RATIONALE OF SECURITIES AND COVENANTS IN VENTURE CAPITAL CONTRACTS: AN APPLICATION TO SOUTH AFRICA

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Abstract

Venture capitalists are investing their money in portfolio enterprises and hence are putting their capital at risk. As portfolio enterprises may pursue different objectives than those of their financiers, venture capitalists may perceive agency problems as an important risk factor. Venture capitalists can limit the scope of these risks by specifying the form of financing that they provide to portfolio enterprises and/or by inserting particular covenants in their financial contracts. This paper first briefly reviews the various contractual provisions that can be used to decrease the extent of venture capitalists' exposure to agency problems. Next, the importance of various securities and covenants is examined in the context of South Africa, where the venture capital market is still relatively young, but growing. Overall, it is concluded that venture capitalists in South Africa limit their exposure to risk, but in a different manner than is typically done in the USA.

Keywords: Venture capitalists, Financial contracts, Agency conflicts, Securities, Covenants

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1. Introduction and Objective of Research

Venture capitalists, who are usually experienced and knowledgeable businessmen, are putting their capital at risk when providing financing to portfolio enterprises (Brigham & Daves, 2004:589-590). A major cause of risk may arise from the possible agency conflicts between venture capitalists and portfolio enterprises, when investors and investees have different objectives in mind once the financial contract has been closed. To limit the venture capitalists' exposure to these incentive problems, the financiers may ask for protection through the type of financial contracts that they write with portfolio enterprises. On the one hand, when concluding a venture capital contract, the *form of financing* offered by the venture capitalist may already provide some protection against agency problems. On the other hand, protection may also be provided by including particular *covenants* in venture capital contracts.

The objective of this paper is to examine the various contractual provisions that are typically included in venture capital contracts in a developing country, viz. South Africa. Entrepreneurship in South Africa is on the rise, as is venture capital. Yet, little is known about whether venture capitalists in South Africa behave in similar ways to reduce overall agency problems as compared with more developed economies, like the USA. It is therefore appropriate to first embark on a brief review of the literature on the rationale(s) for various security types as well as covenants. An empirical study follows thereafter, which analyses survey data on the full members of the Southern African Venture Capital and Private Equity Association (SAVCA). In this paper, we conclude that venture capitalists in South Africa limit their exposure to risk, but in a different manner than is typically done in the USA.

2. Agency Conflict in Venture Capital Application

The relationship between a *principal* and an *agent* is very common in business, where responsibilities are delegated by the principal to the agent, who acts on the principal's behalf. In the context of financial contracts, the provider of capital is usually the principal whereas the agent is normally represented by the firm (or its management). An agency problem arises when the principal and the agent have different objectives in mind. While the provider of capital may have the long-term development of the enterprise at hart, the management may be more interested in realizing private benefits of control and expend insufficient effort, possibly to the detriment of the firm's long-term value.

Agency conflicts between various parties can arise because of asymmetric information, which occurs when one party to a contract has more complete and private information than the other party (DeMarzo & Duffie, 1999:66). According to Brav and Gompers, information asymmetries may arise more commonly when dealing with small enterprises, as small firms typically face less stringent rules regarding information disclosure (1997:1819). Also, their assets may be largely intangible and their growth prospects may be significant but surrounded by huge uncertainties, such that it is more difficult to predict the small firm's future. Asymmetric information is important not only at the moment the financier makes its investment, but also thereafter and hence information concerning the output potential should be continuously scrutinized by all the parties involved (Lazear, 1986:412). To counter potential incentive problems between investees and investors, financiers will have to incur *agency costs*. As an example, they may have to spend considerable time and effort on monitoring portfolio enterprises.

According to Gompers, *agency costs* become larger when the investee's growth options increase, when its assets become more intangible as well as when it employs industry- and enterprise-specific assets (1995:1466). Information concerning growth options as well as intangible assets is much more difficult to ascertain and agency costs should therefore be higher. When industry- and enterprise-specific assets are being utilized, financiers will have to take into account their lower expected liquidation value in the event of a (forced) sale. It is therefore only normal for providers of financing, in particular equity, to pay attention to these potential agency problems when designing their financial contracts to safeguard the interests of their own shareholders. Concerning the context of venture capital contracts, agency problems could be minimized by employing specific securities and covenants (Bolton & Scharfstein, 1990:93-105). Yet, their importance is likely to be different for early-stage versus later-stage investments. The latter ideas are elaborated on in the next sections.

3. Securities in Venture Capital Contracts

Venture capitalists can address potential agency problems by writing various types of securities (Schertler, 2000:6-10). In practice, the following types of financing are often utilized in venture capital contracts: straight preferred stock, preferred stock convertible into common stock, common stock of a particular class or multiple classes, straight debt, and debt convertible into common stock. The various types of securities will be discussed in more detail hereafter. It is important to stress that all of them have the same objective in mind, viz. to control the decisions of firm management in order to counter possible agency problems.

3.1 Straight Preferred Stock

As preferred stock usually has a preferred right to dividends compared to common stock, venture capitalists may prefer to finance their portfolio enterprises by means of this type of equity to reduce potential agency problems. Indeed, by forcing the firm to pay out dividends on a regular basis, the financier may induce the firm to reach particular performance goals. This may be important especially for firms that have not yet built up a track record and that are surrounded by information asymmetries, i.e. investees in an early stage. Dividends, however, only represent a legal obligation when the Annual General Meeting of Shareholders declares such an income distribution. Hence, unlike debt, preferred stock still provides some flexibility to keep the earnings inside the firm for reinvestment purposes, when these can contribute to the firm's long-term development. Venture capitalists could also insist on receiving *cumulative* preferred stock, which means that no common dividends are permitted unless all possible arrear preferred dividends have been paid.

3.2 Preferred Stock Convertible into Common Stock

According to research done by Kaplan and Strömberg, convertible preferred stock represents the security that is most commonly employed in venture capital contracts in the USA (2003:286). As the preferred stock is usually convertible into common stock, venture capitalists are in the following favourable position: they are preferred shareholders during the initial stage of the portfolio enterprise when risks are often high (see Section 3.1). Once the firm's growth phase follows, they can reap the benefits from this growth together with the original providers of common stock. The moment when conversion takes place typically is stipulated in the venture capital contract and may be a specified point in time or after a particular situation prevails.

3.3 Common Stock of a Particular Class or Multiple Classes

In the event of issuing common stock of a particular class or multiple classes to the venture capitalist, this common stock usually has different rights compared to the type of common stock that was issued to the founders of the enterprise (Kaplan & Strömberg, 2003:286). These different rights may help to avoid potential agency problems. In general, they relate to the cash flow rights and the voting rights of the venture capitalists, the number of seats on the board of directors, the rights of venture capitalists during the liquidation stage of the enterprise, et cetera. These rights are specified as covenants in the venture capital contracts and are discussed in Section 4.

3.4 Straight Debt

If a portfolio enterprise issues straight debt to the venture capitalist, it may be in the form of standard debt when the venture capitalist is the only lender. In the case where the venture capitalist is one of a few lenders, prioritized debt could be issued to steer clear of agency conflicts (DeMarzo & Duffie, 1999:87 & 95). The last-mentioned form of debt leads to the situation where the various creditors adhere to a prioritized structure when they execute their specific rights. Overall, straight or prioritized debt imposes strong disciplining on the firm to reach particular performance goals in order to meet interest payments and capital instalments. It is clear that such strict payment schedules are only desirable for later-stage investees that are generating a predictable stream of future cash flows. For firms in a later stage, strict payment schedules may also help the firm instilling greater cost discipline and profit awareness (Huyghebaert & O'Donohoe, 2006:321). Finally, early-stage investees typically do not have the assets to pledge as collateral for their debts, given that these are often highly intangible in nature and/or specialized.

3.5 Debt Convertible into Common Stock

By issuing debt that is convertible into common stock, incentives are provided to both contracting parties to maximize overall firm value and avoid possible agency problems (Schertler, 2000:7-8). After the capital of the venture capitalist has been infused into the portfolio enterprise, the founders of the firm are provided with incentives to perform such that satisfactory financial results are generated to meet the debt payments but to also further the conversion. Indeed, when conversion takes place, the portfolio firm henceforth is faced with lower obligations arising from interest payments and capital instalments. As a result, more of the firm's internally generated funds can be used to invest in positive NPV projects. Conversely, when the financial results of the portfolio enterprise are satisfactory, the venture capitalist also has an incentive to convert the debt into equity to share in the increases in firm value. Again, this type of security is unlikely to be valuable for early-stage investees as these firms generally are not yet generating the cash flows that are needed to meet the debt obligations in a first instance.

4. Covenants in Venture Capital Contracts

Covenants can be employed in order to protect the financial interests of venture capitalists by avoiding potential agency convict. While venture capitalists will strive to increase their protection by means of covenants, investees may favour the reduction thereof to enable independent decision-making. Alternatively, portfolio enterprises may be willing to accept covenants if these can reduce the cost of external financing, for example by lowering the interest rate on the debt and/or increasing the price for the firm's stock. Overall, the extent of covenants will be mainly determined by the trade-off between the benefits linked to including covenants compared with the costs incurred by employing these (Gompers & Lerner, 1996:472). Also, venture capitalists may take the reputation of the particular portfolio enterprise into consideration, as this may already be an important indication of the future behaviour of the investee (Gompers & Lerner, 1996:473). The probability that a firm with an established reputation is involved in detrimental behaviour should be smaller than that of an enterprise without such a distinguished standing. Hence, it can be expected that the covenant requirements will be larger for early-stage investees as compared with later-stage investees.

In the sections hereafter, we discuss the main covenants that have been asked for by venture capitalists to protect their financial interests, based upon what has been observed in the USA.

4.1 Cash Flow Rights Allocated to the Venture Capitalist

Cash flow rights of venture capitalists refer to that portion of the income stream of a portfolio enterprise on which the venture capitalist has a claim (Dewatripont &Tirole, 1994:1027; Kaplan & Strömberg, 2003:287). The cash flow rights of a venture capitalist may be exercised by declaring a dividend or by partially redeeming the loan by the portfolio enterprise, depending on the stipulations in the particular venture capital contract. Assigning majority cash flow rights to venture capitalists for normal business situations, as well as during the liquidation of the enterprise, should reduce the possibility of agency problems. The reason is that the venture capitalist will have better incentives to monitor the firm and its management if its cash flow rights in the firm are larger. Kaplan and Strömberg (2003:288) find that average cash flow rights are between 46.7% and 55.5% in the USA.

4.2 Voting Rights Allocated to the Venture Capitalist

The contribution of the venture capitalist may be financed by means of equity, which may be either voting equity or non-voting equity (Aghion & Bolton, 1992:474). Convertible preferred stock may also have voting rights as part of its specific terms (Sahlman, 1990:504). Voting rights are an indication of the extent of influence that venture capitalists can have on the strategic decisions of portfolio enterprises (Kaplan & Strömberg, 2003:290). Kaplan and Strömberg find that average voting rights exceed average cash flow rights, as they are between 53.6% and 62.3% (2003:288). Venture capitalists usually prefer voting

rights during the initial stage and tend to relax their voting rights as the portfolio enterprise develops. Portfolio enterprises normally do not mind about the voting rights of venture capitalists during the early stage, while they negatively assess voting rights during the later stage of growth, because they regard themselves capable to control the portfolio enterprise at that point in time (Schertler, 2000:15).

4.3 Seats on the Board of Directors

The control over a company is vested in the shareholders as a group, and they delegate their power to the board of directors who acts on their behalf (Grossman & Hart, 1986:694). Covenants may stipulate that the venture capitalist has the right to occupy or control a number of seats on the board of directors, where strategic decisions are being taken (Kaplan & Strömberg, 2003:287). This will lead to a decline in the number of insiders on the board relative to the total number of board seats (Schertler, 2000:14-15). In the USA, venture capitalists generally hold 41.4% of board seats (Kaplan & Strömberg, 2003:288). Only in 25.4% of the cases, they dominate the board. It is interesting to note that venture capitalists usually do not receive any cash compensation for their contribution to the board of directors (Sahlman, 1990:506). The venture capitalists are therefore regarded as supervisors or controllers, and being members of the board of directors they should have an important influence on the strategic decision-making of the portfolio enterprise. Overall, this influence is likely to be more beneficial for early-stage investees than for later-stage portfolio enterprises where the product has already demonstrated market acceptance and the firm has already proven its valuable business concept (Huyghebaert & O'Donohoe, 2006:321).

4.4 Staging of Financing in a Number of Rounds

There are two main reasons why this covenant is applied in venture capital contracts (Bolton & Scharfstein, 1990:98). The staging of capital infusion in a number of rounds may reduce the probability that managers in portfolio enterprises promote their own interests (private benefits). A renegotiation of venture capital contracts in one of the stages may also impact on the continuation of the careers of the managers in portfolio enterprises (Prendergast, 1999:51; Schmidt, 1999:19-20). Yet, when managers of portfolio enterprises accept this covenant, they also prove their solid belief that the venture will be a successful one, as they deem that additional capital infusions will be available at favourable conditions in the future.

Because of this covenant, venture capitalists also have the option to abstain from infusing additional funds into a portfolio enterprise if they are not convinced about the adequate past and current financial performance of the portfolio enterprise or the specific objectives achieved by the particular enterprise (Schertler, 2000:10-13). Yet, when providing the financing in various subsequent stages, venture capitalists are also forced to continuously scrutinize the investee. The shorter the duration of an individual round of financing, the more frequently the venture capitalist will have to decide on the portfolio enterprise's performance and progress, and the greater the need to gather information. Overall, we expect that staging is more valuable and thus more likely for early-stage investees that have not yet developed an established track record.

4.5 Redemption of the Claims of Venture Capitalists

Venture capital contracts may have a covenant stipulating that the financier can demand a redemption of its accumulated financial interest in the portfolio enterprise after a specific period since the initial capital investment has expired (Kaplan & Strömberg, 2003:291). It is important to realize that venture capitalists have the option to exercise this redemption right and that they cannot be forced by portfolio enterprises in any way to do it (Kaplan & Strömberg, 2003:291). Except for the right to put a portfolio enterprise into liquidation when particular adverse circumstances (like poor performance) prevail, a venture capitalist typically only has a redemption right in case of default by a portfolio enterprise. In the USA, venture capitalists generally hold redemption rights in 78.7% of their financial contracts (Kaplan & Strömberg, 2003:289).

4.6 Automatic Conversion of Securities Held By Venture Capitalists

Convertible securities (which may be either preferred stock or debt) held by venture capitalists in portfolio enterprises may be automatically converted into common stock when particular events occur (Black & Gilson, 1998:264; and Schertler, 2000:5). According to Kaplan and Strömberg, these conditions generally arise in connection with initial public offerings, and usually require a minimum share price for the common stock, a minimum amount of cash inflow and/or a minimum market capitalization for the portfolio enterprise (2003:291). Automatic conversion applies to 95.2% of venture capital contracts in the USA (Kaplan & Strömberg, 2003:289).

4.7 Assigning Protection to Venture Capitalists Against Dilution of Their Financial Value

Venture capital contracts usually provide protection to financiers when portfolio enterprises issue new shares (Kaplan & Strömberg, 2003:291; Schertler, 2000:17). For example, venture capitalists may be entitled to a pre-emptive right, which enables them to buy new shares from the portfolio enterprise in proportion to

their existing stake in the firm (Sahlman, 1990:505). The rationale of this covenant is to protect venture capitalists against the dilution of their financial interest when a portfolio enterprise issues new shares at a substantially lower subscription price than the prevailing market price. In the USA, venture capitalists are protected against the dilution of their financial stake in 94.7% of the cases (Kaplan & Strömberg, 2003:289).

4.8 Assigning Rights to Venture Capitalists to Sell Their Shares

Venture capitalists often obtain the right to sell their shares (possibly after conversion has taken place) at the same point in time and also on the same conditions as relevant to the employees of the portfolio enterprise (Sahlman, 1990:504). Equity and fairness will therefore prevail when venture capitalists sell their shares to prospective buyers, as well as when shares belonging to the employees of the portfolio enterprise are being sold.

4.9 Vesting of Management's Shares Over a Number of Years

Special skills that are embodied in the management of a portfolio enterprise often cannot be replaced without a huge financial outlay by the enterprise (Hart & Moore, 1994:841). Hence, venture capital contracts may include a covenant according to which the shares of the management will vest over a number of years, depending on a stipulated timetable (Kaplan & Strömberg, 2003:292). In the USA, 41.2% of venture capital contracts foresee managerial vesting rights. Generally, the vesting of management shares over a period of time should be regarded as a type of deferred compensation, rewarding managers for services previously rendered (Prentergast, 1999:45-49). If a manager leaves the enterprise before that specific point (or points) in time, the portfolio enterprise obtains the right to buy back the shares which have not yet been vested in management. This covenant usually incorporates a low price for the buying-back transaction. The objective of this particular covenant is to retain the expertise of the current management, which should benefit the future development of the portfolio enterprise. As the manager's knowledge and expertise likely is more valuable in an early-stage investee, we expect this covenant to be more important for this type of portfolio enterprises.

4.10 Obliging Management to Sign Non-Compete Contracts

Venture capitalists may also require that the management of a portfolio enterprise signs non-compete contracts, which prohibit managers from being engaged in the same line of business for a particular period of time after leaving the portfolio enterprise (Kaplan & Strömberg, 2003:292; Sahlman, 1990:505). Overall, non-compete contracts apply to 70.4% of venture capital contracts in the USA (Kaplan & Strömberg, 2003:289). Again, such contracts may be more valuable to preserve the value of an early-stage portfolio enterprise.

5. Research Methodology

The objective of this paper is to examine the various contractual provisions that are typically included in venture capital contracts in a developing country. The empirical study focuses on the South African venture capital and private equity industry. First, a brief description of the industry and the financiers surveyed in this paper is provided. Thereafter, the research methodology and empirical results are discussed.

5.1 The South African Venture Capital and Private Equity Industry

The following brief synopsis of the South African venture capital and private equity industry serves as a background for the empirical study. The total funds managed by the industry amounted to R43.9 billion (including undrawn commitments of R15.6 billion) at the end of 2005 (KPMG & SAVCA, 2006:2 & 13). This represented an increase by more than 10% in total funds under management compared with the 2004 calendar year. At the end of 1999, the total funds managed by the industry amounted to R31.5 billion (including undrawn commitments of R8.9 billion) (KPMG & SAVCA, 2001:6). The annual growth rate of the total funds is therefore equal to 5.69% over this six-year period.

It is interesting to note that the total funds (excluding undrawn commitments) managed by the South African industry as a percentage of the relevant Gross Domestic Product at the end of the 2005 calendar year equalled 1.9% (KPMG & SAVCA, 2006:16). The applicable percentage for the United Kingdom at the end of 2005 was 3.7%, whereas for North America (largely the USA) this percentage amounted to 2.8% at the end of 2004 (no later data available) (KPMG & SAVCA, 2007:19). The preceding information depicts a scenario of the South African venture capital and private equity industry that is young, but growing in importance compared with these other two highly developed regions.

5.2 Sample of the Empirical Survey

The empirical survey focuses on the full members of the Southern African Venture Capital and Private Equity Association (SAVCA, 2006). Fifty full members were registered in 2006, but two enterprises were excluded from our sample, as their head offices were not registered in South Africa.

Questionnaires were compiled by utilising the information collected by the literature review. The questionnaires, cover letters, as well as self-addressed

and stamped envelopes were posted to the chief executives of the remaining 48 financiers that were targeted by the empirical survey. Four of these enterprises indicated that they do not conduct or are only indirectly involved in venture capital activities. After following-up three times by means of e-mails, 14 completed questionnaires were returned. The response rate is therefore 32 per cent (of the 44 enterprises that are involved in venture capital activities in South Africa).

The majority of questionnaires were completed by officials who were already on the management level. Hence, these people were able to respond with confidence to the questions raised in the survey; also, they did not indicate they have had problems with understanding these questions. Table 1 provides some descriptive statistics on the investors in our sample.

Table 1. Descriptive statistics of the sample

	N > 0	Mean	Median	Std. Dev	Min	Max	*p*-value *t*-test	*p*-value Wilcoxon
AGE OF THE VENTURE CAPITAL FIRM	14	11.9643	7.5	13.1156	1	50	0.1014	0.1037
Seed and start-up	8	5.4375	6	3.4583	1	12		
Expansion and buyout	11	13.4545	8	14.3761	1	50		
STAGE OF INVESTMENT IN PORTFOLIO FIRMS								
Seed stage								
According to number of contracts	5	9.2143	0	14.1866	0	40		
According to monetary value of contracts	5	7.5714	0	18.7153	0	70		
Average duration of investment in portfolio firm, given investment in this stage		5.0000	4	2.7568	3	10		
Start-up stage								
According to number of contracts	8	36.0000	24	38.6065	0	100		
According to monetary value of contracts	8	31.5000	9.5	39.7042	0	100		
Average duration of investment in portfolio firm, given investment in this stage		5.0000	4.5	2.5071	2	10		
Expansion stage (development capital)								
According to number of contracts	9	26.7857	14	35.0696	0	100		
According to monetary value of contracts	9	29.2143	8.5	36.1986	0	100		
Average duration of investment in portfolio firm, given investment in this stage		4.0500	4.25	1.6406	1	7		
Buyout stage (replacement capital)								
According to number of contracts	5	19.5714	0	34.8816	0	100		
According to monetary value of contracts	5	25.9286	0	38.8161	0	100		
Average duration of investment in portfolio firm, given investment in this stage		4.4000	5	0.8944	3	5		
Other								
According to number of contracts	1	6.2857	0	21.3233	0	80		
According to monetary value of contracts	1	5.7857	0	21.3620	0	80		
Average duration of investment in portfolio firm, given investment in this stage		3.0000	3	0.0000	3	3		
PERCENTAGE COMPOSITION OF THE SOURCES OF FUNDS								
From a parent/holding company that operates ***banking*** activities	6	25.6429	0	42.5416	0	100	0.9444	0.5648
From a parent/holding company that operates ***retirement*** activities	0	0	0	0	0	0		
From a parent/holding company that operates ***insurance*** activities	1	0.3571	0	1.3363	0	5	0.3506	0.2410
From a parent/holding company that operate ***industrial*** activities	1	5.3571	0	20.0446	0	75	0.3506	0.2410
From the state/governmental organisations (***publicly sponsored*** funds)	2	7.3571	0	19.4367	0	65	0.5757	0.6962
From a ***combination*** of various investors, which operate:								
Banking activities	2	1.7143	0	4.5137	0	15	0.5834	0.6962
Retirement activities	5	10.5000	0	18.3041	0	60	0.7828	0.5038
Insurance activities	3	9.3571	0	26.2051	0	98	0.3117	0.4514
Industrial activities	0	0	0	0	0	0		
Other public sponsored activities	2	5.2143	0	14.2730	0	50	0.7627	0.7279
Other business activities	2	2.5000	0	7.0027	0	25	0.7684	0.7279
Private individuals	5	24.4286	0	37.6884	0	100	0.6812	0.8482
Management of your enterprise	3	3.2857	0	10.3733	0	39	0.2901	0.3849
From ***other*** sources of funds	2	4.2857	0	11.5787	0	40	0.8000	0.8769

Of the 14 financiers included in our sample, eight invest in early-stage venture capital (seed and start-up stage). There are also 11 investors in later-stage financing, i.e. expansion and buyout financing. The average age of the investors in our sample is 11.96 years, consistent with the idea that the venture capital

and private equity industry is still relatively young in South Africa. Financiers in the start-up and seed stages have an average age of 5.44 years while investors in the expansion and buyout stages have an average age of 13.45 years. The difference in investor age across these two categories is almost statistically significant (*p*-value of 0.1014 for a univariate *t*-test and *p*-value of 0.1037 for a Wilcoxon rank-sum test).

Table 1 further shows that five and eight venture capitalists invest in seed and start-up financing, respectively. Likewise, nine out of 14 investors have a stake in expansion financing. Finally, only five investors are providing buyout financing (replacement capital). Interestingly, no financier seems to be solely invested in the latter type of private equity financing, but combines this with investments in venture capital. For comparison, venture capital funds represent about 70% of total funds in the USA whereas buyout funds thus account for 30% of funds. Yet, the average size of a venture capital fund is only $64.7 million, compared with an average size of $385 million for buyout funds (Jones & Rhodes-Kropf, 2003:19).

Table 1 also reveals that the average duration of an investment is five years for both seed and start-up stage investments. This is not fundamentally different from the average duration of an investment in the expansion (4.05 years) and buyout (4.40 years) stage.

In terms of portfolio weights, Table 1 reveals that start-up financing is receiving the largest stake, both in terms of number of contracts (36%) as well as monetary value of contracts (31.50%). Expansion-stage financing is the second major investment category, representing 26.79% of the number of contracts and 29.21% of the monetary value of contracts. Buyout financing comes third, given that it accounts for 19.57% of the number of contracts and 25.93% of the monetary value of deals. Finally, 9.21% of the number of contracts (7.57% in monetary value) are seed investments. Overall, this analysis reveals that early-stage investments (seed and start-up financing) typically are the smaller deals in the venture capitalist's portfolio, given that their importance in numbers is above their monetary value representation, whereas especially buyout deals are important transactions in monetary value but less so in number of contracts.

Finally, Table 1 reports some information on the ultimate financiers of venture capitalists in South Africa. Here, *t*-tests as well as non-parametric Wilcoxon rank-sum tests reveal no significant differences between the ultimate financiers of venture capitalists investing in the seed and start-up stages on the one hand and investors in the expansion and buyout stages on the other hand. Generally speaking, Table 1 reveals that 57% of funds is obtained from a combination of various sources rather than relying on a single investor, for example a parent company. Not surprisingly, it was found that retirement funds never invest via an own subsidiary but rather prefer to invest in independent venture capital funds. In contrast, industrial corporations prefer the sole investment route. Overall, banking sources are the most important ultimate source of venture capital and private equity financing in South Africa. Through own subsidiaries (25.64%) and via investments in independent funds (1.71%), they account for 27.35% of total venture capital financing. Private individuals are the second major investor category, representing 24.43% of total financing sources. The government provides 12.57% of total financing, where wholly state-owned venture capital firms (7.36%) are almost equally important as investments in independent venture capital funds (5.21%). The retirement funds industry provides 10.50% of total financing whereas insurance companies represent 9.71%. The stake of industrial corporations is limited to 5.36%. Finally, as in the USA, it is observed that managers of venture capital funds also put some of their money at risk, as they own 3.29% of their firm's equity on average.

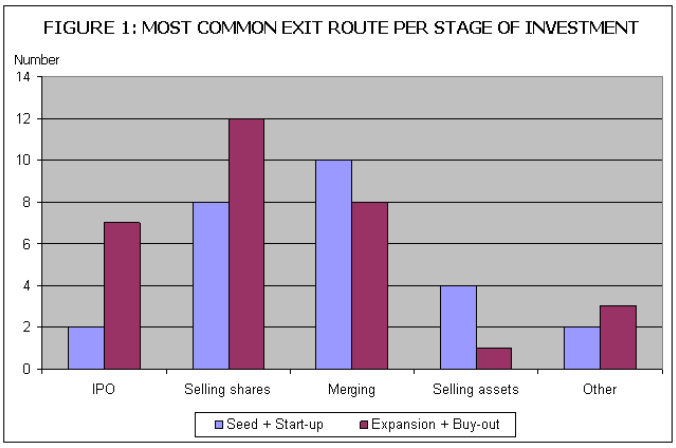
Figure 1 provides some information on the most common exit routes per stage of investment. Figure 1 shows that selling the company's shares, for example in a secondary buyout where a new investor buys the shares of the previous one, and the merger of the portfolio firm with another enterprise are the two most common exit routes in South Africa. An initial public offering (IPO), where the portfolio firm's shares are sold to retail and institutional investors in the stock market, is the third most-common exit route; it seems to be used somewhat more for later-stage investees, i.e. expansion and buyout deals. In contrast, liquidating the company's assets seems to be used more for early-stage investees, representing the third most-common exit route for that investment stage.

5.3 Statistical Analysis of the Data

The statistical analysis of the data was done by means of SAS. To examine the contractual features (security type and covenants) of venture capital contracts in South Africa, we calculated the mean, median, standard deviation, the *t*-test and the Wilcoxon test of the various security characteristics. Unfortunately, the sample size was too small for more elaborate multivariate analyses. Yet, the current examination already offers some interesting insights on the security types and covenants that are being employed. The results of these statistical analyses are reported in following sections of this paper.

6 Empirical Results

The empirical results focus on the securities and covenants employed in the venture capital contracts, classified according to the stages of investment. The stages of investment are grouped in two segments, viz. the seed and start-up stages on the one hand and the expansion and buyout stages on the other hand.



6.1 Empirical Results of the Securities Employed, Classified According to the Stages of Investment

The empirical results of the securities employed in the venture capital contracts, classified according to the stages of investment, are reported in Table 2.

Table 2. Securities employed in venture capital contracts

(based on the percentage of the number of contracts for the early-stage and later-stage respectively)	N > 0	Mean	Median	Standard deviation	Minimum	Maximum	*p*-value *t*-test	*p*-value Wilcoxon
Straight preferred stock								
Seed and start-up	3 / 8	17.125	0	28.4928	0	80	0.5313	0.6677
Expansion and buyout	4 / 11	9.4545	0	21.0540	0	70		
Preferred stock convertible into common stock								
Seed and start-up	1 / 8	0,6250	0	1.7678	0	5	**0.0748**	0.1204
Expansion and buyout	5 / 11	4.0000	0	5.3852	0	15		
Common stock of a particular class or multiple classes								
Seed and start-up	4 / 8	49,3750	47.50	52.8095	0	100	0.5608	0.7328
Expansion and buyout	9 / 11	62.8182	90	41.7416	0	100		
Straight debt								
Seed and start-up	2 / 8	11.6250	0	25.7679	0	100	0.8128	0.9152
Expansion and buyout	3 / 11	14.8182	0	32.0213	0	100		
Debt convertible into common stock								
Seed and start-up	1 / 8	8.7500	0	24.7487	0	70	0.5213	0.8454
Expansion and buyout	2 /11	2.7273	0	6.4667	0	20		
Other securities								
Seed and start-up	1 / 8	12.5000	0	35.3553	0	100	0.7562	0.3374
Expansion and buyout	4 / 11	17.5454	0	32.8371	0	100		

First, based on the number of contracts, common stock is the dominant security type used to finance portfolio enterprises in South Africa, both in the early-stage and the later-stage. More than 49% of the number of contracts concluded in the seed and start-up stages are by means of common equity (median is 47.50%). This percentage is not significantly different from the average of 62.82% (median of 90%) for portfolio firms in the expansion and buyout stages. Next, straight preferred stock represents 17.13% of the number of contracts for early-stage investees (seed and start-up) whereas it accounts for 9.45% of the number of contracts for later-stage investees (expansion and buyouts). The third major form of financing is straight debt, accounting for 11.63% of the number of contracts concluded in early-stage ventures and 14.82% in later-stage ventures. Overall, convertible securities – which are highly important in the USA (Kaplan & Strömberg, 2003:286) – are not a dominant form of financing in South Africa. They are only used in a very limited number of contracts. Yet, a simple *t*-test learns that preferred stock convertible into common stock is used significantly more for portfolio enterprises in the expansion and buyout stages (4% on average) than for firms in the seed and start-up stages (0.63% on average).

6.2 Empirical Results of the Covenants Employed, Classified According to the Stages of Investment

Table 3 contains the empirical results of the covenants employed in the venture capital contracts, again classified according to the stages of investment.

Table 3. Covenants employed in venture capital contracts

(based on the percentage of the number of contracts for the early-stage and later-stage respectively)	N > 0	Mean	Median	Standard deviation	Minimum	Maximum	*p*-value *t*-test	*p*-value Wilcoxon
Assigning ***majority*** cash flow rights to venture capitalists for ***normal*** business situations								
Seed and start-up	3 / 8	32.5000	0	46.5219	0	100	0.4424	0.5471
Expansion and buyout	3 / 11	16.8181	0	36.4879	0	100		
Assigning ***majority*** cash flow rights to venture capitalists during the ***liquidation*** of the enterprise								
Seed and start-up	3 / 8	32.5000	0	46.5219	0	100	0.7033	0.8104
Expansion and buyout	4 / 11	24.5454	0	40.3395	0	100		
Assigning a ***majority*** of votes to venture capitalists to influence ***important strategic*** corporate decisions, such as acquisitions, asset sales and subsequent financing								
Seed and start-up	5 / 8	62.5000	100	51.7549	0	100	0.5570	0.5296
Expansion and buyout	7 / 11	48.6364	40	46.4807	0	100		
Assigning a ***minority*** of seats on the board of directors to venture capitalists								
Seed and start-up	6 / 8	75.0000	100	46.2910	0	100	0.7065	0.3527
Expansion and buyout	8 / 11	66.8182	95	45.2910	0	100		
Assigning a ***majority*** of seats on the board of directors to venture capitalists								
Seed and start-up	1 / 8	12.5000	0	35.3553	0	100	0.8762	0.3374
Expansion and buyout	4 / 11	15.0000	0	31.8591	0	100		
Including the possibility to assign a ***majority*** of seats on the board of directors to venture capitalists ***after*** the portfolio enterprise performs poorly								
Seed and start-up	3 / 8	28.7500	0	45.1782	0	100	0.3113	0.6673
Expansion and buyout	4 / 11	10.4545	0	19.8059	0	50		
Staging of financing in a ***number of rounds***, depending upon attaining specified goals								
Seed and start-up	5 / 8	57.5000	80	49.4975	0	100	0.2210	0.2754
Expansion and buyout	6 / 11	30.4545	20	38.6299	0	100		
Assigning rights to venture capitalists in order to demand ***redemption*** of their claims ***after*** a particular period of time								
Seed and start-up	3 / 8	37.5000	0	51.7549	0	100	0.9588	0.7230
Expansion and buyout	7 / 11	38.6364	50	37.6889	0	100		
Assigning rights to venture capitalists in order to demand ***redemption*** of their claims ***under*** particular adverse contingencies (poor performance)								
Seed and start-up	2 / 8	17.5000	0	36.1544	0	100	0.2555	0.1519
Expansion and buyout	7 / 11	37.8727	40	35.8025	0	100		
Assigning ***automatic conversion*** of securities held by venture capitalists ***when*** particular contingencies occur								
Seed and start-up	4 / 8	42.5000	30	47.1320	0	100	0.7768	0.9323
Expansion and buyout	8 / 11	36.8182	30	34.2252	0	100		
Assigning ***protection*** to venture capitalists against ***dilution*** of their financial value ***when*** future financing arises								
Seed and start-up	3 / 8	33.7500	0	47.4906	0	100	0.6176	0.9286
Expansion and buyout	6 / 11	23.6364	10	34.4304	0	100		
Assigning rights to venture capitalists to sell shares held at the ***same time and terms*** as the key employees								
Seed and start-up	3 / 8	37.5000	0	51.7549	0	100	0.4463	0.4023
Expansion and buyout	8 / 11	55.4545	75	45.7414	0	100		
Vesting of management's shares over a ***number of years***, in order to ***discourage*** management to leave the enterprise								
Seed and start-up	5 / 8	61.2500	95	50.8300	0	100	0.3524	0.3093
Expansion and buyout	8 / 11	40.4545	20	39.3989	0	100		
Obliging management to sign ***non-compete contracts*** that prohibit them from working in the ***same kind*** of industry for a future period of time								
Seed and start-up	5 / 8	62.5000	100	51.7549	0	100	0.6190	0.9259
Expansion and buyout	9 / 11	73.6364	100	39.5658	0	100		
Other covenants (stipulations) to monitor the portfolio enterprise and provide entrepreneurial incentives								
Seed and start-up	2 / 8	25.0000	0	46.2910	0	100	0.8566	0.8301
Expansion and buyout	3 / 11	29.0909	0	50.0908	0	100		

According to Table 3 (which is based on the percentage of the number of contracts), venture capitalists in the seed and start-up stages benefit from majority cash flow rights during normal business conditions and during the firm's liquidation stage in 32.50% of their financial contracts. This percentage is somewhat lower (but not statistically significant) for venture capitalists in the expansion and buyout stages.

Nevertheless, venture capitalists have an important fraction of voting rights in portfolio enterprises, such as to influence the firms' strategic decisions. Consistent with our conjectures, this happens somewhat more in contracts where the venture capitalist is investing in seed and start-up financing (62.50%) than when the venture capitalist is investing in firms in the expansion and buyout stages (48.64%). Yet, the difference is not statistically significant.

Overall, venture capitalists are satisfied with a minority position on the board of directors. Venture capitalists in seed and start-up stage investments agree with a minority board position in 75% of their contracts. This percentage is not fundamentally different from the 66.82% for venture capitalists in expansion and buyout financing. When the portfolio enterprise is performing poorly, venture capitalists generally have only small chances to increase their board representation. The latter holds especially true for venture capitalists in expansion and buyout-stage financing, where in only 10.45% of the contracts an increase in board representation following bad performance has been made possible.

Staging of financing in a number of rounds is also frequently used in South Africa. Venture capitalists in the seed and start-up stages implement staging in 57.50% of their financial contracts. For venture capitalists in the expansion and buyout stages, this fraction is only 30.45%. Although this difference in results is consistent with our expectations, it is not statistically significant (*p*-value of 0.2210 for the *t*-test and *p*-value of 0.2754 for the non-parametric Wilcoxon test). Redemption of claims under normal circumstances, for example after a particular period of time, or under poor performance conditions is foreseen in less than 40% of South African venture capital contracts. Yet, redemption of claims under poor performance is somewhat more applied in the contracts that provide expansion and buyout financing (37.87%) than in the contracts that provide seed and start-up funds (17.50%). The same holds true for the automatic conversion of securities held by venture capitalists; venture capitalists only foresee in automatic conversion in about 40% of their contracts; this percentage is fairly similar for early-stage and later-stage investments. To be noted, the conversion we are discussing here is not to be confused with the convertibility of preferred stock and debt (which is stipulated when these securities are issued) as conversion there will occur automatically in this case when particular contingencies (like initial public offerings) take place. Next, venture capitalists may include protection against dilution of their financial value when future financing is to be raised; this happens in 33.75% of the contracts involving seed and start-up stage investees and in 23.64% of the contracts that involve expansion and buyout investees.

Finally, venture capitalists can protect themselves ex ante against potential expropriation by the firm's management. First, in 37.50% (55.45%) of their financial contracts they include a clause that allows them to sell their shares at the same time and terms as key employees in the case of early-stage (late-stage) investments. In the case of early-stage venture capital financing, the vesting of management shares over a number of years in order to discourage management to leave the firm is applied in 61.25% of financial contracts. For expansion and buyout investments, this feature is included in only 40.45% of contracts. Although the difference here is consistent with our conjectures, it is not statistically significant (*p*-value of 0.3524 under a *t*-test and *p*-value of 0.3093 under a non-parametric Wilcoxon test). Finally, venture capitalists include in 62.50% (73.64%) of their financial contracts with early-stage (later-stage) investees a non-compete clause that prohibits managers from working in the same kind of industry for a future period of time.

When comparing the results for South Africa with those for the USA, we observe that cash flow rights are somewhat lower in South Africa. However, we find no large differences in terms of voting rights. In the USA these rights are also somewhat more common when first and early-stage financing occurs (2003:295). We document the same results for South Africa. Yet, the conclusions reached by Kaplan and Strömberg show that redemption rights and automatic conversion rights are far more important in the USA than in South Africa (2003:289). Also, assigning protection to venture capitalists against the dilution of their claims (2003:289) and the staging of financial contracts are far more common in the USA than in South Africa. Finally, venture capitalists in South Africa and the USA have comparable vesting rights for managers and non-compete managerial clauses. Also, like in our sample, the vesting covenant in the USA is more commonly used in early-stage than in later-stage financing (2003:295).

7. Conclusions

In this paper, we examine the venture capital and private equity industry in South Africa which is a developing country. The venture capital market in South Africa is still young, but growing in importance. Investors mainly invest in start-up and development capital and typically hold their stake during a period of four to five years. Overall, the descriptive statistics of our sample revealed that 57% of the funds to be invested are obtained from a combination of various sources rather than relying on a single investor. Also, the two most common exit routes in South Africa are secondary buyouts, where another venture capitalist buys the shares of the current investor, and merging with another firm.

As venture capitalists are putting their capital at risk when investing in portfolio enterprises, they may choose the appropriate securities as well as covenants to be included in their financial contracts with portfolio enterprises. In this paper, the focus is on how various contractual provisions can be used to decrease the venture capitalists' exposure to agency

problems with the investee (its management). The study allows concluding that South African venture capitalists limit their exposure to financial risk, but often in a different manner than is typically done in the USA. In particular the following conclusions arise from our study which should also be valuable to other developing countries:

- Common stock is the dominant *security* type used to finance portfolio enterprises in South Africa. Convertible securities, which are highly important in the USA, are not a dominant form of financing in South Africa.
- The main *covenants* that venture capitalists apply in at least half of their financial contracts during the *seed and start-up* stages are as follows, in declining order of importance:

(a) Assigning a minority of seats on the board of directors to venture capitalists.

(b) Assigning a majority of votes to venture capitalists to influence important strategic corporate decisions.

(c) Obliging management to sign non-compete contracts that prohibit them from working in the same kind of industry for a future period of time after leaving the portfolio enterprise.

(d) Vesting of management's shares over a number of years, in order to discourage management to leave the enterprise.

(e) Staging of financing in a number of rounds, depending upon attaining specified goals.

- Venture capitalists tend to employ the following *covenants* in at least half of their financial contracts during the *expansion and buyout* stages, in a declining order of importance:

(a) Obliging management to sign non-compete contracts that prohibit them from working in the same kind of industry for a future period of time after leaving the portfolio enterprise.

(b) Assigning a minority of seats on the board of directors to venture capitalists.

(c) Assigning rights to venture capitalists to sell shares held at the same time and terms as key employees.

References

1. Aghion, P. & Bolton, P. 1992. An incomplete contracts approach to financial contracting. *The review of economic studies*, 59(3): 473-494, July.
2. Black, B.S. & Gilson, R.J. 1998. Venture capital and the structure of capital markets: banks versus stock markets. *Journal of financial economics*, 47(3): 243-277, March.
3. Bolton, P. & Scharfstein, D.S. 1990. A theory of predation based on agency problems in financial contracting. *The American economic review*, 80(1): 93-106, March.
4. Brav, A. & Gompers, P.A. 1997. Myth or reality? the long-run underperformance of initial public offerings: evidence from venture and nonventure capital-backed companies. *The journal of finance*, 52(5): 1791-1821, December.
5. Brigham, E.F. & Daves, P.R. 2004. *Intermediate financial management* (8th ed.). Ohio: Thomson, South-Western.
6. DeMarzo, P. & Duffie, D. 1999. A liquidity-based model of security design. *Econometrica*, 67(1): 65-99, January.
7. Dewatripont, M. & Tirole, J. 1994. A theory of debt and equity: diversity of securities and manager-shareholder congruence. *The quarterly journal of economics*, 109(4): 1027-1054, November.
8. Gompers, P.A. 1995. Optimal investment, monitoring, and the staging of venture capital. *The journal of finance*, 50(5): 1461-1489, December.
9. Gompers, P. & Lerner, J. 1996. The use of covenants: an empirical analysis of venture partnership agreements. *The journal of law and economics*, 39(2): 463-498, October.
10. Grossman, S.J. & Hart, O.D. 1986. The costs and benefits of ownership: a theory of vertical and lateral integration. *Journal of political economy*, 94(4): 691-719, August.
11. Hart, O. & Moore, J. 1994. A theory of debt based on the inalienability of human capital. *The quarterly journal of economics*, 109(4): 841-879, November.
12. Huyghebaert, N. & O'Donohoe, S. 2006. Does the value of venture capital vary over the investee life cycle? Evidence from Irish investees, in Gregoriou, G.N., Koole, M. & Kräussl, R. (eds). 2006. *Venture capital in Europe*. Oxford: Elsevier.
13. Jones, C.M. & Rhodes-Kropf, M. 2003. The price of diversifiable risk in venture capital and private equity. Working paper. Columbia Business School.
14. Kaplan, S.N. & Strömberg, P. 2003. Financial contracting theory meets the real world: an empirical analysis of venture capital contracts. *The review of economic studies*, 70(2): 281-315, April.
15. KPMG & SAVCA 2001, *2000 private equity survey*. Parkview, South Africa: KPMG Services (Pty.) Ltd.
16. KPMG & SAVCA 2006. *Venture capital and private equity industry performance: survey of South Africa covering the 2005 calendar year*. Parkview, South Africa: KPMG Services (Pty.) Ltd.
17. KPMG & SAVCA 2007. *Venture capital and private equity industry performance: survey of South Africa covering the 2006 calendar year*. Parkview, South Africa: KPMG Services (Pty.) Ltd.
18. Lazear, E.P. 1986. Salaries and piece rates. *The journal of business*, 59(3): 405-431, July.
19. Prendergast, C. 1999. The provision of incentives in firms. *The journal of economic literature*, 37(1): 7-63, March.
20. Sahlman, W.A. 1990. The structure and governance of venture-capital organizations. *Journal of financial economics*, 27(1): 473-521, September.
21. SAVCA 2006. *Private equity and venture capital in SA: 2006 industry review*. Rosebank: Financial Mail.
22. Schertler, A. 2000. Venture capital contracts: a survey of the recent literature. *Kiel institute of world economics: Kiel working paper*, (1017): 1-23, December.
23. Schmidt, K.M. 1999. Convertible securities and venture capital finance. *Centre for economic policy research: discussion paper series*, (2317): 1-31, December.