision-making power. The audit/limitations bonds the manager against any wrongdoing. The costs of this however may be that the manager cannot make certain decisions that would benefit the firm. Ultimately the resulting cost of equity is then the stock price plus the cost of actually monitoring the agent or it is the stock price appropriately discounted to the amount of D-C (denoted by point M in figure 3) for the monitoring and bonding costs.

Finally figure 4 below denoted the three possible scenarios of one hundred percent ownership by management, factional management ownership with bonding and monitoring and lastly fractional managerial ownership without bonding or monitoring.

In a perfect hypothetical world we would be at point C where agency costs were zero and as such so too were monitoring costs. However the reality is that without monitoring or bonding we reach a point such as D. Thus owners are left with no other option

than to monitor agents and reach point G on the above Figure 4. Debt financing is an alternative to outside equity fundraising and may also be viewed as a form of bonding.

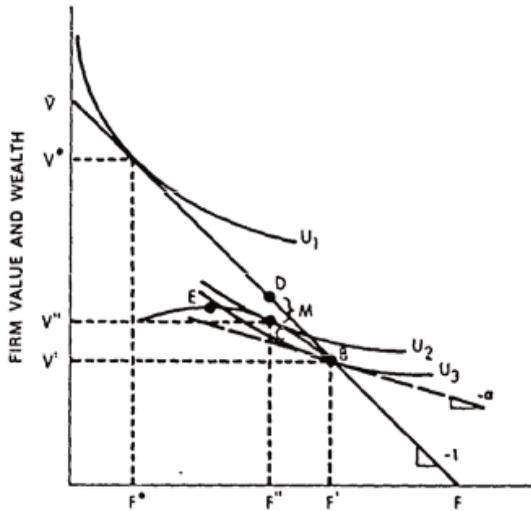


Figure 3: Market Value of Manager's Expenditures on Non-Pecuniary Benefits (Source: Jensen and Meckling, 1976)

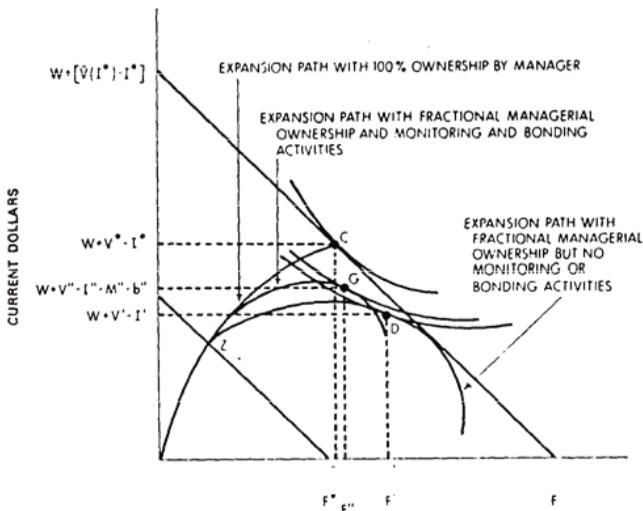


Figure 4: Market Value of the Stream of Manager's Expenditures on Non-Pecuniary Benefits (Source: Jensen and Meckling, 1976)

Debt

By issuing debt 'management deliberately changes its incentives in such a way as to bring them into line with those of the shareholders (the principle)- because of the resulting effect on market value. In other words... the management bonds itself to act in the shareholders interests' (Williamson, 1998:109). There are benefits to debt financing such as it avoiding share dilution, signaling better opportunities and the bonding reasoning outlined above. There is of course also the tax benefits generated from debt.

However debt issuing also creates a Debtholder-Stockholder agency problem. Debtholders have the senior most claims on the firm's assets. Meanwhile stockholders have residual claims on the firm's assets after debtholders and bondholders are repaid. In this scenario debtholders may be viewed as the principals who must protect themselves from the stockholders or the agents. This agency problem takes four major forms: (i) asset substitution (ii) under investment problem (iii) claim dilution (iv) asset uniqueness (Emery, 1991). Agency costs associated with debt include the cost of monitoring or bonding the agent and also bankruptcy and reorganisation costs. For the most part owner managers incur the agency costs of debt (Jensen and Meckling, 1976).

Asset Substitution

As outlined above managers will try to maximise their utility from shareholders. So too does this problem arise when faced with debtholders. Managers and shareholders will attempt to transfer bondholder wealth into shareholder wealth. The shareholders may elect to pursue projects that benefit them i.e. generate firm value through increasing the share price.

However, Jensen and Meckling contend that potential investors are aware of this and as such when bonds are being issued they are immediately discounted accordingly. This prevents shareholders from benefitting from such detrimental behavior. Debt/equity conflicts may further be reduced through bond covenants but the effectiveness of this is dependent upon the contracting phrasing (Masulis, 1988). Smith and Warner (1979) observed that issuing convertible debt limits shareholders from conducting such behavior, as were they to do so the benefit may be offset through share dilution. Further debt features such as call options and secured debt limit asset substitution. However the partitioning of debt into these differing forms of asset classes further develops an agency issue but now amongst debtholders (Masulis, 1980).

Propensity towards asset substitution is further dependent upon the firm's asset composition. Myers (1977) argued that the more growth assets that a firm has, the easier it is to manipulate a firm's market value to benefit stockholders at bondholders expense. He contended that firms with greater growth asset had greater conflicts of interest and thus bears greater agency costs than firms with small amounts of growth assets, ceteris-

paribus.

Under Investment

This issue in a sense is the opposite of the asset substitution problem. Under investment occurs when positive Net Present Value investments are rejected because the benefits of the project accrue to bondholders. Smith and Warner (1979) observed that bondholders could specify in bond indentures specific investment policy. They noted however that this was rarely the case in reality. They observed that firms would be foregoing the opportunity cost of freedom of investment and as such deem debt issuance too costly in that scenario. Smith and Warner use the 'Costly Contracting Hypothesis' to predict that firms with a high propensity for mergers will allow fewer restrictions on investments within their issued bond's covenants. Ultimately a debt call provision would partially relieve the risk of asset substitution or under investment (Thatcher, 1985).

Claim Dilution

Litzenberger (1986) found that in two cases of capital restructuring when the announcement of large increases in debt associated with these actions it appeared to cause a decrease in the market values of company debt issues. Lehn and Poulsen (1989) observed that in the event of a leveraged buyout non-convertible debt holders did not share in the price gains of common stock holders and debt holders experienced a rating reduction.

Asset Uniqueness

As claimants to the assets of the firm the debtholder will likely prefer to charge a premium for highly specific investments. Assets that are unique tend to have more risk associated with their disposal due to a niche market. Knowing this the firm may opt to invest in assets that are less specific (Williamson, 1988). This is however dependent upon the marginal benefits of using less specific assets being greater than the marginal costs of using highly specific assets.

Though perhaps dated, Smith and Warner (1979) observed how standard covenants protect bondholders in each of the four types of actions outlined above. They found that in a sample of eighty-seven indentures filed in 1974-1975 91 per cent contained restrictions against the issuance of additional debt, 36 per cent contained restrictions on the disposition of assets and only 23 per cent contained restrictions on dividends. They finally noted that firms in weaker financial positions have stricter protective covenants. One must assume then that these bonds are discounted for the given level of risk unaccounted for by protective covenants.

Implications for Firm Financing

A firm will have a preference for its mode of financing. Myers (1977) noted that this ‘pecking order theory’ dictates that firms rather internally finance projects. Then when this option is exhausted they will finance with debt or a hybrid convertible bond and then finally they with equity. Figure 5 below illustrates the factors CFOs consider when issuing new debt for project financing. We can see financial flexibility plays a major role for decision makers. Ultimately financial flexibility (debt covenants, timeliness of payments, discount rates) will be dictated by how the market interprets the need for monitoring. As such the financing costs can clearly be linked to the severity of agency problems within the firm.

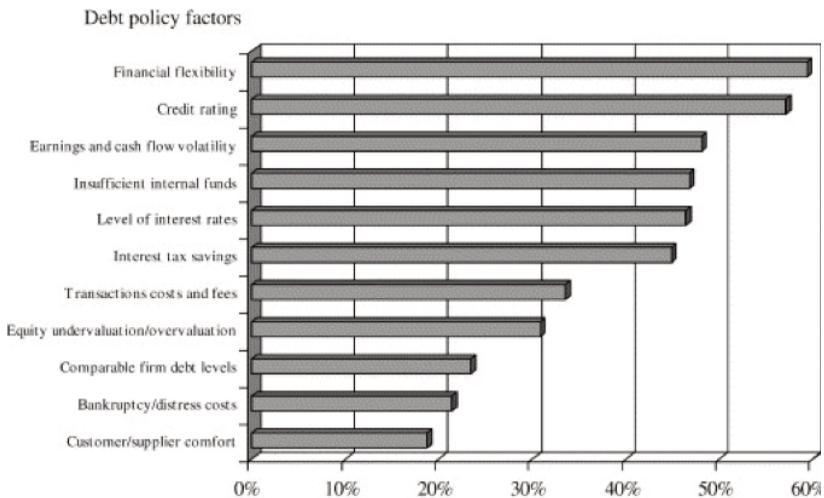


Figure 5: Percent of CFO’s Identifying Factor as Important or Very Important (Source: Graham and Harvey, 2001)

Figure 6 below illustrates the tradeoff model, which shows that the value of the firm is optimal where agency and insolvency costs are offset by a favourable tax shield/ subsidy. Ultimately the optimal level of debt is that where by the marginal benefits of debt financing outweigh the marginal agency cost and this too outweighs the marginal cost of further equity financing (Jensen and Meckling, 1976).

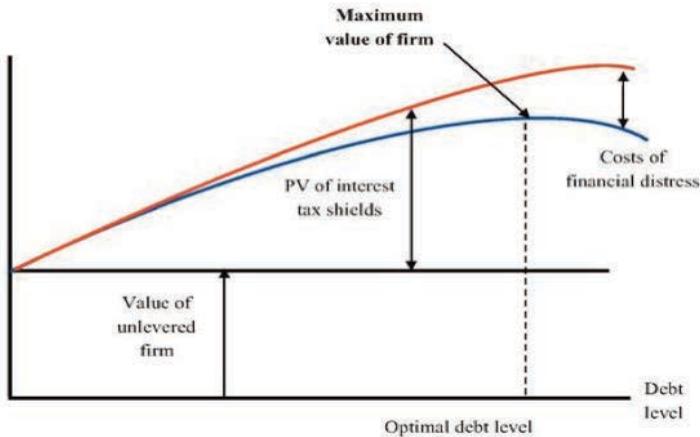


Figure 6: Trade Off Model (Source: http://academlib.com/735/business_finance/trade-off_theory_capital_structure)

Conclusion

This essay has examined agency issues arising from two key relationships; stockholders-managers and debtholders-stockholders. We have seen that the relationship between stockholders and managers can directly effect how a firm may utilise equity financing. Particularly we saw that the costs associated with a fully equity financed project will be reflected in the prices of said equity. In a fully equity financed project we noted that stockholders would surely have to accept the costs of bonding and monitoring as a given when entering into the equity agreement. We then saw how debtholders and stockholders may see a conflict of interest arise in a number of scenarios and the effect this had on the structure of bond contracts. The structure of these bond contracts then has a direct effect on the pricing of these bonds.

The concept of agency costs may go against the theory of economics that all must be rational and efficient. By their very nature additional costs are inefficient. But to assert that these costs are inefficient would be incorrect. They are only inefficient in the perfect hypothetical academic world described with the theory itself. In reality the actors in the principal agent relationship are behaving as efficiently as they perceive to be possible within the constraints of the environment. They are entering into what Simon (1991) described as “bounded rationality” whereby they make the most efficient decision possible given the parameters and constraints of the situation. Ultimately this is what underpins agency theory with regard to firm financing. The equilibrium position reached by firms when all variables considered may not theoretically be efficient but it is the optimal level of effi-

ciency given the constraints of reality.

We can conclude that at the equilibrium position the firm's capital structure will be the aggregate position of the marginal benefits of debt/equity financing instruments exceeding their marginal costs. This equilibrium position will be the aggregate position resulting from a complex set of variables stemming from the issue of information asymmetry, insuring against this asymmetry and the self-interest of the individual groups of investors, managers and stockholders.

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