

Early stage venture funding in South Africa

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ABSTRACT

Entrepreneurship is a key ingredient to reducing unemployment and increasing economic growth. In South Africa, historical data points to an issue with entrepreneurs getting access to early stage venture capital. Venture capitalists usually back numerous ventures with the hope that some of them will produce significant returns while the rest will fail.

The data-collection method was qualitative by nature and centred on eight interviews with either portfolio or investment managers at VC funds or divisions operating in South Africa. The data provided by the respondents was analysed and compared to the propositions identified in the literature review and finally conclusions and recommendations were made.

While they both disburse funds to new ventures, public and private sector VCs share differing interests and motivations. While private sector VC are driven purely by economics, public sector VC have to additionally help government achieve policy objectives which means that decisions made are sometimes not purely based on rands and cents. In addition, while government is making an effort to grow the VC industry and entrepreneurship in general, most respondents feel that they are not focusing on the right areas.

In reality, the list of South African entrepreneurs who are commercialising successful products and services overseas is growing. This country has to stem this tide through creating an environment which incentivises and motivates entrepreneurs. Finally, VCs in South Africa must be commended on adapting their business models to cater for the local environment. VCs are critical in helping to create liquidity in a very risky area of the financial industry. In the interests of growing entrepreneurship in the country, private VCs need to do more to reduce the possible tensions between themselves and the public VCs through transferring knowledge and sharing risk through co-financings for example.

The enabling environment for entrepreneurship in South Africa is fractured. Immediate measures need to be taken to harmonise the interactions between

VCs, entrepreneurs and government in order to improve entrepreneurship. If levels of entrepreneurship increase, the benefits will trickle down to VCs and government as well.

DECLARATION

I, Dilin Naidoo, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Dilin Naidoo

Signed at

On the day of 2008

DEDICATION

I dedicate this research to my wife and son, Hema and Shehir respectively. Thanks to your ongoing support and sacrifice I continue to strive to be the best I can be. Your love and support has allowed me to successfully complete the MBA program.

ACKNOWLEDGEMENTS

To my immediate and extended family, I thank you for all the weeks and months sacrificed to allow me to complete the MBA. Thank you all for your support.

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I'm also grateful to each of the respondents for their time, insights and experience. It has been extremely helpful, not just in completing the research, but also for my own personal aspirations.

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1. CHAPTER 1: INTRODUCTION

1.1. Purpose of the study

The purpose of this research is to understand the reasons for the falling levels of early stage Venture Capital (“VC”) funding for start-up companies in South Africa. Through conducting local research of public and private venture capitalists (“VCs”), various perspectives are collated to provide a view from the “issuers of the cheques” (while each type of investor may have a different perspective on the VC industry, they play a significant role in the destiny of entrepreneurs seeking funding).

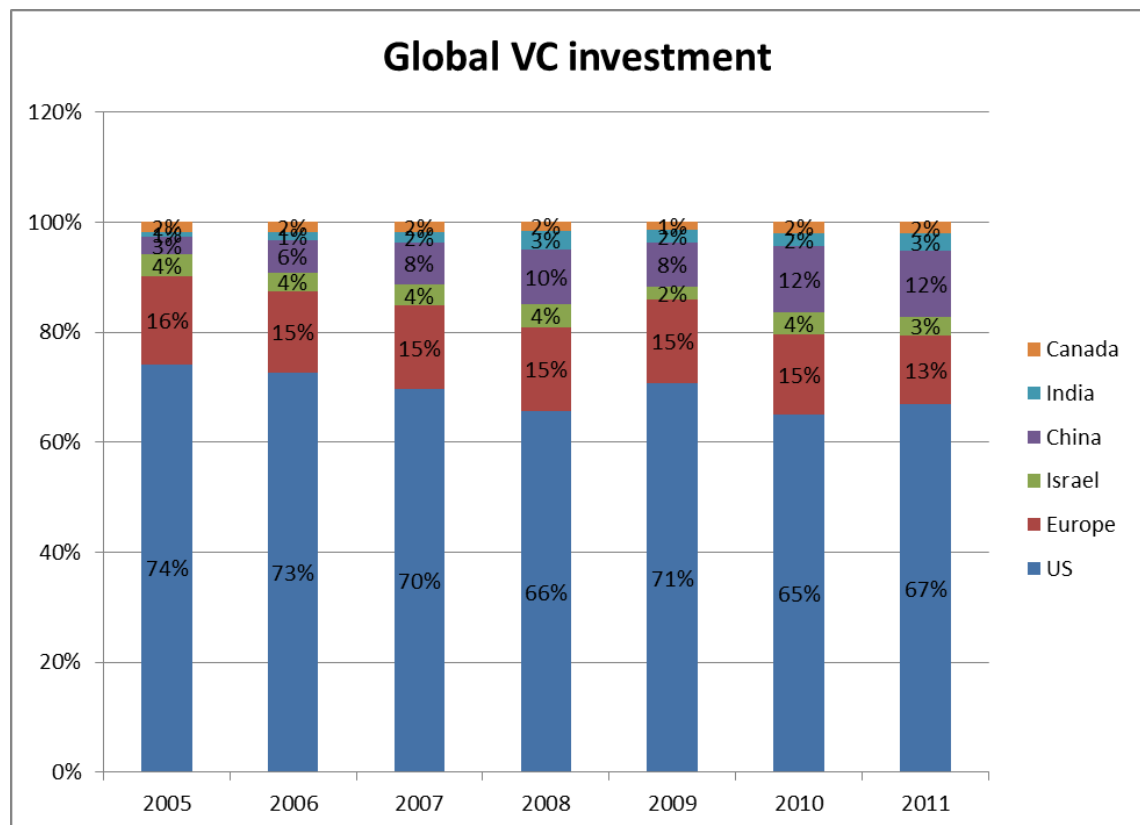
1.2. Context of the study

The shortage of third party early stage venture capital in South Africa requires in-depth research into understanding the reasons for the lack of investment in start-up companies. Lingelbach, Murray, and Gilbert (2009) contend that the collapse of apartheid had a profound impact on the nature of social relations between various elements of South African society, most notably between the majority black population and the minority white population. The majority black government contrasted with the VC industry that has remained largely white. This created a trust deficit that continues to plague the local VC industry. This lack of trust has slowed the creation of altruism between the government and fund managers that could have sped the emergence and increased the probability of the VC industry’s sustainability (Lingelbach et al., 2009).

The United States (“US”) model in contrast, shaped by the state and federal government, created clusters and incubators for technology start-up firms that brought together both technocrats and venture capitalists. These structures have created billion dollar technology companies such as Google and Netflix. As per Figure 1 below, the US VC market alone accounted for close to 70% of global VC investments for each of the last seven years.

Figure 1: Global VC investment breakdown by country

Source: (Ernst & Young, 2011, p. 10)



In South Africa, the sources of early stage VC funding can be split into three categories:

1. The entrepreneur's personal funds;
2. Angel investors; and
3. VC funds, both private and public.

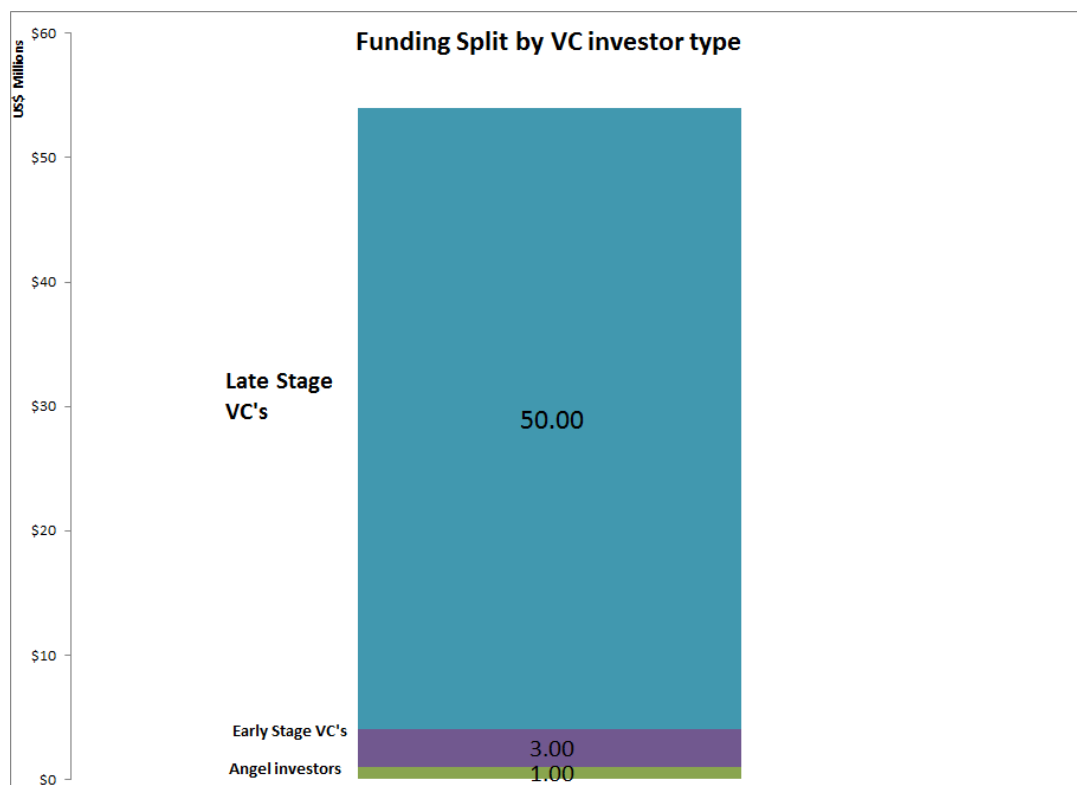
VC is a subset of private equity investments which in turn forms part of an alternative investment asset class. Pandya and Leblang (2011) explain that venture capital could alternatively be thought as corporate finance bundled with product development, management consulting and marketing. Early stage VC

investments are more risky than later stage VC investments and other forms of private equity investments. Early stage VCs focus on providing finance to start-ups which are in pre-revenue stage. Start-ups require this type of specialised financing because traditional financing sources such as banks are averse to the risk levels of these companies who have no assets that can be pledged as collateral and are in the pre-revenue stage.

The researcher has attempted to represent a hierarchy of VCs funding start-up businesses. This is represented in Figure 2 below. The more money required, the more robust the due diligence process. While there is some overlap, there is a funding limit that each type of VC can underwrite.

Figure 2: Funding limits by investor types

Source: (Dorf & Byers, 2008, pp. 413-419)



The South Africa private equity sector is well established. However, within the VC sub-sector, fund managers have preferred to focus on later stage rather than early stage investing thereby creating a funding gap in the market and restricting entrepreneurship (Lingelbach, 2009). Sometimes this gap can be

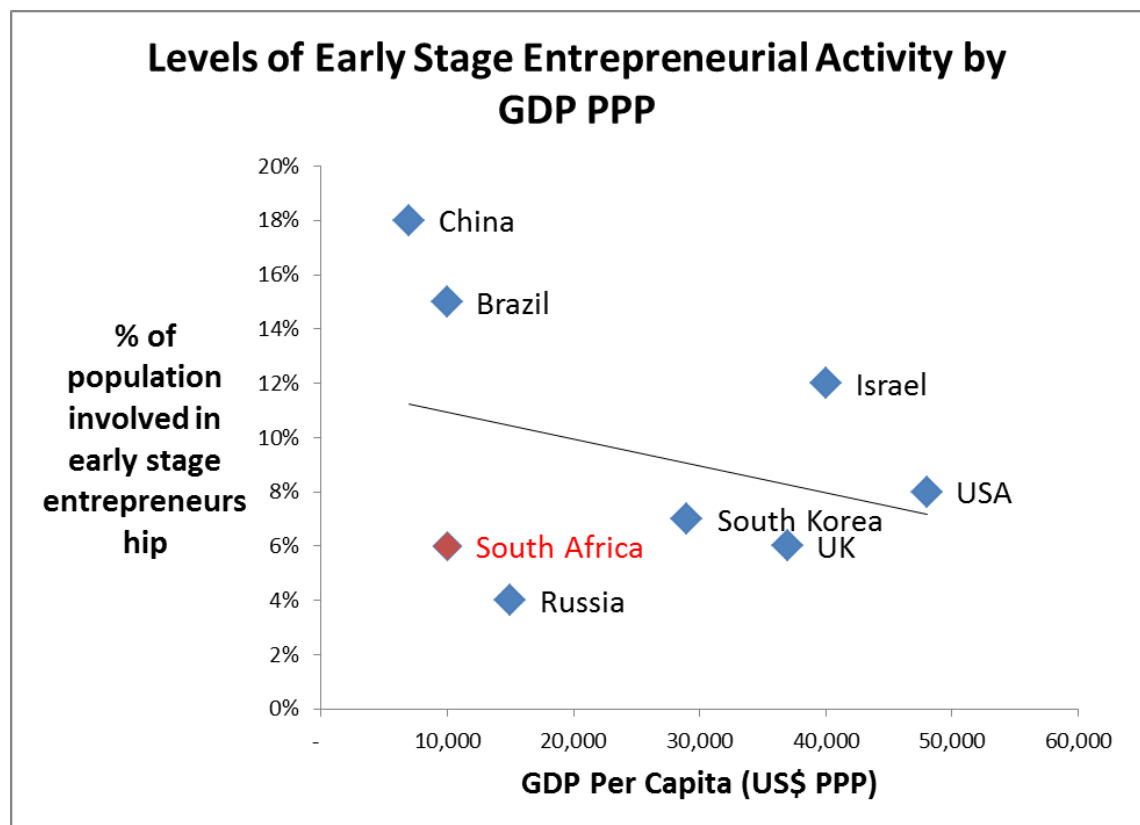
filled by angel funds or self-funding by entrepreneurs. Sibanda (2011) argues that the reason for the lack of angel funding is that business angel networks are only accessible to members of certain communities rather than the general public.

The intention of this research report is to identify why early stage VCs are not finding start-up firms to fund in South Africa. Does the blame lie with investors, entrepreneurs, government or a combination of the above?

Figure 3 below highlights how South Africa continues to lag comparable countries with respect to the levels of early stage entrepreneurial activity.

Figure 3: Comparison of early stage entrepreneurial activity by country

Source: (Herrington, Kew, Kew, & Monitor, 2010, p. 60)

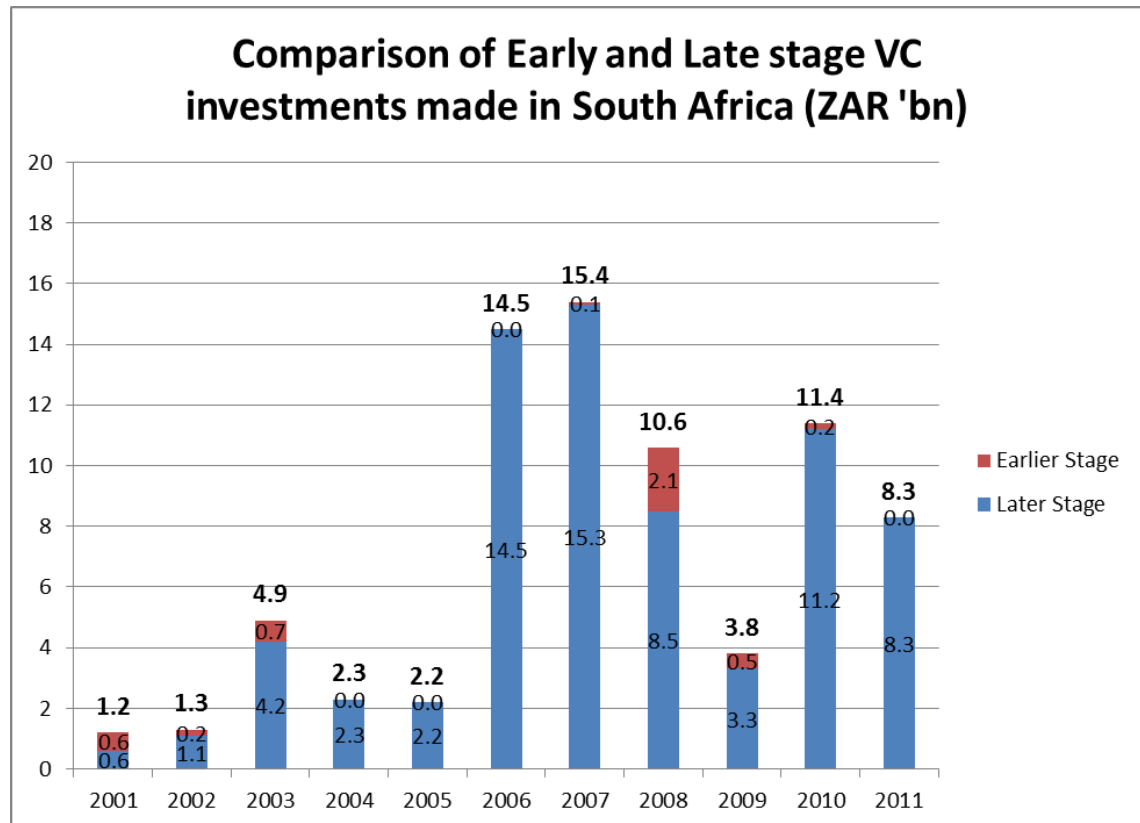


One of the significant modifications made to the utilisation of VC funding in South Africa has been the shift to later stage investing by early stage VC funds and the discontinuation of some early-stage funds (Lingelbach, 2009). Figure 4

below highlights the preference of South African VC funds for later stage investing since 2001.

Figure 4: Trend in early and later stage VC funding

Source: (KPMG, 2012, p. 11)



The reasons for the lack of VC funding can in principle originate from the entrepreneurs themselves or structural factors in the VC industry. Based on the data provided, the inability of VCs to take risk in early stage ventures has created a funding gap negatively impacting entrepreneurship.

In addition to traditional private VCs, other early stage funding alternatives include the pooling of funds originating from government, retail and corporate angel investors making early stage investments in projects. Mbhele (2012) points out that angel funders are characterised by less formal, more empathetic and trusting partners when compared with VCs.

1.3. Problem statement

1.3.1. Research problem

What are the reasons for the lack of early stage VC funding in South Africa?

1.4. Significance of the study

This study identifies blockages which are preventing the supply of early stage VC from reaching entrepreneurs. While South Africa has certain pockets of talents, to date the country is unable to replicate the Silicon Valley clustering concept, where investors, entrepreneurs and specialised intermediaries co-exist and breed successful start-up companies. This study highlights issues raised by active and credible VCs in the industry.

This study may provide guidance to potential entrepreneurs who seek seed capital through pointing out what funders consider to be the biggest obstacles to funding start-up companies. The study may also be useful to government in helping them determine what fiscal and other policy measures are needed to develop the VC industry. The interest and motives of both public and private VCs will be uncovered so that they can compete and collaborate in future. Private and public VCs have provided valuable information in the hope that going forward they will receive higher quality requests for funding.

1.5. Delimitations of the study

The scope of this thesis was restricted to onshore early stage VC funds that finance high technology, high growth start-up companies across all sectors. Entrepreneurship for subsistence purposes was excluded from this study. VCs not listed on the SAVCA index were not contacted for interviews. Exclusions also included later stage VC funds and other forms of private equity. Corporate venturing is also excluded from this study as none of the large corporates who invest in VC transactions are members of SAVCA. From a geographical perspective, the core analysis will be based on the South African economy only

but comparisons to the US, United Kingdom (“UK”), Israeli and Indian VC markets will be made when required.

1.6. Definition of terms

Angel investor: These are individuals or syndicates of individuals who invest their own money into start-ups. Angels typically invest in businesses and technologies they understand or are passionate about and can invest a maximum of US\$ 2 million in a venture.

Bootstrapping: Refers to the efforts of an entrepreneur to start a business using his own personal assets as the source of capital.

Convertible Preference Share: Convertible preferred shares are preferred shares that holders can exchange for ordinary shares at a set price after a certain date.

Information Asymmetry: Asymmetric information occurs when material information is held by only one party in a transaction.

IPO: An Initial Public Offering (“IPO”) refers to the first time a company publicly sells its shares on the open market.

Moral Hazard: The risk that a party to a transaction has not entered into the contract in good faith or has provided misleading information or has an incentive to take unusual risks in a desperate attempt to earn a profit before the contract settles.

MBO: A Management Buyout (“MBO”) occurs when the current management of a company acquires a controlling interest or the entire interest in a company from existing shareholders.

Private Equity: Equity capital that is not quoted on a public exchange. Private equity consists of investors and funds that make investments directly into private companies or conduct buyouts of public companies that result in a delisting of public equity. Capital for private equity is raised from retail and institutional investors, and can be used to fund new technologies, expand

working capital within an owned company, make acquisitions, or to strengthen a balance sheet. The majority of private equity consists of institutional investors and accredited investors who can commit large sums of money for long periods of time. Private equity investments often demand long holding periods to allow for a turnaround of a distressed company or a liquidity event such as an IPO or sale to a public company.

South Africa Venture Capital Association (“SAVCA”): SAVCA is an industry body that was formed in 1998 to represent and promote the interests of the private equity and venture capital industry in Southern Africa. SAVCA’s services and initiatives include liaison with relevant regulatory authorities, such as SARS, National Treasury and the DTI, on matters affecting the industry at a strategic level. SAVCA’s membership base includes 96 full members and 40 associate members, making up the vast majority of the local industry.

Syndication: Is a lending process in which a group of lenders provide funds to a single borrower.

Venture Capital: Venture capital is money for new, young, and/or small companies that typically have little or no access to capital markets.

1.7. Assumptions

The respondents are truthful in their responses.

The respondents are competent and knowledgeable in making VC investments.

The reader of this research report has a basic understanding of capital markets and VC investing.

2. CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

In addressing the research problem, the literature review covered the central theme of the research; the reasons for the lack of early stage venture capital investments in South Africa – be it endogenous or exogenous to the industry.

2.2. Brief History of VC

The concept of VC has been in existence since medieval times where famous sailors such as Vasco de Gama financed their expeditions with funds provided by their kings in the hope of repaying with gold (Van Deventer, 2008). In modern times, the model for VC used today, was first employed by the US after World War 2 to aid the commercialisation of battlefield technologies. The public company was called American Research and Development (Banerjee, 2008). After an initial investment of USD 70,000 in 1957, this company was valued at USD 355 million in 1971.

Two significant regulatory changes in the US market helped expand their VC industry. The first change was the promulgation of the US Small Business Act in 1958 which allowed for the formation of Small Business Investment Companies (“SBICs”) which borrowed and invested cheap government funding as equity into small companies. In the first five years after the SBIC creation, approximately 692 licences were issued with USD 464 million invested. The second change was the US governments alteration in interpretation of the Employee Retirement Income Security Act’s (“ERISA”) ‘prudent man’ provision which gave pension funds the ability to invest into higher risk private equity and venture capital investments (Gompers & Lerner, 2000).

In South Africa, interest in VC started in the mid-1980s with the establishment of the Johannesburg Venture Capital Club (“JVCC”) by a local accountant, who visited the US and saw business plan presentations to VC clubs. Although local law firms, private equity managers, the Industrial Development Corporation

("IDC"), and Business Partners all participated in JVCC, the JVCC ceased to exist by 1990. Later interest in VC translated into the establishment of the country's first formal VC fund in 1992 when Technifin was founded. Technifin was a joint venture between two state-controlled organizations, Industrial Development Corporation ("IDC") and the Council of Scientific and Industrial Research ("CSIR"). Technifin's mandate was to focus on commercialization of technologies such as the previous success of CSIR in licensing lithium battery technology (Lingelbach et al., 2009).

In late 1999, IDC was directed by the Department of Trade and Industry ("DTI") to establish new VC funds. IDC investments in VC funds took place in two phases with the key difference between the two phases being the shift from technology-oriented funds in the former to more generalist funds in the latter (Lingelbach et al., 2009).

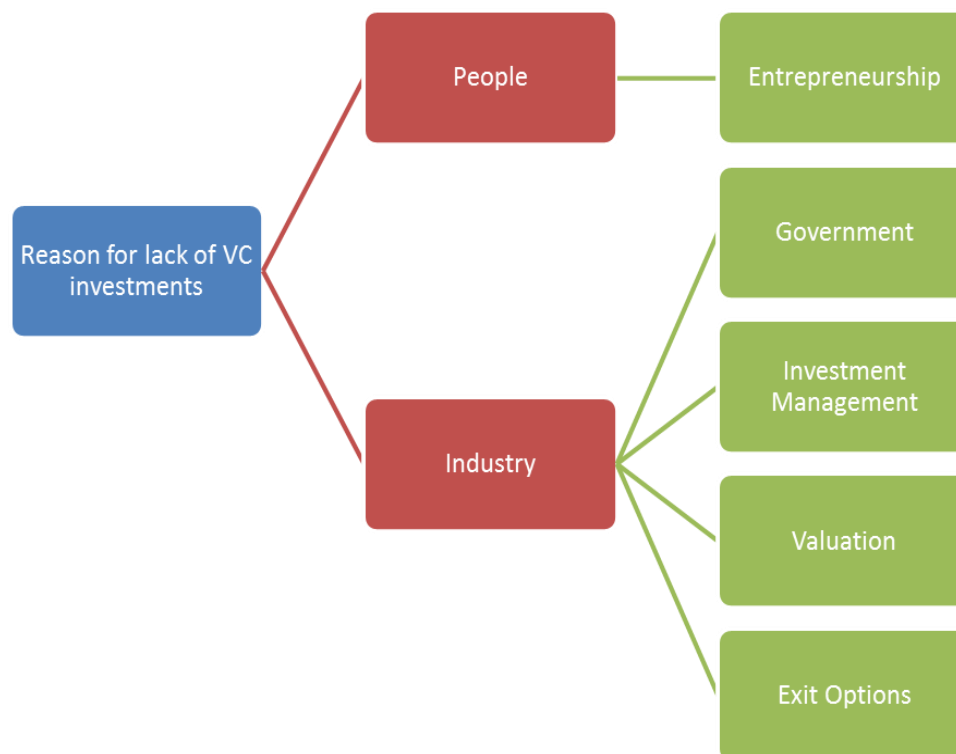
While IDC's fund investments were the principal efforts directed by government at the VC industry, other private VC funds were established such as Ethos ZAR 270m Tech Fund and HBD ZAR 70m Fund. Both funds focused on starting early-stage technology firms (Lingelbach et al., 2009). As of April 2013, there are now at least 12 private and public VC's listed on the South African Venture Capital Association ("SAVCA") index focusing primarily on early stage VC investment. Ironically, the actual flow of early stage funding is declining.

2.3. Enabling Conditions for VC investing

Gilson (2003) established the Simultaneity Model where he outlined three critical inputs for VC to develop in a market. These inputs are capital, specialised financial intermediaries and entrepreneurs. The author contended that entrepreneurial opportunities develop if there is capital availability and a ready supply of intermediaries able to unlock this capital. The author further pointed out that the US VC industry developed organically with minimal direct intervention from the government. Notwithstanding the above, Gilson (2003) notes that less sophisticated countries will look to their respective governments to assist the VC industry through making interventions. The assistance provided by government can be in the form of direct intervention such as investing public

funds or indirect interventions such as easing taxation charges in order to create an enabling environment for entrepreneurs. Lingelbach (2009) argues out that while Gilson (2003) enabling conditions in South Africa are weak, a small VC industry has nonetheless emerged. Further simplifications of the Simultaneity Model have been made by the researcher, as per Figure 5 below, which effectively identifies and categorises two key reasons for the lack of VC funding: People and / or Industry factors.

Figure 5: Reasons for the lack of VC investments



The future sustainability of the VC industry is critical as well. Lerner, Hardyman, Leamon, and Wiley (2002) identify factors for ensuring a long-run steady supply of capital. These are:

- Rate of technological innovation in an economy;
- The degree of dynamism in an economy;

- The willingness of highly skilled managers and technocrats to work in entrepreneurial environments; and
- The presence of liquid markets to enable investors to exit their investments.

2.4. People Factors

2.4.1. Entrepreneurship

The Simultaneity Model (Gilson, 2003) asserts that entrepreneurs will emerge if there is a supply of capital available and specialised financial intermediate exist who can unlock this capital. However, with differing levels of resources between the developed and developing world, this model alone cannot be relied on to stimulate entrepreneurship in developing markets.

Wadhwa, Holly, Aggarwal, and Salkever (2009) highlight that the four biggest factors preventing entrepreneurs from being successful are:

- Lack of ability or willingness to take risks;
- Amount of time and effort required;
- Difficulties in raising financing; and
- Lack of business management skills.

While the first two points are person specific, entrepreneurs find it difficult to raise capital because they lack the understanding about how the VC model operates. Banerjee (2008) asserts that entrepreneurs in India are often unwilling to cede all or some control of their business to third parties in return for investment. In addition, VC funders are sometimes expected to fund the high salaries of management going contrary to the traditional method of 'bootstrapping' in the VC industry. The classical VC model purports that entrepreneurs will successfully commercialise their idea through optimising the use of scarce resources in return for third party capital. The final point raised

has been highlighted as the main inhibitor of entrepreneurship in South Africa. Herrington et al. (2010) state that the lack of entrepreneurial education in South African schools is one of the country's biggest mistakes. To make matters worse, Urban (2006) mentions that the lack of confidence South Africans have in their entrepreneurial ability may help explain the low rates of new venture creation. Education and training must focus not only on technical and managerial competencies but also on people's self-beliefs (Urban, 2006).

Further to this, levels of necessity-motivated entrepreneurship, entrepreneurship that excludes subsistence based business, is lower than expected in South Africa (Herrington et al., 2010). The authors explain that this is due to citizens having a sense of entitlement whereby government and corporates are obligated to provide jobs. It can therefore be inferred that potential entrepreneurs in South Africa do not have large enough incentives to start their own businesses. Urban, Van Vuuren, and Barreira (2008) indicated that government policy makers must appreciate the differences between necessity-motivated and opportunity entrepreneurs and should structure incentives for each group. Currently, most research and policy initiatives focus on necessity-motivated entrepreneurs (Urban et al., 2008).

McKnight and Parker (2001) indicate that when individuals from emerging markets who are successful in developing businesses and networks in developed markets return to their homeland, they can provide local entrepreneurs with vital knowledge and mentorship for starting their own new businesses. This transfer of knowledge helps offset the lack of business management skills as an inhibitor to entrepreneurship (Wadhwa et al., 2009). In the future, it is possible that successful South Africans could be incentivised by government to return from the US and UK to mentor aspiring entrepreneurs both technically and mentally.

Denis (2004) noted that it is difficult for entrepreneurs to obtain external financing from early stage VCs and angels due to two fundamental problems namely, information asymmetry and moral hazard. Because of severe information asymmetry, it is critical for entrepreneurs to showcase their project value credibly. Further to this, entrepreneurs need to provide comfort to VCs

that they will not misuse funds for personal benefit thereby mitigating the moral hazard risk. When VCs choose to invest in a project that is in the pre-revenue stage, the highest level of personal integrity is required of entrepreneurs. Van Deventer (2008) points out that the most important criteria for VCs are the experience, integrity and honesty of an entrepreneur. VCs invest in people who have a successful track record of starting companies and have in-depth knowledge of the business they seek funding for.

Proposition 1: While it is apparent that an attractive business idea is a precondition to raising any type of funds, for VC specifically, the following additional elements can help entrepreneurs arrange early stage funding, namely:

- High levels of personal integrity;
- Knowledge of how the VC industry works; and
- A track record of past entrepreneurial successes.

2.5. Industry Factors

2.5.1. Government

In the case of the US VC industry, the US government implemented favourable macroeconomic and fiscal policies ensuring low inflation, low interest rates and currency stability (Dossani & Kenney, 2001).

Further to this, favourable taxation policies enabled VCs to carryforward initial tax losses and write-off taxable losses as a deductible against future taxable profit and low capital gains tax on disposals which increased the industry attractiveness for VCs. These measures improved after-tax returns through tax optimisation and incentivised higher levels of equity investment in new ventures (Du Toit, 2012). In turn, government benefitted from job creation through fostering new business development.

The South African government has provided incentives for entrepreneurs to claim back 150% of Research & Development (“R&D”) costs (Du Toit, 2012). Entrepreneurs can take higher risks in the concept stage since they can offset current losses against their taxable income in future periods. This intervention follows the recent introduction of the Seed Enterprise Investment Scheme (“SEIS”) tax scheme in the United Kingdom (“UK”) meant to stimulate entrepreneurship and investment in their VC industry by giving investors a 50% tax relief on their marginal tax rate in the year the investment was made. In addition, the SEIS scheme allows for investors to qualify for a full capital gains tax exemption upon disposal of their asset (Du Toit, 2012). Based on the above, one can deduce that governments around the world are ensuring that entrepreneurs are appropriately incentivised to take risk through no or low taxes on R&D expenditure or on gains upon realisation.

Further to this, dilutionary obligations created by Black Economic Empowerment (“BEE”) laws in South Africa brings into question the incentive offered by the South African government to local entrepreneurs who now have the option to commercialise business ideas in the US or UK. For example, entrepreneurial ventures whose business models rely heavily on securing public contracts, the future sustainability of the business is questionable if BEE is not embraced (Lingelbach et al., 2009). Moreover, VCs are required to dilute shareholding of their fund management company to BEE empowered fund managers in order to raise public funding thereby creating even less incentive for private VCs to grow assets under management (Lingelbach et al., 2009).

Cumming and Fleming (2004) conclude that VC investments in small firms are more likely to take place in countries where contracts are honoured and shareholder rights are protected. In emerging markets like South Africa, these are crucial issues that local and foreign investors look to the government to enforce. Nofsinger and Wang (2011) highlight that significant amounts of external financing are associated with high certainty of property rights, contract enforcement and corruption protection meaning that companies that operate in countries with more efficient legal systems obtain more access to third party

financing than companies which operate in countries with less efficient legal systems.

While these indirect measures listed above worked in the US market, for emerging markets like South Africa one could opine that more direct intervention is needed by the government to increase the supply of funds available for early stage investing. The multiplier benefits of direct government intervention are highlighted in the Israeli VC industry. The Israeli government created a state backed organisation, the Yozma, which was mandated to create a sustainable VC market in the country. The Yozma created nine VC funds in which it invested (Gilson, 2003). On balance, these nine funds were all successful and were eventually privatised. Figure 6 below highlights that the South African government still has room to increase its direct interventions in the VC market through increasing supply of early stage funding of new venture investments thereby closing the funding gap mentioned earlier. For example, taking on higher risk investments allows the government through one of its public VCs to differentiate themselves from private VCs who may be more risk averse due to investment constraints that their investor base may impose. In 2010, the South African government, either directly or indirectly, accounted for about one third of all VC investments by transaction volume and value as per Figure 6 and 7 below.

Figure 6: Source of VC funding by value

Source: (Venture Solutions, 2010, p. 12)

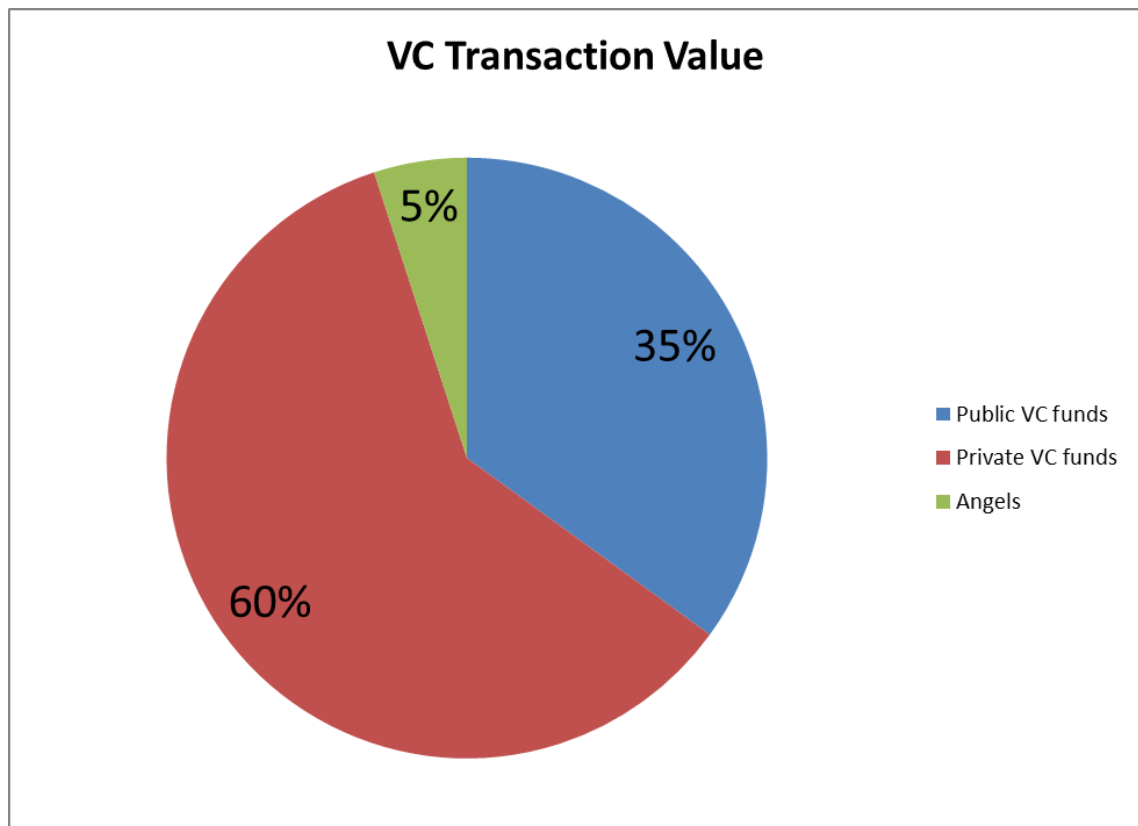
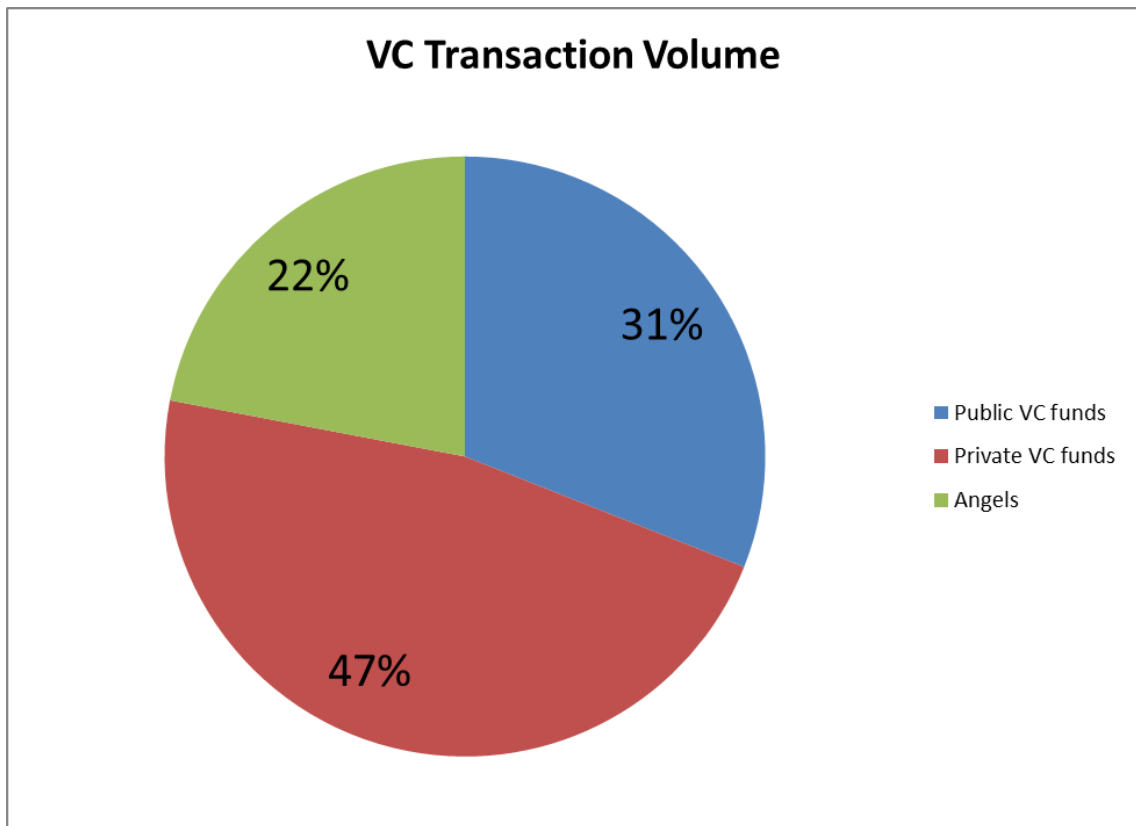


Figure 7: Source of VC funding by volume

Source: (Venture Solutions, 2010, p. 12)



Finally, in order to accelerate entrepreneurship, government should consider exploring and implementing the concept of clustering which has been successfully rolled-out in the US. Clustering entrepreneurs, research facilities, investors, accountants and lawyers in the same vicinity was pioneered in Silicon Valley, United States. In both Silicon Valley and Austin, Texas these clusters are centred on a university hub, namely, the University of California at Berkeley and the University of Texas at Austin. Porter (2001) posits that successful cluster implementations in the United States had not only led to improvements in economic output such as higher growth, more employment, higher wages and increased exports but also improvements in innovation output such as increased patent registrations, improved VC investments and growth in IPO listings.

E. M. Rogers and Larsen (1984) identify the following factor responsible for the growth of Silicon Valley. These included:

- Availability of technical expertise;
- Infrastructure availability;

- Venture capital;
- Job mobility;
- Information exchange networks; and
- Learning entrepreneurial fever from local role models.

Smilor, Gibson, and Kozmetsky (1989) explain that the city of Austin used the technopolis wheel concept where seven major segments constituted the construction of a technopolis. These segments included:

- A research university;
- Large technology companies;
- Small technology companies;
- State government;
- Local government;
- Federal government; and
- Support groups.

Within these structures exist business incubators and science parks which could create supportive and entrepreneurial environments, helping start-up's to achieve higher survival rates (Somsuk, Wonglimpiyarat, & Laosirihongthong, 2012). While business incubators accommodate new firms as tenants, when these firms mature they move to science parks. Ferguson and Olofsson (2004) show that firms which operate in incubators and science parks linked to research focused universities have higher survival rates and capitalise on the image benefit of being associated with the university. Jointly advancing the construction of incubators and science parks with local universities could assist government in stimulating entrepreneurship and VC activity.

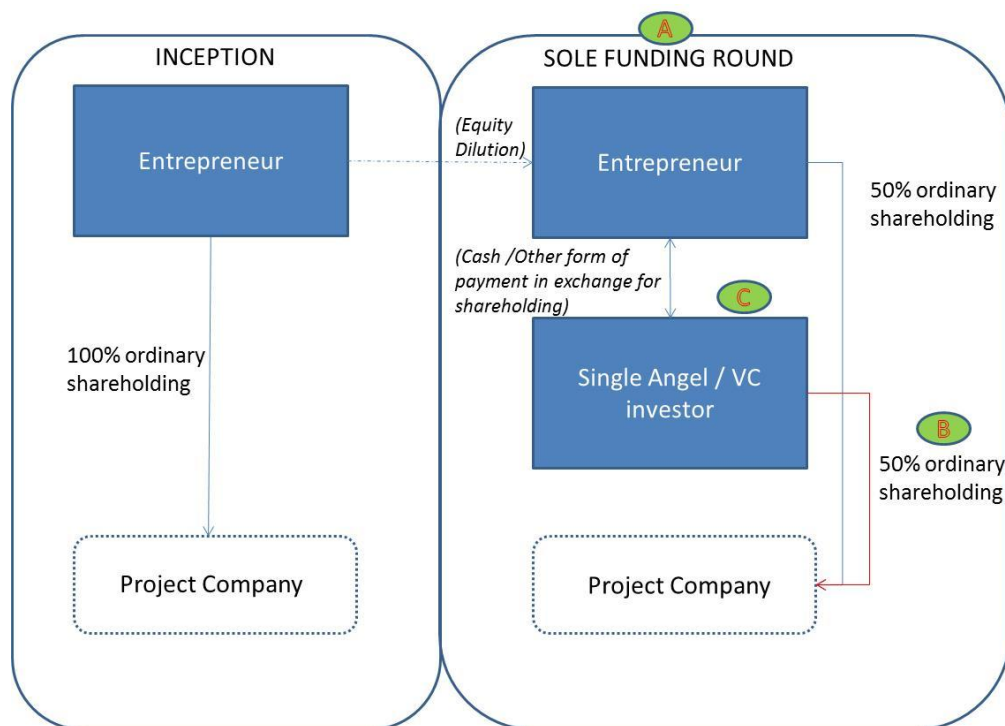
Proposition 2: Governments, through making direct and indirect interventions, can stimulate activity in their local VC industry.

2.5.2. VC Structured Financing Alternatives

The two most significant agency risks VCs face are information asymmetry and moral hazard. Leleux and Martel (n.d.) described this relationship as principal-agent relationships under asymmetric information and goal incongruence. These risks form part of the underlying architecture of VC investments irrespective of the type of business. Ex-ante risk can be described as pre-investment stage risk where information is asymmetric between entrepreneur and VC while ex-post risk is defined as the entrepreneur's ability to improperly use funds raised from VCs. Gompers (1995) explains that agency costs increase as assets become less tangible, growth options increases and asset specificity rises. The author advocates the use of both control mechanisms such as staged investment and continuous monitoring of investments.

The researcher has constructed a simplified VC funding model in Figure 8 below which shows the transfer of seed capital by a VC investor in return for ordinary shareholding in an early stage project company. Point A highlights that there is only a sole round of funding with proceeds meant to take to project to completion. By providing entrepreneurs with all funding upfront, the incoming investor loses the ability to abandon the project. As a financial instrument, ordinary shares, highlighted in Point B, provide the incoming investor with the same upside and downside risk as the entrepreneur, though information asymmetry favours the entrepreneurs. Point C highlights the simplicity of the funding plan which includes a single Angel investor or single VC fund providing the total funding requested.

Figure 8: Simplified VC funding model



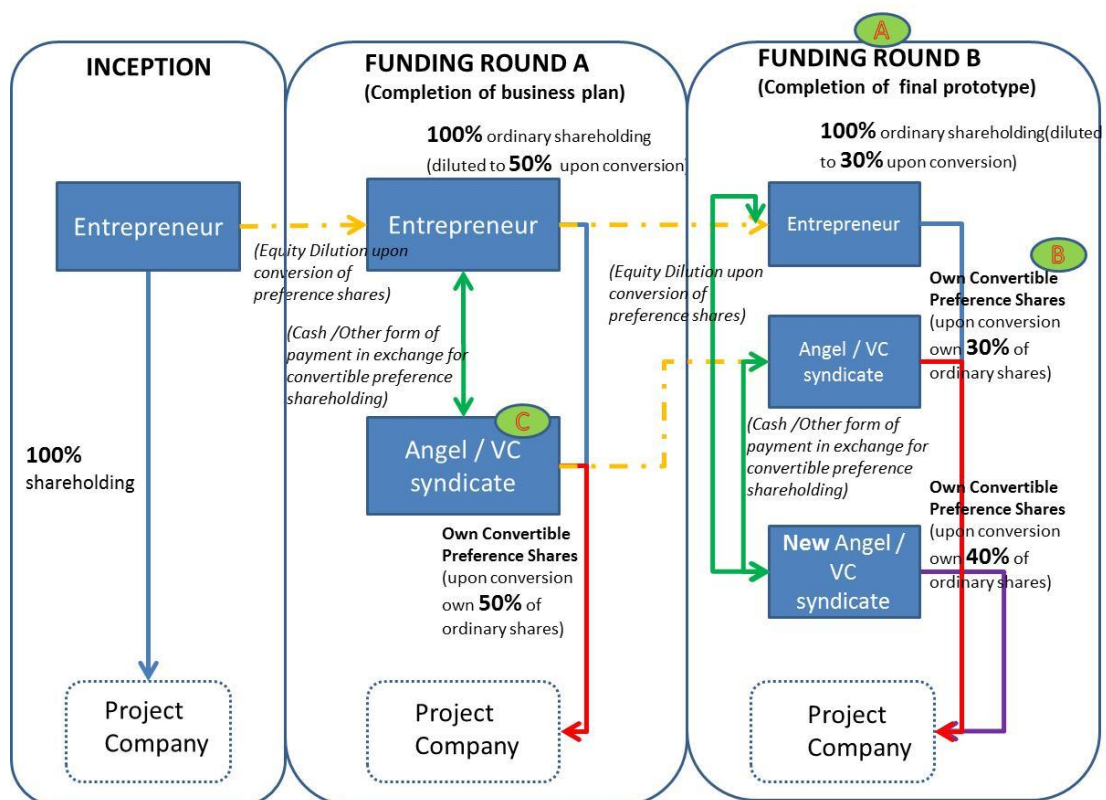
Parrino and Kidwell (2009) suggest that VC investors can reduce risk levels through ensuring the following:

- Migrating to a phased funding approach as opposed to providing all funds in a single drawdown. This ensures that the VC investor has an opportunity to reassess management competency and the firm's financial performance;
- The VC investor should ensure he receives convertible preference shares instead of ordinary shares in order to reduce downside risk;
- The lead VC investor could syndicate a percentage of his initial interest to other VC investors, similar to loan market syndications; and
- Focusing on specialisation in a certain sector gives the VC investor a competitive advantage over generalists and reduces the impact of information asymmetry.

Based on the suggestions of Parrino and Kidwell (2009), the researcher has made an attempt to diagrammatically display these suggestions in Figure 9 below. Figure 9 has been customised to highlight a more sophisticated funding

model which funders could utilise if they are not doing so already. Point A highlights the phased funding approach where new proceeds are raised once a milestone has been achieved. Additional due diligence is performed prior to each disbursement as VCs are concerned that entrepreneurs with private information will not want to liquidate a project if they receive all funding upfront (Gompers, 1995). Point B highlights the use of convertible preference shares as opposed to vanilla instruments such as ordinary shares. Convertible preference shares not only provide higher levels of security compared with ordinary shares during liquidation events but also have a switch in payoff structure (Bascha & Walz, 2001). The owners of the convertible preference share are paid a fixed coupon interest portion prior to conversion and upon conversion to ordinary shares, dividends are payable when declared. Point C highlights the use of syndicates of VCs rather than a single VC investor. Risk is shared and multiple layers of due diligence reduce the information asymmetry advantage of the entrepreneur. Syndication allows VCs an opportunity to obtain a second opinion on the quality of the investment (Brander, Amit, & Antweiler, 2002).

Figure 9: Complex VC funding model



Proposition 3: VC investors can reduce investment risk through using complex financial structuring.

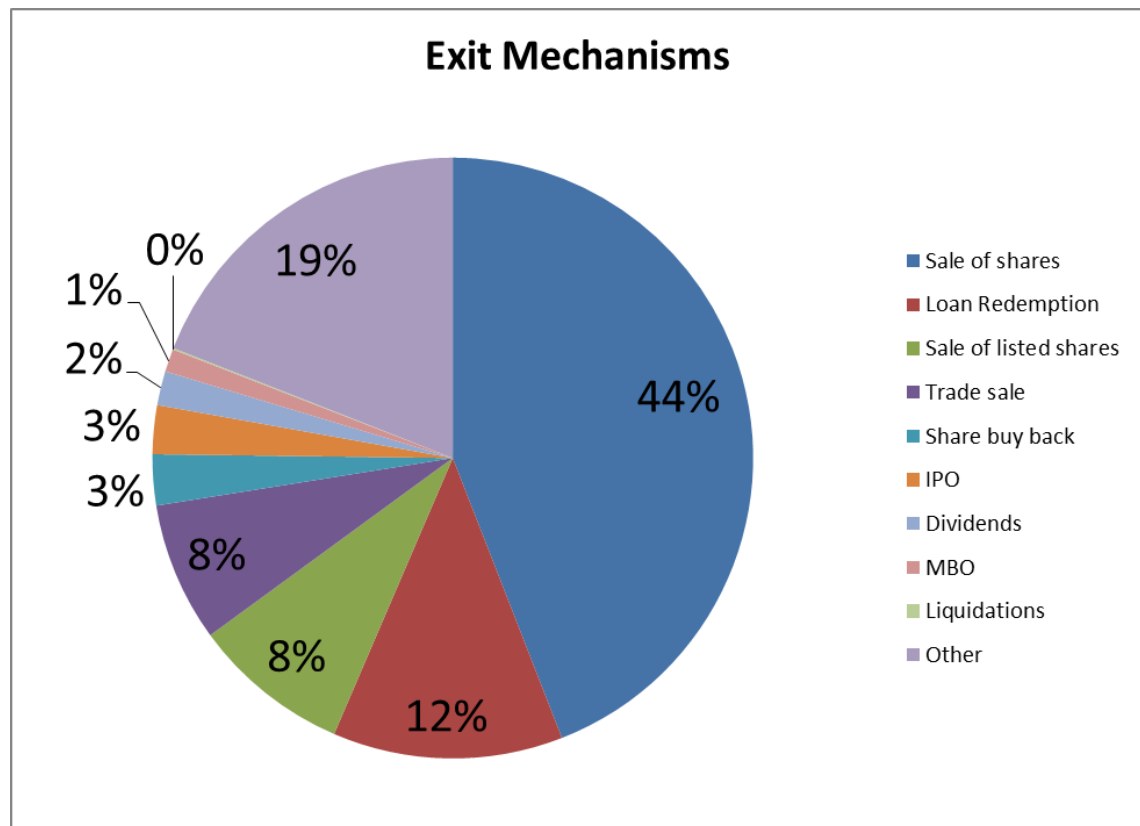
2.5.3 Investment Exits and Valuation Dilemmas

Lerner (2012) and Gompers and Lerner (1999) define a successful exit from an investment as having a range of value optimising exit routes available to suppliers of VC capital to enable them to invest with enough confidence that if their investment is successfully commercialised, they will be able to secure a suitable return on capital invested. Exits for a VC investor can range from IPO's, MBO's, sales to other VC's/PE's and bankruptcy proceedings. Banerjee (2008) indicates that one of the key factors of VC development in India has been an appreciating stock market providing attractive valuations for technology companies. IPO's are viewed as the optimal exit strategy for VC funds, but especially the opportunities that such IPO's offer by providing signals around credibility to the market (Black & Gilson, 1998). This author further highlights that an IPO gives the entrepreneur a market validated price from both local and foreign investors where there are no obstacles such as exchange controls or valuation model errors in play. In South Africa, disposals of interests through IPOs are not a preferred exit mechanism as represented in Figure 10 below.

In South Africa, the Alt-X stock exchange provides smaller companies with an additional exit mechanism, increased access to capital, liquidity and improved visibility (Manikai, 2007). This stock exchange plays a vital role within the JSE, by providing smaller companies not yet willing or able to qualify for listing on the JSE main board with a clear growth path. Requirements to list on Alt-X include having a share capital of ZAR 2 million, no prior profit history required and 100 shareholders. Da Rin, Nicodano, and Sembenelli (2006) found that stock markets targeted at early stage, entrepreneurial companies had a positive effect on the level of VC activity within an economy.

Figure 10: VC exit options in South Africa

Source: (KPMG, 2012, p. 26)



Closely tied to the exit strategy is the valuation methodology used for acquiring or disposing early stage companies. As per Figure 10 above, the low utilisation of the IPO exit mechanism in South Africa implies that availability of local market linked data for performing relative valuation of a business transaction can be non-existent. A lack of IPO exits leads to a lack of a reasonable size peer group in the country. Gimpel (2010) argues that relative valuation using peers from others countries is a flawed technique as each market has different levels of efficiency and fair values of similar assets are therefore not the same in each country.

Relying on non-market linked data introduces the problems of information asymmetry and moral hazard and inevitably could prevent successful exits. Cumming and Fleming (2004) points out that valuation using approaches such as the DCF are unjustifiable if costs of equity and discount rates cannot be calculated. Havenaar and Hiscocks (2012) state that a significant drawback of

DCF model is that the input variables are based on single point estimates and they advocate using methods which use a range of outcomes in place of single point estimates. Oh and Cho (2013) explain that Monte Carlo simulation is based on repeated sampling from the probability distributions of a set of model inputs to provide a set of distributions of model outputs. The key advantage of Monte Carlo simulation is that this tool can provide a distribution of model output variable, rather than a single state output variable (Oh & Cho, 2013). The authors observe that Monte Carlo simulation is one of the most powerful valuation tools which can be used to reduce uncertainty in deterministic valuation such as the DCF.

In addition, neither traditional DCF nor Relative Valuation is robust enough to incorporate multiple rounds of financing and the concomitant share dilution (S. Rogers, 2005). The author highlights that in the US, the popular Venture Capital Method of valuation which is a probabilistic based approach, can incorporate multiple rounds of VC inflows and subsequent equity dilutions, leading to pre-money and post-money valuation data. This approach is gaining popularity over traditional approaches in the VC community such as the DCF.

Proposition 4: IPO based exits increase the level of VC activity in an economy.

2.5.4 Post - Investment Management

Kaplan and Lerner (2010) highlight that VCs improve the outcomes of their investments through dynamic monitoring and management of their portfolio companies. Post funding disbursement, investment management and monitoring are fundamental ways for VC investors to ensure that portfolio companies grow as forecasted. Leleux and Martel (n.d.) recognise that one of the ways VCs reduce principal-agent risk is by closely monitoring their portfolio companies. Monitoring also forms part of the process through which VC funds add value by direct managerial involvement in the operations of the business (Gilson, 2003). Unlike other forms of Private Equity, VC requires significant commitment to day-to-day management involvement and monitoring. Farag, Hommel, Witt, and Wright (2004) state that while risky investments called for significant monitoring in developed economies, this is further exacerbated in

developing economies. In the case of the US, Kenney, Han, and Tanaka (2002) suggest that the clustering approach around key technology and growth company hubs such as Silicon Valley, California and Austin, Texas helped mitigate this risk. Figure 11 and Figure 12 below highlights the geographical disconnect between entrepreneurs and VCs in South Africa.

Figure 11: Demand for VC by location

Source: (Venture Solutions, 2010, p. 28)

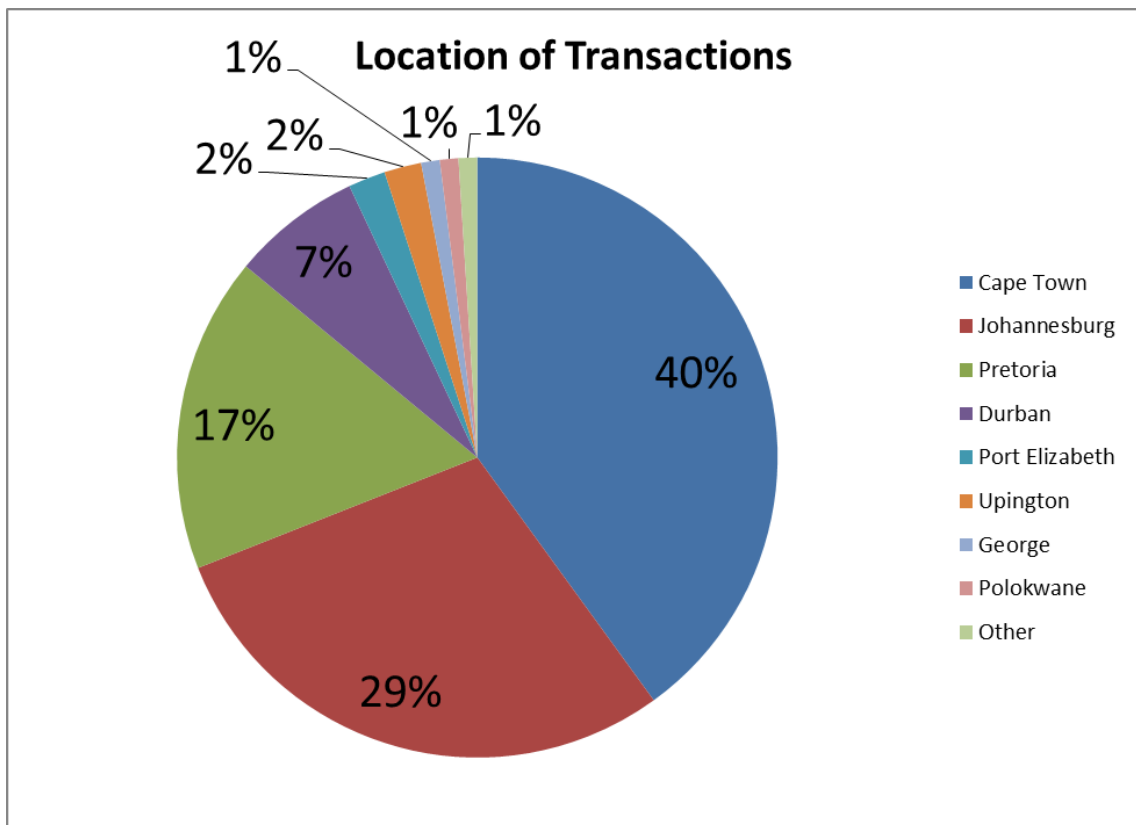
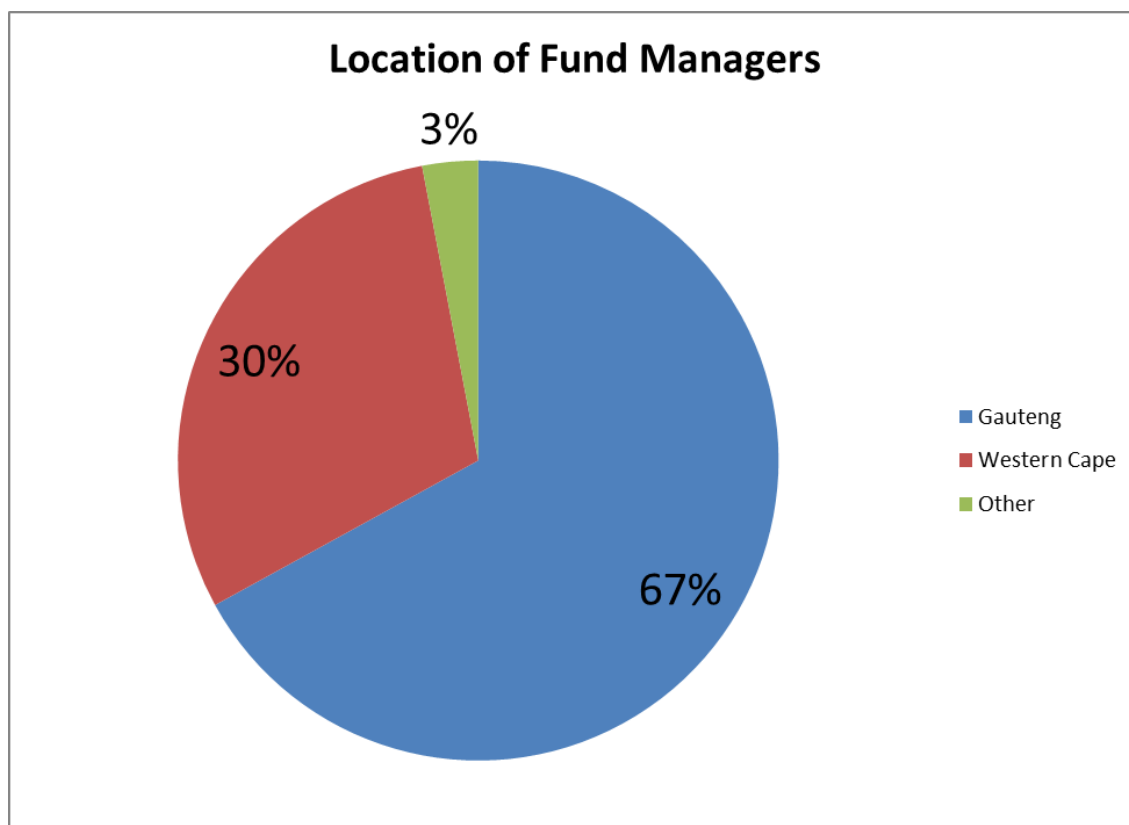


Figure 12: Supply of VC by location

Source: (Venture Solutions, 2010, p. 28)



While most of the VC funds are based in Gauteng, the majority of entrepreneurs are based outside of Gauteng (Johannesburg plus Pretoria). The distinctive feature of VC investing is the need for VCs to play an active decision making role to ensure that the business succeeds.

Proposition 5: The distance between entrepreneurs and VCs make it difficult for VCs to actively manage their portfolio companies.

2.6. Conclusion

The importance of an active VC industry cannot be overemphasised. Whilst the United States VC industry, the largest and most developed VC market in the world, was developed largely organically, the indirect interventions which the US government made helped shape their industry. This indirect role takes the form of developing a favourable macroeconomic and fiscal framework and providing an enabling environment which aids in starting new businesses. The South African government must play its part to establish a local VC industry similar to the US. Therefore, the role of government is an important one which

has been directly argued in the context of South Africa (Lingelbach et al., 2009). Notwithstanding the above, there are other structural issues which may impede the growth of the VC sector such as the lack of a robust IPO market enabling VCs to exit.

Moreover, a host of other localised issues connected to entrepreneurial skill sets, valuation, geographical issues, entrepreneurial models and availability of management talent can influence the reasons for the lack of early stage venture funding in South Africa. Therefore, these issues were the focus of the qualitative research which attempted to identify which of the above are relevant in a South African context. In addition, the research identified if there are any additional localised factors that needed to be accounted for. Below is a summary of the research propositions emanating from the literature review:

Proposition 1: While it is apparent that an attractive business idea is a precondition to raising any type of funds, for VC specifically, the following additional elements can help entrepreneurs arrange early stage funding, namely:

- High levels of personal integrity;
- Knowledge of how the VC industry works; and
- A track record of past entrepreneurial successes.

Proposition 2: Governments, through making direct and indirect interventions, can stimulate activity in their local VC industry.

Proposition 3: VC investors can reduce investment risk through using complex financial structuring.

Proposition 4: IPO based exits increase the level of VC activity in an economy.

Proposition 5: The distance between entrepreneurs and VC's make it difficult for VC's to actively manage their portfolio companies.

3 CHAPTER 3: RESEARCH METHODOLOGY

The chapter describes the framework of how the research was undertaken, the tools utilised and how the raw data was converted to valuable information.

3.1 Research methodology /paradigm

The research was sourced through qualitative methods. The researcher collected the data and performed the subsequent data analysis. The researcher hosted in-depth interviews and tested the depth of knowledge of respondents. The output of the data analysis was used to build theories and hypotheses through an inductive process. The quality of the research was heavily tied to respondents using their experience and knowledge on early stage venture funding to articulate answers to the questions posed by the researcher.

A Dictaphone™ was used to record interviews and new or important issues were annotated appropriately. The information derived was cross-referenced to the literature review and the research propositions. Textual analysis is used as a preferred method of gathering and analysing information in academic research (McKee, 2003). A drawback of this method was its time consuming nature which lacked automatic capturing capabilities. Content analysis, a form of textual analysis, was used to extract information from the raw data for the development of theories, concepts and relationships.

3.2 Research Design

Raw data was collected through in depth interviews. A descriptive report will give an account of the findings based on the raw data. The results of the literature reviewed formed the basis of structuring questions tied to the research propositions. The interview questions were directed to a sample of industry experts with the purpose of finding out the reasons for the lack of early stage VC in the country. While there are proponents for and against using interviews to gain knowledge from industry players, this study will take the position that

valuable information can be gleaned from conducting in-depth interviews (Harding, 1987).

Peshkin (1993) highlights the benefits of qualitative research as being:

- Description, revealing how things are in specific situations, settings and contexts;
- Interpretation, enabling the researcher to gain new insights into particular phenomenon and discover the problems that exist;
- Verification, the researcher can test existing theories and assumptions within a real-world context; and
- Evaluation, the researcher can investigate the effectiveness of particular practices in respect of the particular context.

Bryman and Bell (2007) point out that the key limitations of qualitative research are:

- The researcher's interpretation and selection of data suffers from subjectivity bias;
- Qualitative research is difficult to be exactly replicated;
- Potential for sweeping generalisations to be made; and
- Levels of transparency that the researcher is willing to provide.

3.3 Population and sample

3.3.1 Population

This study attempted to give VCs a platform to provide reasons for the lack of early stage VC in South Africa. Significant research had been conducted to identify and contact the most experienced VCs which constitute the population of early stage VCs in the country. The VCs identified have completed at least 1

early stage financing of a project and are currently pursuing other opportunities. VCs, consisting of angels and VC funds, constitute approximately 100% of the known supply of early stage third party funders who report to SAVCA.

3.3.2 Sample and sampling method

The basis of selecting the sample respondents originated from the SAVCA index. The study will employ the use of a small, appropriately selected, non-random sample set. These bespoke sample sets are selected in order to improve the depth in understanding of the subject matter (Merriam, 2002). A sample of 12 VCs was approached to participate in an interview. A total of 8 VCs responded positively. Table 1 below identifies the VCs and their titles.

Table 1: Profile of VC respondents

Title	Number to be sampled
Fund manager	5
Investment Manager	3

3.4 The research instrument

The primary research instrument will be the researcher which underpins the inherent nature of qualitative research (Merriam, 1998). The researcher conducted open interviews with respondents and asked open ended questions with the intention of achieving depth in understanding of the subject matter. The questionnaires length was 20 questions long. The first 9 questions were purely informational and not linked to the propositions. The balance of questions directly related to the 5 propositions raised.

3.5 Procedure for data collection

The researcher conducted open ended interview sessions with participants which were captured on a Dictaphone™. Recording permission was sought

from participants and appropriate permissions were received for analysis and dispersion of results.

3.6 Data analysis and interpretation

The full responses, including those to the open-ended questions where respondents filled in their own words, were then further analysed through building spreadsheets and graphs with the raw data. The information derived was cross-referenced to the literature review and the research propositions. Textual analysis was used as a preferred method of gathering, analysing and interpreting the information. The textual analysis was used to extract in depth information from the raw data for deriving theories, concepts and relationships.

3.7 Limitations of the study

When the researcher is the primary instrument for data collection, the possible concerns for bias is evident which could affect the validity and reliability of the outcomes of the study. The respondents concerns about confidentiality may influence their responses.

3.8 Validity and reliability

Reliability is concerned with the repeatability of findings and observation irrespective of time while validity is concerned with whether the research measures what it was intended to measure. Ensuring the results are based on research that has accounted for validity and reliability is important from a trust standpoint (Merriam, 1998). Key to ensuring reliability and validity meant ensuring that there was no prior relationship between the researcher and respondent, thereby offsetting any researcher bias (Merriam, 2002). Adding to this, the participant list, sourced from SAVCA, included the largest and most active early stage VCs in South Africa meant to ensure that the sample was representative of the population.

3.8.1 External validity

Given the small size of the industry in South Africa, a statistical exercise was considered inappropriate. Therefore a non-random sample was selected to ensure that depth in responses was collected from participants. Merriam (2002) recommended diversification in the participants interviewed to ensure external validity. Therefore, the study includes both private and public VC funds and angel investors.

3.8.2 Internal validity

This measures the similarity between the research findings and reality (Merriam, 2002). The author describes reality in qualitative research as being the research interpretation of the respondents understanding of the subject matter. Thus internal validity will be determined by the richness of the data collected through qualitative research. Further to this, the feedback of the research supervisor strengthened the research study.

3.8.3 Reliability

Reliability is the extent to which the study would yield the same results if repeated (Merriam, 2002). Given the fact that human behaviour cannot be replicated with the passing of time, the nature of qualitative research means the research cannot be reliable. The author argued that reliability for qualitative research is more concerned with the results being consistent with the data collected. In addition to the above, supervisor feedback and reviews was used to ensure consistency and reliability in addition to the use of a consistency matrix.

4 CHAPTER 4: PRESENTATION OF RESULTS

4.1 Introduction

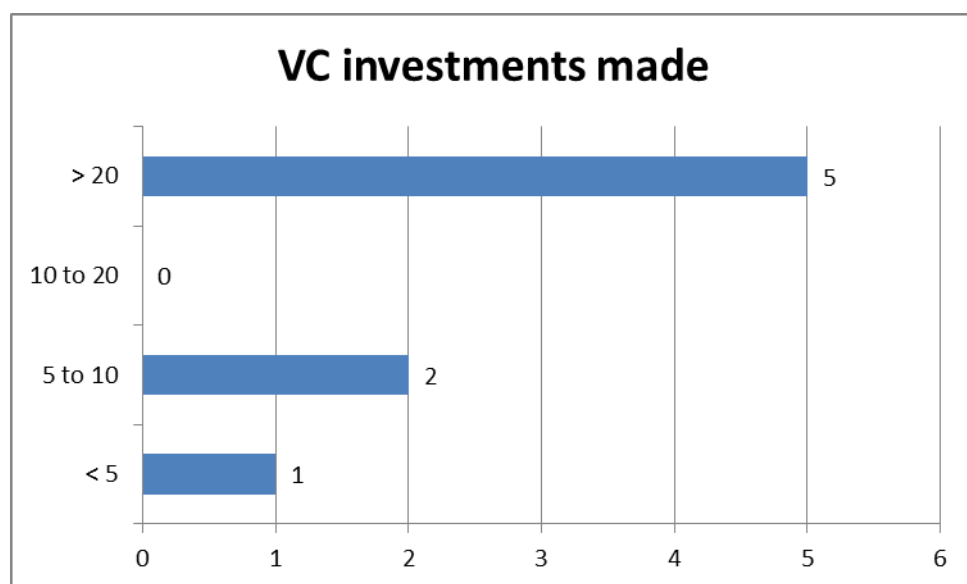
The results of the interviews presented below are graphically represented outputs originating from a custom built spreadsheet. The framework in this section follows the order of the research propositions highlighted in the literature review.

4.2 Demographic profile of respondents

All 12 early stage VCs listed in the SAVCA index were approached to participate in the research. 8 responses were positive and crystallised into teleconference or face to face interviews implying a 67% response rate.

4 of the respondents were public VCs with government as the sole or significant shareholder and the remaining 4 were independent, private VCs. All of the respondents had exposure to at least 1 VC investments at present as per Figure 13 below.

Figure 13: Number of VC investments made by respondents



4.3 Is there a lack of early stage VC funding in South Africa?

While it was expected that the responses would be in the affirmative by a significant majority, this was not the case. Only 67% of respondents agreed with the question. Table 2 below highlights a sample of replies received from respondents.

Table 2: Is there a shortage of early stage funding?

Question	Response
Do you believe that there exists a shortage of early stage VC for investment in South Africa?	1."Yes. There are easier ways to make money than invest in early stage ventures." 2."No. the amount of investment capital available is commensurate to the demand levels." 3."Yes. There is a significant lack of capital for early stage investments coming from the private sector." 4."Yes. There is plenty of VC funds available, but for later stage investments."

4.4 Are South African entrepreneurs capable of succeeding?

All respondents were unanimous in declaring that South Africa has entrepreneurial potential in abundance. Lack of business acumen skills however, was a key finding raised by VCs regarding entrepreneur skillsets. Table 3 below depicts a sample of replies received from respondents.

Table 3: Are South African entrepreneurs capable?

Question	Response
Are South African entrepreneurs capable of succeeding in starting new businesses? What makes them successful / unsuccessful?	1. "Yes, great South Africans are world renowned for their entrepreneurial ventures. Elon Musk and Mark Shuttleworth come to mind." 2. "Lack in capital means a lot of bootstrapping going on. Capability is there, but no support." 3."It is an environmental issue locally; South Africans do really well overseas. They are hardworking and honest entrepreneurs." 4."South Africans have an excellent temperament which fosters entrepreneurship. Technically very capable." 5."Yes! Very strong technically, but not enough support services available to get these guys over the line."
Should entrepreneurship be taught to stimulate new business development?	1."Basic business skill must be taught at a school level with a view of potential entrepreneurs identifying with that skillset." 2."Business economics is something every citizen must know." 3."Can entrepreneurship really be taught? It's a subject you can only learn on the job." 4."Yes. We have got to start at secondary school level."

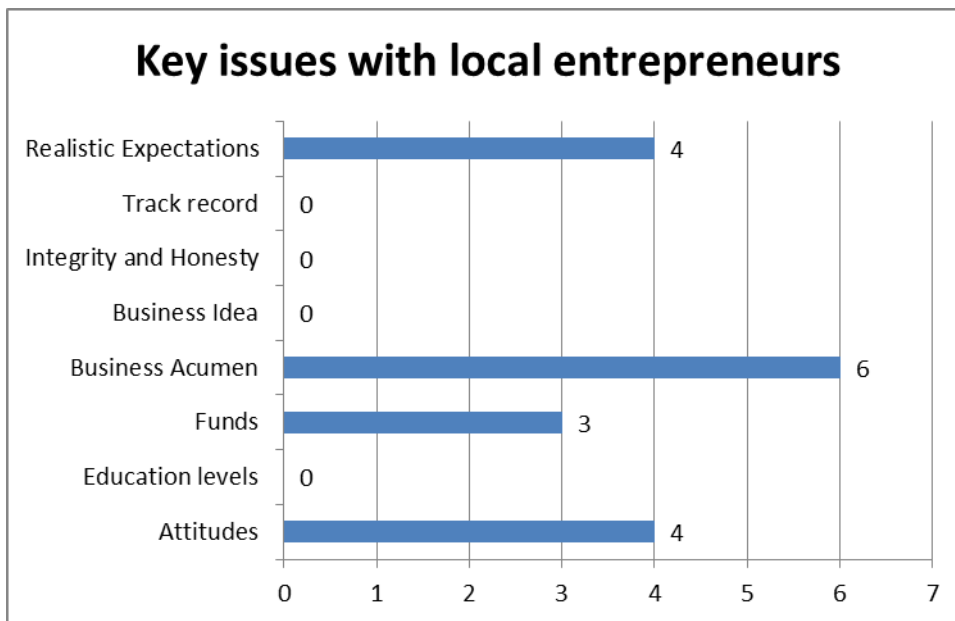
Respondents were requested to identify key due diligence issues they assess when evaluating an entrepreneur. These responses are listed in Table 4 below.

Table 4: Completing due diligence on the entrepreneur

Question	Response
What are you key due diligence areas during investment appraisal?	1."The jockey is very important. Preference for teams of entrepreneurs versus individuals. Background check for integrity and honesty is critical. Good at school sport infers discipline." 2."50% is the opportunity is the quality of the idea and 50% is the quality of the team." 3."Simple. Track record and education. If you have no experience, you must be willing to be mentored." 4."Track record and education. Any gaps, then we have to run psychometric tests to identify the shortfalls. We value ethics and morality as well."

As part of the in-depth discussion, respondents identified key issues with South African entrepreneurs which negatively affect their ability to raise VC. This is represented in Figure 14 below.

Figure 14: Key issues identified with entrepreneurs



4.5 Is the Government of South Africa doing enough to stimulate entrepreneurship?

Table 5 below highlights respondent's views on government interventions and policy positions to date.

Table 5: Is government stimulating entrepreneurship?

Question	Response
Do you believe government is stimulating entrepreneurship activity in South Africa?	1."They are trying to but are being wasteful, money going into a black hole. No accountability of that money. No successful entrepreneurs coming out of government initiatives. Quality of government resources is questionable." 2."No. Government has fallen short on creating appropriate structures for VC similar to the US and UK. Too much government promotion of

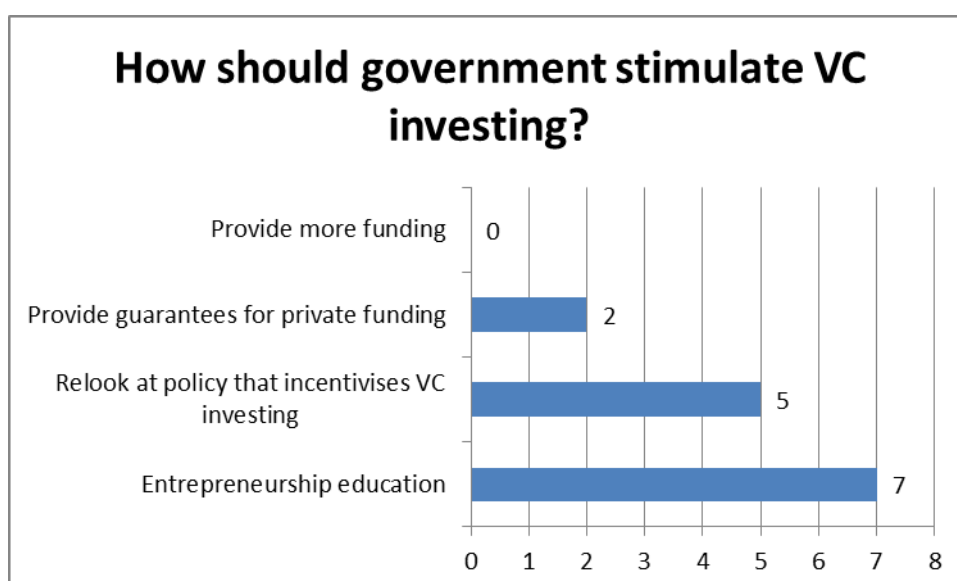
	lifestyle investment instead of high growth ventures." 3."Yes. But they are crowding out private capital by just throwing money into the VC industry. They do not understand the role of VC in a market."
Is the income tax policy favourable to entrepreneurs? And VCs?	1." Initially very favourable, but government chooses to recoup deductables instead of writing it off. Government has more work to do." 2."No. Best thing we got at the moment is the 150% R&D deductible. That one of the reasons there is not so much private capital in this sector. I cannot think of in the last 10 years of a single proposal from the VC industry that has been adopted by the government. Example is the incorporation of LLP vehicles for VC investment." 4."There is no encouragement for entrepreneurs to leave their jobs and go on a difficult journey. Entrepreneurs are treated with suspicion." 5."Yes. But there is a complete lack of awareness by some VCs and financial intermediaries of some of the tax benefits available to VCs and entrepreneurs." 6." Some of the initiatives are really positive, but the policy is not holistic and comprehensive enough. "
Is BEE positive for	1."We look at talent, not skin colour."

entrepreneurs? And VCs?	2."A lot of funds are focused to BEE entrepreneurs, funds should be channelled to talent not skin colour." 3."BEE is understandable and rational, but an unintended consequence has been the shift away by all races from creating new wealth to wealth redistribution." 4."BEE has not helped industrialisation and new business creation. It has taken us 10-15 years backwards, but the principle of BEE is correct." 5."BEE has had no impact on the pool of entrepreneurs or formation of new VC funds. So not positive or negative." 6."BEE rules are only enforced in the interests of the future sustainability of the business in the VC industry." 7."On the contrary BEE has not been good for black entrepreneurs. They are incentivised to go the corporate career route due to the high premiums commanded for black skill." 8."Yes. Now PDIs have an opportunity to contribute to the economy while previously advantaged continue to remain incentivised."
What is your opinion on clustering, science parks and incubators?	"1."I love it, I love it! The more like-minded people you put in a small space, the better the creativity. We have it in Cape Town, need to be created in Johannesburg." 2."Big supporter of Porters concept of clustering."

	Leads to sustainability. Not a supporter of rent seeking incubators and science parks though." 3."Look at the Pretoria area, the microelectronic industry which spun off around Denel. This is self-sustainable. Clustering around the automotive sector is a work in progress." 4."Not such a good idea. Does not guarantee more entrepreneurs. Incubators are good but only if their incentive is not for profit." 5."It is a good thing but first universities need to be fixed by the government, technology transfer divisions especially." 6. "Lack of co-ordination between private and public sector is a pre-condition to building successful science parks and incubators."
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Figure 15 below, highlights areas where respondents felt government should focus greater or lesser resources on.

Figure 15: Focus areas for government



4.6 Structuring VC Investments

All respondents used one of more types of the recommended structuring technique as a way of mitigating early stage investment risk namely, information asymmetry and moral hazard. These responses are listed in Table 6 below.

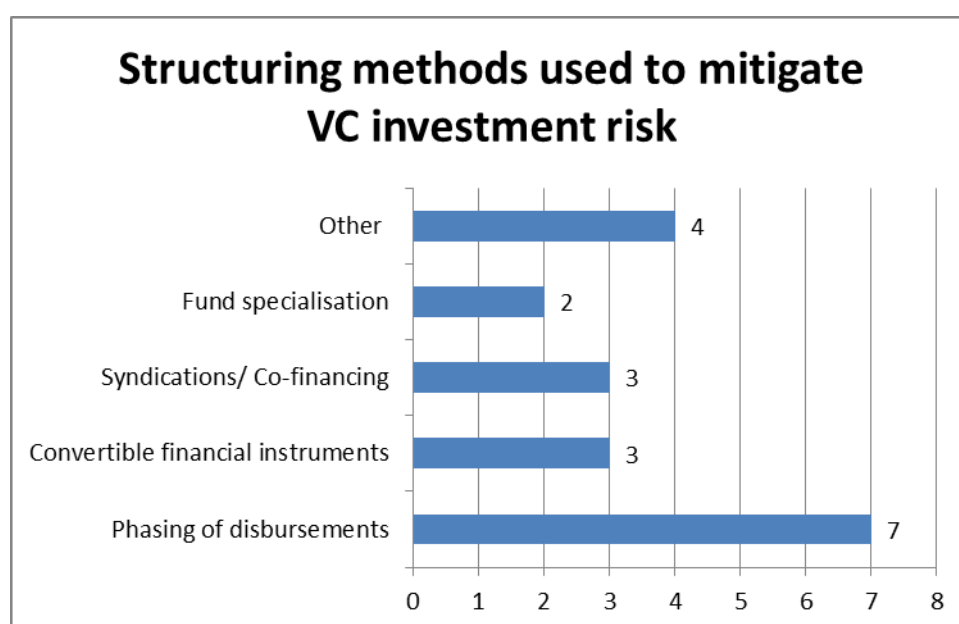
Table 6: Mitigating against VC investment risk

Question	Response
How do you mitigate against VC investment risk?	1." We mitigate our risks through our contracts. Balance between risk management and stifling the entrepreneur. In a liquidation event, we are senior on payment waterfall, seize assets of business. We prefer entrepreneurs to contribute around 30% of total cost as well. Also we prefer using preference instruments to mitigate risk and chose to use tranche based financing. We are a sector focused fund. " 2."We spend at least 3-6 months with entrepreneur prior to disbursement. We use psychometric tests to identify any issues with the entrepreneur. We also try and manage the inexperienced entrepreneur's bank account to mitigate any moral hazard. We only fund according to milestones under a disbursement schedule. In the future we will look at co-financing but will remain generalised fund." 3."We use a mixture of milestone based disbursements and convertible instruments. We are also a specialised technology fund; we stick to what we know best."

	4."We prefer co-financings as a risk sharing mechanism. We only disburse in phases. We prefer a mix of ordinary share usage tied to very strong post-investment management. It is quite simplistic." 5."We fund everything upfront, but for 2nd and 3rd round requests we fund in stages. We use the preference share structure. We do not use co-financings due to non-aligned interests." 6."We use an ordinary share structure coupled with strong post-investment management. We are a generalist fund which yields a natural hedge against any single portfolio company risk."
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Figure 16 below shows the breakdown of the popularity of the structuring techniques used by respondents. The Other selection is made up of simpler methods such as self-funding, controlling bank accounts and stricter post investment management.

Figure 16: Structuring methods used by respondents



4.7 Valuation & Investment Exits

Most respondents identified the Discounted Cash Flow (“DCF”) as the primary valuation methodology employed. Table 7 below provides a sample of the responses received.

Table 7: Valuation method used

Question	Response
How do you value an early stage opportunity?	1."Not possible to value a start-up since its pre revenue. But we do build models for each investment and sensitise key risk factors." 2."It is extremely difficult. We use the DCF methodology which we find has worked in the past. But its use is debatable. Our commercial advisor says it may not be appropriate but is still to propose a better method. We reduce risk by doing sensitivity and scenario analysis. All figures provided by entrepreneur are deemed optimistic, the higher the valuation then the lower the equity position. We give those assumptions big haircuts. Come up with Expected Valuation based on low, medium and high scenarios. We do not look at forecasts beyond five years." 3."We look at the entrepreneurs forecasts and check how realistic based on market analysis. We rely on the market review primarily, no realistic market review then DCF is useless. " 4."We determine that on a project by project basis. Generally it is DCF or multiples based or both. Since the stage is pre-revenue, this is a

	difficult process." 5."We only use DCF and nothing else." 6."Due to the stage of the business, we value the business based on instinct and through negotiations with the entrepreneur. If the investor does not like our valuation, he can find money somewhere else."
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Figure 17 below shows the breakdown of how respondents value early stage investments. Other can be described as VC investor's proprietary valuation techniques which is not income or cash flow based.

Figure 17: Valuation methods used by respondents

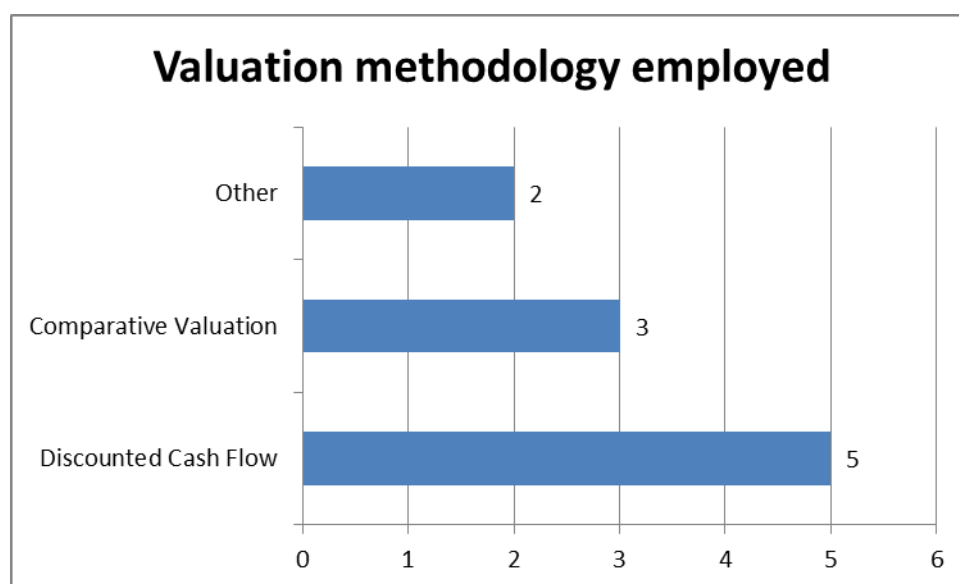


Table 8 below provides a sample of the responses received regarding the necessity of IPOs as an exit alternative.

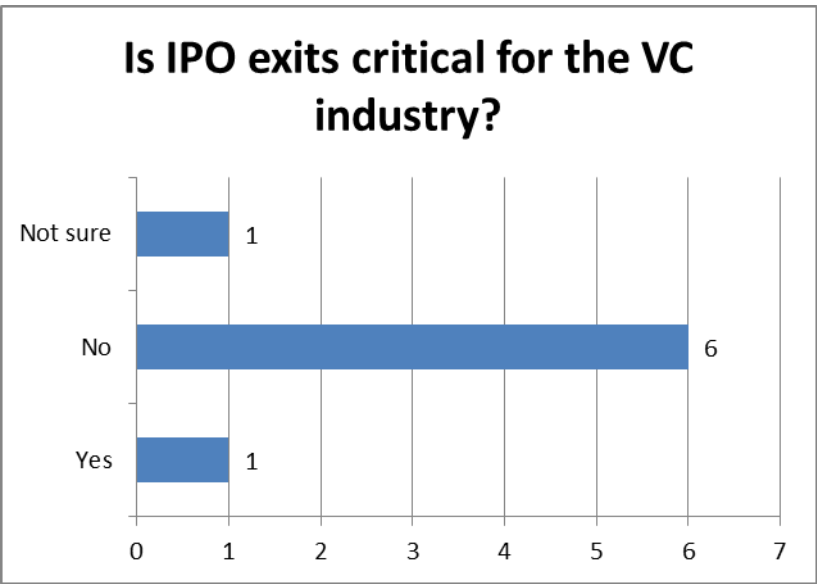
Table 8: IPOs as an exit mechanism

Question	Response
How do you feel about the IPO as an exit strategy in South Africa?	1."Start-ups prefer to exit into international markets. Most are done through M&A. Large corporates consider this outsourced R&D or we may even sell out to a private equity house." 2."In our case, our CEO who joined recently plans to list one VC investment on the Alt-X. Some private sectors VCs have had some examples of great successes. We just need to create a precedent ourselves. Newer mechanisms include online portals which allow entrepreneurs to showcase their technology online to a global market of potential buyers. " 3."It is a brilliant idea, if a company is going to be listed then one can infer that we as VCs have done our job. To date we have only been involved in sales to various private VCs or angels. If IPOs are cost inhibiting, then other mechanisms are good enough." 4."We have not been involved in an IPO as yet. We have just employed a resource with strong IPO based experience to help us internally. In principle, the more exit alternatives the better but IPOs is not a necessity." 5."IPOs are not so important to South Africa. The cost of an IPO is a huge barrier for either local or foreign listings. Our existing exit mechanisms

	available in South Africa are good enough."
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Figure 18 below highlights respondents' views on whether IPO's are critical to grow the VC industry.

Figure 18: Respondents view on the importance of IPOs



4.8 Post- Investment Management

All respondent were unanimous that managing their portfolio companies post disbursement stage is critical to secure their investments. Table 9 below provides a sample of the responses received.

Table 9: Is physical presence required?

Question	Response
Do think it is important to be physically close to your investment?	1."Absolutely. I am watching all 12 of my investments outside my door. Skype does not allow me to touch my investments." 2"" Got to build an ecosystem like Cape Town up here. This helps physical presence which is critical in VC. The plan is to build an ecosystem in JHB." 3."Physical monitoring is crucial, but we do not get involved in the day to day business operations unless requested to do so. We expect quarterly reports in order to make future disbursements. It is important to respect the capability of the entrepreneur and his motives. We expect that private sector VCs will be much closer to their investments." 4."We have satellite offices with enough resources for post-investment management in other cities, and physical presence is critical. This is the biggest natural hedge against investment risk. Software like Skype is a compliment not substitute." 5."This is one of the most important principles of VC investing. No technology can reduce this importance."

4.9 Summary of the results

Interviews were conducted with either fund manager or senior investment manager at public and private VC funds. All VCs had at least 3 portfolio companies under management with the majority having more than 20 portfolio companies under management. The credibility of the sample was solidified as all respondents were extremely active in the industry.

Entrepreneur's lack of general business skills and knowledge of how VC works was pointed out as a negative from a South African context. Surprisingly, the lack of a track record was not seen as a 'deal-breaker' by VCs.

Respondents hoped that government would focus resources on indirect interventions instead of providing 'easy cash' to fund entrepreneurs. Respondents believe that government needs to focus on policy initiative as a way of creating an enabling environment for entrepreneurs and VCs.

While all respondents used mitigation strategies to overcome investment risks, specifically moral hazard and information asymmetry, they nonetheless pointed out that the entrepreneur's integrity levels was a key due diligence point. While some respondents used a multitude of mitigation strategies to align incentives, others kept it simple.

The concern about valuation in this industry was highlighted by all respondents. While the DCF was the primary tool, respondents stated that there are shortfalls in all methods employed and other respondents implied that the final valuation is not a mathematical model but rather a negotiation between investor and entrepreneur.

Finally, all investors highlighted the importance of post-investment management in the VC process. From a South African context, the distance between entrepreneurs and investors does create issues for VCs to optimally conduct post-investment management of their portfolio companies.

5 CHAPTER 5: DISCUSSION OF THE RESULTS

5.1 Introduction

The findings from the respondent's interviews are discussed and explained below. The framework of this section reflects the research propositions highlighted in the literature review.

5.2 Demographic profile of respondents

All public VC's and some large private VC's are currently invested in more than 20 portfolio companies. As per Figure 13 in Chapter 4, the smaller private VC's were invested in less than 10 portfolio companies with one private VC having 3 portfolio companies under management which was the lowest reported. The combination of the high response rate coupled with the credibility and recent track record of the respondents listed in the SAICA index, make the findings of the research reasonably representative.

5.3 Is there a lack of early stage venture capital in South Africa?

Table 2 in Chapter 4 describes how some respondents, both public and private VC's, believed that the current levels of early stage funding was commensurate to the level of entrepreneurial activity in this country. Respondents mentioned that if there was to be a sudden growth in entrepreneurs seeking VC funding, additional new capital could be raised or reallocated from pseudo-late stage VC funders who migrate between early and late stage investing depending on their propensity for risk. It was also highlighted that there is a substantial number of High Net Worth ("HNW") angel funders who scan the local market seeking out entrepreneurs.

Other respondents stated that while there may be plenty of public VC, the levels of private VC including angel funds is insignificant in comparison. Further to

this, private respondents stated that due to lack of incentives, early stage VCs are not closing new funds. This shortfall in funding is not being filled by public VC funds due to lack of resources for appraising early stage requests for funding. Public VC respondents manage from 20 to 100 investments and a significant amount of time is spent on post-investment management. While there has been interest from offshore VC funds searching for global investments, this has not crystallised into any co-financing arrangements with local funds.

5.4 Entrepreneurship

All respondents declared that South Africa has entrepreneurial potential in abundance in the high technology, high growth space. This is represented in Table 3 of Chapter 4. This disclosure is contrary to Urban et al. (2008) who asserts that opportunity entrepreneurs are scarce and South African entrepreneurial is dominated by necessity-motivated entrepreneurs. Most respondents pointed out that recent precedence of South African entrepreneurs making a global impact was due to their solid technical backgrounds, hard-working ethic and willingness to succeed at an international level. Respondents highlighted that they were continuously surprised by the high levels of creativity exhibited by entrepreneurs in the country, reiterating that there was no lack of good ideas emanating from the country.

Some respondents segmented the discussions into two key areas, those entrepreneurs who have started ventures in the past and first time entrepreneurs. Respondents stated that experienced entrepreneurs require an enabling environment to successfully commercialise their idea whereas first time entrepreneurs also need significant mentorship to offset any educational shortfalls or lack of a track record. As represented in Table 4 of Chapter 4, all respondents highlighted that not having a track record was not a deal-breaker if the entrepreneur was willing to be mentored by experts. In contrast to Van Deventer (2008), respondents placed less value on track record because of the small pool of serial entrepreneurs that chose to reside in South Africa. This disclosure also implies that VCs have to commit more resources to post

investment management in order to offset any shortfalls of first time entrepreneurs.

Regarding experienced entrepreneurs, respondents felt that a majority of them display a certain degree of arrogance which negatively affects relationships and potential investment. They felt that competent entrepreneurs who are sometimes unwilling listen to new ideas and are too rigid with their business models may find it challenging to attract capital. Respondents made it clear that not having confidence in the 'jockey' could be a deal-breaker for VC's since the venture is in pre-revenue stage. The finding in the literature review match the feedback received from respondents. In the absence of a track record, entrepreneurs must be open to being mentored and must be willing to learn from VCs who have the skill and experience to provide both cash and management expertise.

For first time entrepreneurs, all respondents felt that government must intervene to ensure that there is an understanding of entrepreneurship through offering foundation subjects or re-invigorating these existing subjects with a practical element at the secondary school level. These comments are highlighted in Table 3 of Chapter 4. Respondents did not feel it is unreasonable to place high demands on first time entrepreneurs in return for funding. Respondents were in agreement with Urban (2006) who advocates for entrepreneurs to improve both technical and self-confidence levels. Some respondents called on government to facilitate a cultural shift away from the negative perception around entrepreneurship.

A further point raised by respondents was the lack of understanding entrepreneurs have of early stage VC investments. In addition, all respondents highlighted the low business acumen levels of entrepreneurs. VCs expect entrepreneurs to accept that they will have to make concessions in exchange for funding. Respondents stated that entrepreneurs must do their research on VC's to tie their business ideas to a VC which is mandated to invest in certain types of businesses. VCs have different investment guidelines.

Public VC respondents were especially critical of entrepreneurs with diminished personal integrity levels. These are entrepreneurs who make exorbitant requests for monthly salaries and wages, in contrast to the whole principle of 'bootstrapping'. Further to this, unrealistic and unethical assumptions lacking factual evidence made by entrepreneurs in their forecasts were also highlighted by most respondents. Most respondents highlighted low integrity levels as a red flag during due diligence with some even going as far as administering tests to sometimes uncover anything untoward about the entrepreneur.

Finally, all respondents had a preference for entrepreneurs who could fund a portion of the new ventures operating costs. Respondents felt that entrepreneurs who have 'skin in the game' have a greater level of mutually aligned interests to the VCs. Respondents maintained this feature as a natural hedge against principal agency-risk.

Proposition 1 can be described as being partially correct. Having a track record is not pre-requisite to attracting VC funding in South Africa. A lack of a track record can be bridged through other alternatives such as mentorship and expert secondment. Entrepreneurs who have knowledge on how the VC business works are more likely to be grounded and realistic in their expectations. Entrepreneurs who are found to have low levels of personal integrity will not attract funds from VCs.

5.5 Government

Private sector VC's felt that the current levels of government funding were effectively crowding out private sector funding as mentioned in Table 5 of Chapter 4. Respondents felt government could intervene directly through providing value added services such as guarantees or other credit enhancements underpinning private sector funding. Providing grant funding for projects that are economically marginal was also tabled.

Government's intervention in the VC industry is mostly direct, similar to the practice followed by the Israeli government. However, unlike the Israeli government who privatised their interests once the industry was self-sustaining,

the Government of South Africa prefers to continue to make direct VC investment through its state organs such as IDC or Khula. Respondents highlighted that Government will continue to use VC investing as a means of transforming the economy. It was revealed that it is a market norm for public VCs to have divestiture rules for portfolio companies whereby they have a right to sell their interests to companies complying with BEE regulations in the interest of the future sustainability of the business. Lerner et al. (2002) point out that a sustainable VC industry is premised on having a steady supply of quality entrepreneurs who feel there is an enabling environment which is prevalent. Respondents were unanimous in declaring that it is government who must drive the creation of this enabling environment.

5.5.1 Education & Mentorship

Respondents felt that the acceleration of entrepreneurial education initiatives was critical to grow the VC industry as per Figure 15 in Chapter 4. However, they did advocate a mixture of theoretical and practical mastering of the subject. Private VC's were unanimous in declaring that government alone needed to intervene at various levels of the education system to foster entrepreneurship while public VC's felt that a Public-Private Partnership would be an optimal way to assist entrepreneurs. It was also mentioned by respondents that Government needs to implement cultural education programs to change the negative stigma around entrepreneurship in the country. Urban (2006) calls for entrepreneurial education and training to focus on providing technical, managerial and self-confidence skills to entrepreneurs. It was felt by respondents that cultural negativity to entrepreneurship has been found to be especially prevalent with previously disadvantaged groups.

Some of the respondents highlighted the positive role both public and private VC's could play by providing internships to post-graduate technical and commercial students who are passionate to learn about the VC industry. Some of the private VC's go further to state government could create incentives for VC's to provide internships by making these any hiring costs incurred fully tax deductible.

As per Table 5 of Chapter 4, most respondents think government should be driving the formation of more science parks and incubators with the help of the private sectors intellectual capital; they feel these facilities are ideal for fostering entrepreneurship and can also provide a structured platform for entrepreneurs to be mentored by industry experts. Mentorship has been highlighted by all respondents as a key input for fostering entrepreneurship.

5.5.2 Taxation

Respondents were unanimous in declaring that government should do more to create tax incentives for entrepreneurs. While acknowledging that government has promulgated some favourable tax policies in the past, private respondents feel that these policies were implemented piecemeal and a comprehensive tax plan needs to be customised to incentivise potential entrepreneurs as well as VC investors. Their responses are captured in Table 5 of Chapter 4.

Respondent's knowledge of the tax benefits available to early stage businesses ranged from a basic to an advanced level. Gilson (2003) points out that specialised intermediaries and capital providers are critical components for growing the VC industry. The knowledge and experience of VCs and intermediaries is a valuable commodity which is transferred to entrepreneurs. Respondents were satisfied with past initiatives such as Turnover tax, R&D tax deductibility and Section 12 VC company tax deductibility but they felt that government could do more. Some respondent highlighted that government should consider writing-off rather than clawing back recoupment's on previous allowances granted as well as lowering or zero basing the capital gains tax rate on disposals of VC portfolio companies. Respondents mentioned that government could accelerate interest in listings on the Alt-X through providing full tax deductibility for citizens who invest through the Alt-X. In summary, respondents inferred that government needed to assess tax policy rolled-out by first world governments with healthy VC markets and use this as a base case to introduce a comprehensive tax policy to incentivise entrepreneurs and VCs alike.

5.5.3 BEE

All respondents felt that BEE is a necessary policy for the future sustainability of the country as per Table 5 in Chapter 4. Public VC's respondents mentioned that the pool of entrepreneurs in the country has increased with the inclusion of Previously Disadvantaged Individuals ("PDIs"). However, some private VCs pointed out that an unintended consequence of BEE implementation was that more of the white population are considering starting their own businesses as an alternative to working at a large corporate whereas the opposite is true for PDI's. Ironically, respondents felt that new wealth through entrepreneurship is not valued by the majority of the population who place more emphasis on redistributing legacy wealth. Herrington et al. (2010) highlight that the black population in South Africa is less likely to start their own business due to lack of necessity motivated entrepreneurship and higher utility levels for working at a large corporate. Most respondents pointed out that government should take the lead in changing the cultural negativity shown towards entrepreneurship in the PDI communities.

5.5.4 Other

Ironically, public VC respondents bemoaned the lack of co-ordination between the numerous state departments involved in the VC industry. Respondents felt that there were high levels of duplication as well as poaching of transactions. In addition, respondents felt that there was no central authority within government co-ordinating efforts and initiatives between public and private sector VC's to the detriment of entrepreneurs.

Proposition 2 was refuted by most respondents who preferred that the South African government focus on indirect interventions such as policy formulation to stimulate the VC industry. Private respondents believe direct intervention in the form of government funding needs to be constricted while the underwriting of private debt by government was an initiative which could be explored. All respondents highlighted that if an enabling environment was created for VCs, more funding will flow into the industry.

5.6 Structuring VC Investments

Respondents who used vanilla instruments such as ordinary shares over convertible instruments or lump sum financing over milestone financing felt that they could mitigate investment risk through strict forms of post-investment management. The choice of using a simple versus complex form of structuring was not exclusive to either the public or private sector VC respondents.

Respondent were attracted to the use of convertible instruments because the option specific nature of the instrument gave the investor flexibility to react to events appropriately. Convertible instruments used by the respondents included include shares, loans and royalties.

Only a minority of respondents operated as specialised funds. Respondents felt that specialisation was not economically viable due to the small size of the industry and felt that the benefit of diversification across sectors was a form of passive risk mitigation. In addition, respondents roped in third party technical specialists when required.

Respondents were positive to initiatives linked to co-financing and syndications as a means to spread risk amongst VC participants. However, due to the small pool of potential early stage VCs and differing interests between public and private VCs, it was felt that the idea will be hard to operationalise unless a common investing philosophy is agreed upon. As depicted in Figure 16 of Chapter 4, the mechanism's advocated by Parrino and Kidwell (2009) as a means of mitigating investment risk are more or less practiced as a market norm in South Africa by the majority of VCs.

Proposition 3 was accepted by most respondents who currently use one or more of the structuring techniques proposed.

5.7 Valuation & Investment Exits

Valuation

As listed in Figure 17 of Chapter 4, most respondents used the DCF as their primary valuation methodology. The DCF is a deterministic method of valuing investments. However, all respondents recognised the challenge of valuing companies that are in the pre-revenue stage. In addition, all respondents highlighted that forecasts sourced from entrepreneurs were not relied upon because of the information advantage entrepreneurs possess. None of the respondents mentioned using probabilistic techniques such as Monte Carlo simulation or Real Option Valuation. Oh and Cho (2013) state that Monte Carlo simulations can be used to overcome any model input uncertainty which is a feature of deterministic models such as DCF. Appendix C provides a simplified case example showing the difference between a DCF and Monte Carlo output for a hypothetical new venture using a set of cash flow forecasts.

Due to the limited size of the South African VC market and lack of comparables, local VC's have to use international comparables to value local companies using Relative Valuation techniques. Results can vary widely as each market has unique attributes.

Some respondents mentioned that during negotiations with the entrepreneur, the final valuation sometimes boiled down to how badly the entrepreneur needed the cash and what stake he is willing to give up for it. These respondents do not rely on the forecasted cashflows as a determinant of value but try to value the intellectual property or the development costs spent to date when dealing with intangible assets. For projects owning tangible assets some respondents use a replacement cost, fair market value or potential stripping value of the tangible asset sold piecemeal.

As per Table 7 in Chapter 4, all respondents highlighted the difficulty in valuing investments of this nature and argued that using various forms of valuations coupled with years of early stage valuation experience could overcome financial modelling or model assumption shortcomings.

Investment Exits

Most respondents highlighted that while IPO exit opportunities would be a great alternative to a sale or recapitalisation, few VC's were confident that a

successful IPO would be concluded anytime soon. However, one of the public VCs did mention that his company promised to go the IPO route for at least one of his forthcoming portfolio exits as reflected in Table 8 of Chapter 4.

While the trade sale remained the most popular exit both local and globally, VCs remained confident that they could extract fair value from a trade sale upon exit. VCs also highlighted that the high cost of an IPO listing and reporting requirements are prohibitory. One respondent did mention that large foreign controlled VCs and companies are looking to acquire 'outsourced' R&D from South Africa VC firms and entrepreneurs. This will ultimately increase the competitive tension with a sales process possibly leading to higher valuations.

Ironically, Lerner et al. (2002) state that the future sustainability of a VC industry is based on developing a liquid IPO market to enable investors to exit. While the local VC industry would welcome IPO exits as an alternative to monetise their investments, for the time-being most respondents are comfortable making exits using established methods such as trade sales and recapitalisations, which is highlighted in Figure 18 of Chapter 4.

Proposition 4 was refuted by most respondents on the basis that the VC industry will grow regardless of whether IPOs developed as a viable exit alternative.

5.8 Post Investment Management

While every private VC manager made a concerted effort to assist in the daily operations and management of his investment, some public VC respondents were comfortable relying on regular site visits and periodic reporting, thereby leaving the management of the business to entrepreneurs and their teams whose business skills were appraised in the due diligence phase. The responses are highlighted in Table 9. In addition, the investment manager working at the public VC when the due diligence was being completed, would be appointed as a board member of the portfolio company.

All private VC's also mentioned the need to be in close proximity to their portfolio companies in order to actively manage their investments. While most of the public VC's have satellite offices located in the large cities, private VCs do not. Respondent highlighted that new communications technologies such as Skype and email does not help since the VC model is structured around direct management of the portfolio company. Respondents who did not have satellite offices around the country cited the inescapable high costs of managing portfolio companies outside of Gauteng.

Proposition 5 was accepted by all respondents. VCs who are based in Johannesburg and have portfolio companies in Cape Town find it a necessity to travel to their portfolio companies periodically. This is a costly but necessary exercise.

5.9 Conclusion

The following 5 propositions have been tested with industry respondents to determine if they may be the cause for the lack of early stage VC.

Proposition 1: While it is apparent that an attractive business idea is a precondition to raising any type of funds, for VC specifically, the following additional elements can help entrepreneurs arrange early stage funding, namely:

- High levels of personal integrity;
- Knowledge of how the VC industry works; and
- A track record of past entrepreneurial successes.

Proposition 1 asserts that having a successful track record may be a precondition to raising early stage VC. This was reaffirmed by industry respondents to a degree. However, the respondents highlighted that a lack of a track record could be overcome if the 'jockey' was open to being mentored by experienced VCs and industry specialists. All respondents highlighted that they would be unwilling to back an entrepreneur who are too arrogant. Respondent's

responses to entrepreneur's integrity levels and VC knowledge reaffirmed the findings of the literature review. Therefore, this proposition was partially validated by respondents.

Proposition 2: Governments, through making direct and indirect interventions, can stimulate activity in their local VC industry.

The literature review highlighted the various interventions made by various governments in the past to grow their VC industries. However, most respondents in South Africa felt that the local government should focus on indirect interventions in order to create an enabling environment for all VC stakeholders. Respondents felt that government funding is potentially crowding out the growth of private VC in the country. Therefore, this proposition is partially validated by respondents.

Proposition 3: VC investors can reduce investment risk through using complex financial structuring.

The feedback from respondents tied up with the findings in the literature review. Respondents reduced agency risk through using complex structuring techniques. Using these techniques is more or less a market norm in the local VC industry. This proposition has been validated by the respondents.

Proposition 4: IPO based exits increase the level of VC activity in an economy.

This proposition invoked a level of curiosity with all respondents. However, whilst all respondents would wish to list one of portfolio companies in the future, most felt that the lack of an IPO exit mechanism is in no way hurting the growth of the VC industry. Therefore, this proposition was rejected by respondents.

Proposition 5: The distance between entrepreneurs and VC's make it difficult for VC's to actively manage their portfolio companies.

All respondents fully agreed with this proposition. For smaller VC's without representative offices outside of Johannesburg, the ability to actively manage their long distance investments is either curtailed or very costly. With a significant amount of entrepreneurial activity originating in Cape Town,

Johannesburg based VC's may not be able to participate in developing attractive opportunities.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The framework of this chapter reflects the series of research propositions mentioned in the literature review. The response rate of 67% from the population of early stage VC respondents who report to SAVCA amplified the credibility to the research conducted. Recommendations were subsequently made to each stakeholder identified in the report. Finally, areas for further research will be proposed.

6.2 Conclusions of the study

The objective of this research was to uncover the reasons for the lack of early stage VC in South Africa. While the hard data shows a shortage of cash, some respondents argued that there is no shortage of cash but a shortage of quality entrepreneurs. If the pool of quality entrepreneurs grows, the availability of early stage capital will increase too. VC underpins the creation of new ventures which in turns help create jobs and grows the economy. The current trend highlights a significant decline in early stage funds while later stage funds are rising.

The literature review was split into two key focus areas: People and Industry factors. Depending on the type of VC, the responses received were more or less similar except for a few key areas.

While the literature review casts doubt on the quality of entrepreneurs in South Africa, respondents were unanimous in declaring that the local entrepreneurs are competent and capable. However, to increase the pool of quality entrepreneurs, respondents felt government was best placed to make interventions especially from a policy perspective.

The literature review places significant emphasis on an entrepreneur's track record. In South Africa, the lack of serial entrepreneurs means that VC's have to look for alternatives to offset a lack of experience. Personal integrity of an

entrepreneur seeking funding for a pre-revenue business is a non-negotiable attribute. The low business acumen level of local entrepreneurs was highlighted as an obstacle to capital formation.

The literature review calls for government to make direct and / or indirect interventions. The VC model employed by South Africa seems closest to that employed in Israel. However, the Israeli government opted to privatise the VC funds that it initially funded. Private VCs in South Africa prefer the government leave direct funding of ventures to the private sector. While this may make commercial sense to some VCs, the funding shortfall for early stage investment will likely be increased if government is not directly involved through its state organs. Therefore, in the short term government should focus on making further direct interventions such as providing VC funding or value added financial products such as guarantees and other credit enhancements for entrepreneurs who may be financially challenged. These value added products will in turn assist entrepreneurs access private VC funding if government bears some of the credit risk. In the long term, government needs to ensure the future sustainability of the VC industry through formulating policy which ensures the following:

- Steady supply of quality entrepreneurs;
- Growing private VC base;
- Liquid capital markets;
- Sound macroeconomic and fiscal policy;
- Specialised intermediaries, such as IDC, who are appropriately resourced; and
- Universities which research high technology applications for commercialisation.

Having a healthy VC industry has been shown to be crucial to stimulate entrepreneurship and small business opportunities in the country. Further to this, South Africa has the most developed capital market in Africa. If an enabling

environment is created, this will attract entrepreneurs from the rest of Africa to commercialise their technologies locally.

Local VCs are acutely aware of the investment risks and each has their own mitigation policy. The structuring techniques used by the respondents tie in precisely with what has been recommended in the literature review. With South Africa being a developing country, VCs needed to ensure that interests are aligned through effective structuring. Respondents were positive to the growing potential of co-financing and syndication between them (both public and private VC's) as well as the growing angel network. While the criteria for investment would be similar between private VCs and angel, respondents were wary of co-financings involving public VCs. Public VCs have a mandate and scope which is much wider than purely economic benefit. As state organs they are the implementers of government policy meant to create jobs and reduce poverty.

Due to the nature of pre-revenue investments, no valuation methodology is flawless. Entrepreneurs now have the opportunity to commercialise their ideas in the US or UK, so local VCs are expected to 'sharpen their pencils' (provide better deal terms than what was originally proposed by VCs) at every opportunity. Through using probabilistic modelling techniques, such as Monte Carlo simulation, instead of deterministic valuation techniques, VCs could generate richer sources of information and could negotiate better deals with lower uncertainties in possible outcomes. The opportunity to embrace stochastic modelling techniques such as Monte Carlo could reduce the risk levels of an industry with highly uncertain outcomes. With more offshore VCs looking at entering the African market, the challenge is set for local VCs to uplift the quality of their information and decision making by embracing advanced decision analysis tools.

While the local VC industry has survived without having a healthy IPO market, the literature review highlights the potential benefits of IPOs over the costs. The long term sustainability of this industry may hinge on VCs embracing the Alt-X exchange as a method of exiting. The majority of respondents have highlighted their aversion to list on the Alt-X as a potential exit mechanism.

So what does the air of Cape Town have that Johannesburg lacks? Most respondents highlighted the entrepreneurial flair evident in Cape Town and given valid justifications as to why Johannesburg cannot emulate Cape Town just yet. Johannesburg is the economic hub where potential entrepreneurs with technical competence have stable jobs and no or low incentives to pursue their entrepreneurial passion. With no shortage of VC cash for entrepreneurs in Johannesburg, the pool of entrepreneurs in Johannesburg can increase with the formulation of structured platforms which are backed by both the private and public VCs. These platforms could be used by entrepreneurs to pitch their ideas to potential funders or industry experts. Notwithstanding the above, the entrepreneurial spirit in Cape Town needs to be taken to the next level. While the hard work of setting up the enabling environment has been more or less completed, Cape Town has the potential to become a world class entrepreneurial hub in Africa. This can only be achieved if the city creates links with other global entrepreneurial hubs such as Silicon Valley, Austin, Tel Aviv, Bangalore and Beijing.

6.3 Recommendations

While all VC would ideally hope for all potential entrepreneurs to be budding corporate financiers, the reality is that an entrepreneur's primary motivation is to get to the point where he has a technically sound prototype. Having a solid knowledge of his market and reasonable financial forecasts is a 'nice to have', but entrepreneurs will most likely not achieve the standards expected by VCs. Serial entrepreneurs are excluded from this assertion as they may have past experience dealing with third party funders. To close this expectation gap, entrepreneurs must use the structured platforms to test the appetite from investors as well as to identify issues with their business plan. There exists an opportunity for financial intermediaries to help close this expectation gap.

At this moment in South Africa, there seems to be two parallel VC industries working sometimes in collaboration, but mostly in competition. With this set to continue in the short term, it is in the interests of both private and public VCs to agree on a common set of guiding principles for investment which can be used

to aid co-financings and future larger syndications. While the motivation of public VCs is not purely economic, the reality is that they need to work with private VCs who are purely commercial minded by nature in order to develop new sources of wealth in the country. Private VCs in South Africa embrace the true spirit of VC while public VCs have to incorporate pseudo-development aspects into their investments as part of advancing governments policy objectives. South Africa will remain a developing country going forward and these key industry players have to create practical solutions to aid joint ventures.

Private and public VCs, who understand the uncertainties of assessing pre-revenue investments, must embrace advanced methods of assessing investment attractiveness and reducing risk. The combination of structuring techniques proposed in Chapter 2, has been proven in the literature review to reduce moral hazard and information asymmetry risk. Using the methods recommended will lead to VCs having additional protection in place to aid any signed contracts during periods of distress. Further to this, while DCF is the primary evaluation method used by VCs, there are advanced tools available which can reduce model uncertainties for early stage investments.

Government must be commended for the effort they have put in to date. The provision of funding from limited budgetary resources is handed to state organs whose mandate is to invest in new businesses. However, most respondents believe that government needs to shift focus to creating an enabling environment meant to stimulate entrepreneurship in this country. Throwing more money at the problem is not going to fix it. Government needs to formulate comprehensive policies that incentivise both entrepreneur and VCs. South Africa has the potential to be an entrepreneurial hub for the whole of Africa and potentially earn millions of dollars in tax revenue but the reality is that it has to compete for quality entrepreneurs with other entrepreneurial centres of excellence around the world. Attracting entrepreneurs from all over Africa will help increase the flow of early stage capital.

6.4 Suggestions for further research

A number of potential future areas of study have been identified. These include:

1. Comparing the tax regimes between South Africa and other countries with a healthy VC market such as the US, UK, India and Israel. An attractive tax regime has been identified by VCs as being an important factor to attract VC funding and incentivise entrepreneurs.
2. The growing potential for co-financings and syndications between public and private sector VCs could be accelerated through the formulation of a guiding set of investment principles which incorporates the motives of all parties.

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APPENDIX A

Actual Research Instrument

Research Thesis Questionnaire

1 Contact details

Name: _____
Mobile number: _____
Email address: _____
Company: _____

2 Industry Role

☐ Private VC Fund Manager
☐ Public VC Fund Manager
☐ Angel Investor
☐ Other

3 Total VC investments made to date

☐ < 5
☐ > 5
☐ > 10
☐ > 20

4 # of successful VC investment exits to date (Equity IRR > Cost of Equity)

5 Current exposure to VC investment

☐ < ZAR 5 m
☐ > ZAR 5 m
☐ > ZAR 50 m

6 Phase of current VC investment

☐ Due diligence
☐ Post investment management
☐ Exit
☐ All of the above
☐ None of the above

7 Required return from VC Investment

☐ > 30%
☐ < 30%
☐ 15% - 20%

8 Do you believe that there exists a shortage of early stage capital for investment in South Africa? ☐

9 Are South African entrepreneurs capable of succeeding in starting a new What makes them successful / unsuccessful?

10 Should entrepreneurship be taught as a standalone subject at schools?

11 What are you key due diligence areas during investment appraisal?

12 Do you believe government is stimulating entrepreneurship activity in South Africa?

13 Is the income tax policy favourable to entrepreneurs? And VC investors?

14 Is BEE positive for entrepreneurs? and vc funds?

15 what is your opinion on clustering, science parks and incubators?

16 How do you mitigate against VC investment risk?

17 How do you value an early stage opportunity?

18 What do you feel on the IPO exit strategy in South Africa?

19 Do think it is important to be physically close to your investment?

20 What are the most important aspect entrepreneurs should focus on prior to engaging with a VC investor?

THE END

APPENDIX B

Consistency matrix

Research problem stated here					
Main	Literature Review	Hypotheses or Propositions or Research questions	Source of data	Type of data	Analysis
What are the reasons for the lack of early stage venture capital funding in South Africa?	Lingelbach, D. C., Murray, G., & Gilbert, E. (2009). The rise and fall of South African venture capital: A coproduction perspective. Gilson, R. J. (2003). Engineering a venture capital market: lessons from the American experience. <i>Stanford Law Review</i>, 1067-1103. Urban, B. (2006). Entrepreneurial self-efficacy in a multicultural society: Measures and ethnic differences. <i>SA Journal of Industrial Psychology</i>, 32(1). Parrino, R., & Kidwell, D. S. (2009). <i>Fundamentals of corporate finance</i>: Wiley. Venture Solutions. (2010). 2010 SAVCA Venture Solutions VC Survey. Johannesburg: Venture Solutions.	Proposition 1: A range of elements are expected from entrepreneurs who seek to raise VC. These include: • Knowledge of how the VC industry works; • A track record; and • High levels of integrity. Proposition 2: Governments, through making direct and indirect interventions, can stimulate activity in their local VC industry. Proposition 3: VC investors can reduce investment risk through using complex financial structuring. Proposition 4: IPO based exits increase the level of VC activity in an economy. Proposition 5: The distance between entrepreneurs and VC's make it difficult for VC's to actively manage their portfolio companies.	The researcher will conduct open ended interview, allowing for detailed descriptions based on the experiences of participants. Will also use of Dictaphone™ to capture conversations with participants. The Dictaphone™ only will be used with the permission of participants. Interviews will be conducted in a secure and safe environment. The study seeks to understand the reasons for the lack of early stage VC in South Africa. The problem is researched from the perspective of the actual VC fund managers. As such it will seek to select a non-random sample from which the most can be learnt. The population comprises of public and private VCs in South Africa.	Resulting data will be rich, descriptive narratives of respondent's experiences in making early stage VC investments with the aim of gaining and in-depth understanding of the industry.	Data will be collected through in-depth interviews. A descriptive report will be the output from the research, giving an account of the findings (Merriam, 2002). This method should give results that allow for a better understanding of why there is a lack of early stage funding in South Africa.

APPENDIX C

List of respondents

Company	Participated
4Di Capital	✓
Angelhub	✗
Business Partners	✓
Grovest	✓
Hasso Platner	✗
Industrial Development Corporation	✓
Invenfin	✓
Khula Enablis Fund	✓
Knife Capital	✗

Technology Innovation Fund	✓
Triumph VC	✓
Trivest	✗

APPENDIX D

Monte Carlo Simulation Case

Hypothetical Case:

Development of a new lifestyle restaurant which is financed with 100% equity capital. Revenue generated from the sales of food and drink. Working capital based on a 30 day cash cycle. The operating licence is for 20 years starting 1 January 2013.

Base Case Inputs	
Total Project Cost	ZAR 782,800
Capital Structure	100% Equity
Shareholding	50% Dilin CC 50% New VC CC

Financial Statements

Period	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Start Date	1-Jan-13	1-Jan-14	1-Jan-15	1-Jan-16	1-Jan-17	1-Jan-18	1-Jan-19	1-Jan-20	1-Jan-21	1-Jan-22	1-Jan-23	1-Jan-24	1-Jan-25	1-Jan-26	1-Jan-27	1-Jan-28	1-Jan-29	1-Jan-30	1-Jan-31	1-Jan-32
End Date	31-Dec-13	31-Dec-14	31-Dec-15	31-Dec-16	31-Dec-17	31-Dec-18	31-Dec-19	31-Dec-20	31-Dec-21	31-Dec-22	31-Dec-23	31-Dec-24	31-Dec-25	31-Dec-26	31-Dec-27	31-Dec-28	31-Dec-29	31-Dec-30	31-Dec-31	31-Dec-32
Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
P&L Statement																				
Revenue	2,451,576	2,476,968	2,502,912	2,538,400	2,563,050	2,597,818	2,636,149	2,685,294	2,725,001	2,776,368	2,833,001	2,902,323	2,964,276	3,040,169	3,123,841	3,222,974	3,317,794	3,429,922	3,553,544	3,696,722
Less: COGS	1,341,386	1,355,279	1,369,474	1,388,892	1,402,379	1,421,402	1,442,375	1,469,265	1,490,991	1,519,097	1,550,083	1,588,013	1,621,911	1,663,436	1,709,217	1,763,458	1,815,339	1,876,690	1,944,330	2,022,670
Gross Profit	1,110,190	1,121,689	1,133,438	1,149,508	1,160,671	1,176,416	1,193,774	1,216,029	1,234,010	1,257,272	1,282,918	1,314,310	1,342,365	1,376,733	1,414,624	1,459,516	1,502,455	1,553,232	1,609,214	1,674,052
Less: Fixed Opex	510,920	513,336	515,683	518,147	520,735	523,452	526,304	529,299	532,444	535,747	539,214	542,855	546,677	550,691	554,906	559,331	563,978	568,856	573,979	579,358
EBITDA	599,270	608,352	617,754	631,361	639,936	652,964	667,470	686,730	701,566	721,525	743,704	771,456	795,688	826,042	859,718	900,185	938,477	984,376	1,035,235	1,094,694
Less: Depreciation	86,840	86,840	86,840	86,840	86,840	107,241	107,241	107,241	107,241	107,241	138,375	138,375	138,375	138,375	138,375	161,653	161,653	161,653	161,653	161,653
EBIT	512,430	521,512	530,914	544,521	553,096	545,723	560,229	579,489	594,325	614,284	605,329	633,081	657,313	687,667	721,343	738,532	776,824	822,722	873,582	933,040
Less: Finance Charge	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EBT	512,430	521,512	530,914	544,521	553,096	545,723	560,229	579,489	594,325	614,284	605,329	633,081	657,313	687,667	721,343	738,532	776,824	822,722	873,582	933,040
Less: Taxation	143,481	146,023	148,656	152,466	154,867	152,802	156,864	162,257	166,411	172,000	169,492	177,263	184,048	192,547	201,976	206,789	217,511	230,362	244,603	261,251
NPAT	368,950	375,489	382,258	392,055	398,229	392,921	403,365	417,232	427,914	442,285	435,837	455,818	473,265	495,120	519,367	531,743	559,313	592,360	628,979	671,789
Cash Flow Statement																				
Cashflow generated flow operating activities																				
EBITDA	599,270	608,352	617,754	631,361	639,936	652,964	667,470	686,730	701,566	721,525	743,704	771,456	795,688	826,042	859,718	900,185	938,477	984,376	1,035,235	1,094,694
less: Tax paid	143,481	146,023	148,656	152,466	154,867	152,802	156,864	162,257	166,411	172,000	169,492	177,263	184,048	192,547	201,976	206,789	217,511	230,362	244,603	261,251
less: Changes to net working capital	51,136	-	-	-	-	-	-	-	-	-	-	0	-	-	-	0	-	-	-	0
Net cash generated from operating activities	404,654	462,329	469,098	478,895	485,069	500,162	510,606	524,473	535,155	549,526	574,212	594,193	611,640	633,495	657,742	693,396	720,967	754,013	790,632	833,442
Cash generated from investing activities																				
less: Capital expenditure	-	-	-	-	-	222,005	-	-	-	-	772,009	-	-	-	-	399,732	-	-	-	-
Net cash generated from investing activities	-	-	-	-	-	-222,005	-	-	-	-	-772,009	-	-	-	-	-399,732	-	-	-	-
Cash generated from financing activities																				
less: Debt interest payment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
less: Debt principal payment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
less: Dividends paid	-	126,176	123,544	122,852	117,333	98,502	98,502	100,746	98,502	98,502	77,953	80,198	77,953	77,953	77,953	64,834	62,589	62,589	62,589	64,834
Net cash generated from financing activities	-	-126,176	-123,544	-122,852	-117,333	-98,502	-98,502	-100,746	-98,502	-98,502	-77,953	-80,198	-77,953	-77,953	-77,953	-64,834	-62,589	-62,589	-62,589	-64,834
Net cash movement	404,654	336,153	345,555	356,043	367,737	179,655	412,104	423,726	436,653	451,024	-275,750	513,995	533,687	555,542	579,789	228,830	658,377	691,424	728,042	768,608
OP Bal	-	404,654	740,807	1,086,362	1,442,405	1,810,141	1,989,797	2,401,901	2,825,627	3,262,281	3,713,305	3,437,555	3,951,550	4,485,237	5,040,779	5,620,568	5,849,398	6,507,775	7,199,199	7,927,242
CI Bal	404,654	740,807	1,086,362	1,442,405	1,810,141	1,989,797	2,401,901	2,825,627	3,262,281	3,713,305	3,437,555	3,951,550	4,485,237	5,040,779	5,620,568	5,849,398	6,507,775	7,199,199	7,927,242	8,695,850

Financial Statements

Period	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Start Date	1-Jan-13	1-Jan-14	1-Jan-15	1-Jan-16	1-Jan-17	1-Jan-18	1-Jan-19	1-Jan-20	1-Jan-21	1-Jan-22	1-Jan-23	1-Jan-24	1-Jan-25	1-Jan-26	1-Jan-27	1-Jan-28	1-Jan-29	1-Jan-30	1-Jan-31	1-Jan-32
End Date	31-Dec-13	31-Dec-14	31-Dec-15	31-Dec-16	31-Dec-17	31-Dec-18	31-Dec-19	31-Dec-20	31-Dec-21	31-Dec-22	31-Dec-23	31-Dec-24	31-Dec-25	31-Dec-26	31-Dec-27	31-Dec-28	31-Dec-29	31-Dec-30	31-Dec-31	31-Dec-32
Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Balance Sheet																				
Fixed Assets																				
Machinery	180,000	160,000	140,000	120,000	100,000	80,000	60,000	40,000	20,000	0	293,201	260,623	228,045	195,467	162,889	130,312	97,734	65,156	32,578	0
Fixtures & Fittings	90,000	80,000	70,000	60,000	50,000	40,000	30,000	20,000	10,000	0	146,601	130,312	114,023	97,734	81,445	65,156	48,867	32,578	16,289	0
Utensils	40,000	30,000	20,000	10,000	-0	106,132	79,599	53,066	26,533	0	135,454	101,591	67,727	33,864	0	172,878	129,658	86,439	43,219	0
Computer hardware & software	56,000	42,000	28,000	14,000	0	71,472	53,604	35,736	17,868	-0	91,218	68,414	45,609	22,805	0	146,908	110,181	73,454	36,727	0
Contingency	399,000	378,000	357,000	336,000	315,000	294,000	273,000	252,000	231,000	210,000	189,000	168,000	147,000	126,000	105,000	84,000	63,000	42,000	21,000	-
Other fixed assets	224,960	213,120	201,280	189,440	177,600	165,760	153,920	142,080	130,240	118,400	106,560	94,720	82,880	71,040	59,200	47,360	35,520	23,680	11,840	0
Total Fixed Assets	989,960	903,120	816,280	729,440	642,600	757,364	650,123	542,882	435,641	328,400	962,034	823,659	685,284	546,909	408,534	646,613	484,960	323,306	161,653	0
Current Assets																				
Accounts receivable	206,550	206,550	206,550	206,550	206,550	206,550	206,550	206,550	206,550	206,550	206,550	206,550	206,550	206,550	206,550	206,550	206,550	206,550	206,550	206,550
Cash	404,654	740,807	1,086,362	1,442,405	1,810,141	1,989,797	2,401,901	2,825,627	3,262,281	3,713,305	3,437,555	3,951,550	4,485,237	5,040,779	5,620,568	5,849,398	6,507,775	7,199,199	7,927,242	8,695,850
Total Current Assets	611,204	947,357	1,292,912	1,648,955	2,016,691	2,196,347	2,608,451	3,032,177	3,468,831	3,919,855	3,644,105	4,158,100	4,691,787	5,247,329	5,827,118	6,055,948	6,714,325	7,405,749	8,133,792	8,902,400
Total Assets	1,601,164	1,850,477	2,109,192	2,378,395	2,659,291	2,953,711	3,258,574	3,575,059	3,904,472	4,248,255	4,606,138	4,981,759	5,377,071	5,794,238	6,235,652	6,702,561	7,199,285	7,729,056	8,295,445	8,902,400
Long Term Liabilities																				
Debt Closing Balance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Long Term Liabilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Short Term Liabilities																				
Accounts payable	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414
Total Short Term Liabilities	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414	155,414
Equity																				
Dilin CC	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400
VC CC	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400	538,400
Retained earnings	368,950	618,263	876,977	1,146,181	1,427,077	1,721,496	2,026,359	2,342,845	2,672,257	3,016,040	3,373,924	3,749,544	4,144,857	4,562,024	5,003,438	5,470,347	5,967,071	6,496,841	7,063,231	7,670,186
Total Equity	1,445,750	1,695,063	1,953,777	2,222,981	2,503,877	2,798,296	3,103,159	3,419,645	3,749,057	4,092,840	4,450,724	4,826,344	5,221,657	5,638,824	6,080,238	6,547,147	7,043,871	7,573,641	8,140,031	8,746,986
Total Equity & Liabilities	1,601,164	1,850,477	2,109,192	2,378,395	2,659,291	2,953,711	3,258,574	3,575,059	3,904,472	4,248,255	4,606,138	4,981,759	5,377,071	5,794,238	6,235,652	6,702,561	7,199,285	7,729,056	8,295,445	8,902,400

Results of Deterministic Modelling using DCF

Summary Sheet

Project Description	<i>unit</i>	
Operation Start Date	<i>date</i>	1-Jan-13
Operation End Date	<i>date</i>	31-Dec-32
# of operating periods	<i>years</i>	20

Accounting & Tax

Corporate Tax Rate	%	28%
Withholding tax on dividend	%	10%
VAT	%	14%
Debtors days	<i>days</i>	30
Creditors days	<i>days</i>	30

Depreciation:

Machines	<i>years</i>	10
Fixtures and fittings	<i>years</i>	10
Utensils	<i>years</i>	5
Computer hardware & software	<i>years</i>	5
Contingency	<i>years</i>	20
Other fixed assets	<i>years</i>	20

Capital Allowances:

Machines	<i>years</i>	5
Fixtures and fittings	<i>years</i>	5
Utensils	<i>years</i>	5
Computer hardware & software	<i>years</i>	5
Contingency	<i>years</i>	5
Other fixed assets	<i>years</i>	5

Project Economics

Project Returns	
WACC	15%
NPV	2,415,863
IRR	54%

Equity Returns	
Cost of Equity	19%
NPV	-96,286
IRR	15%

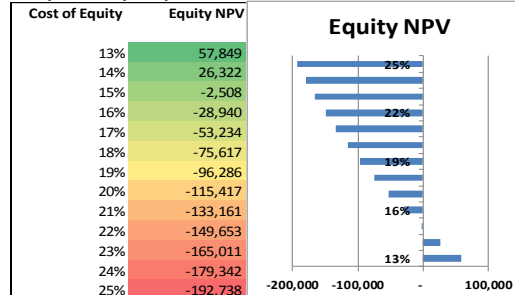
Capital Structure

Sources of funds	ZAR	Uses of funds	
Equity	1,076,800	PPE	
Debt	-	Working Capital	
		Development Costs	
Total	1,076,800	Total	1,076,800

Cash Flow Summary

	2013	2014	2015	2016	2017	2018
CFO	404,654	462,329	469,098	478,895	485,069	500,162
CFF	-	-	-	-	-	-222,009
CFI	-	-126,176	-123,544	-122,852	-117,333	-98,500
Net Cash Flow	404,654	336,153	345,555	356,043	367,737	179,653
Closing Cash	404,654	740,807	1,086,362	1,442,405	1,810,141	1,989,794

1-way Sensitivity Analysis



2-way Sensitivity Analysis

Cost of Equity	Withholding Tax on Dividend				
	0%	5%	7.5%	10%	12.5%
13%	129,533	93,800	75,851	57,849	39,795
14%	93,733	60,121	43,244	26,322	9,354
15%	61,045	29,349	13,440	-2,508	-18,495
16%	31,119	1,159	-13,874	-28,940	-44,040
17%	3,650	-24,732	-38,968	-53,234	-67,528
18%	-21,626	-48,570	-62,081	-75,617	-89,177
19%	-44,941	-70,569	-83,417	-96,286	-109,177
20%	-66,495	-90,917	-103,157	-115,417	-127,694
21%	-86,466	-109,780	-121,462	-133,161	-144,875
22%	-105,011	-127,303	-138,470	-149,653	-160,848
23%	-122,266	-143,613	-154,306	-165,011	-175,729
24%	-138,352	-158,825	-169,078	-179,342	-189,616
25%	-153,377	-173,038	-182,884	-192,738	-202,602

- Excel only allows for MAX 2 variable sensitivity
- Sensitised variables not linked to any probability

- Single state NPV of (95,295) and IRR only

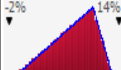
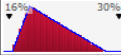
Stochastic Modelling using Monte-Carlo

Conducting a 5000-run monte-carlo simulation, sensitising four variable and determining what the distribution profile will be for the NPV and IRR will be.

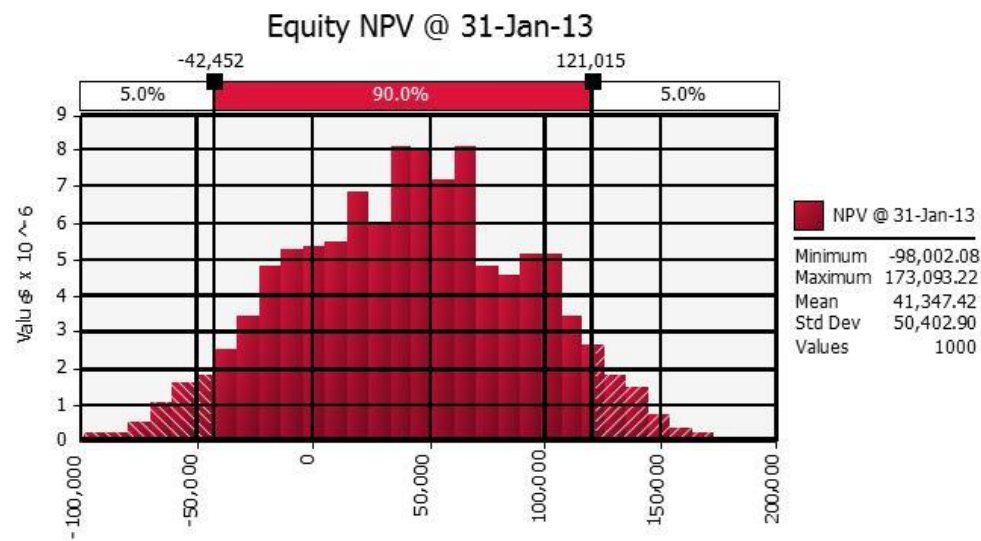
Variables for Simulation

- Capital Expenditure Contingency (Uniform distribution)
- Withholding tax on dividend (Triangular distribution)
- Cost of Equity (Triangular distribution)
- Operating expenditure Inflation (Uniform distribution)

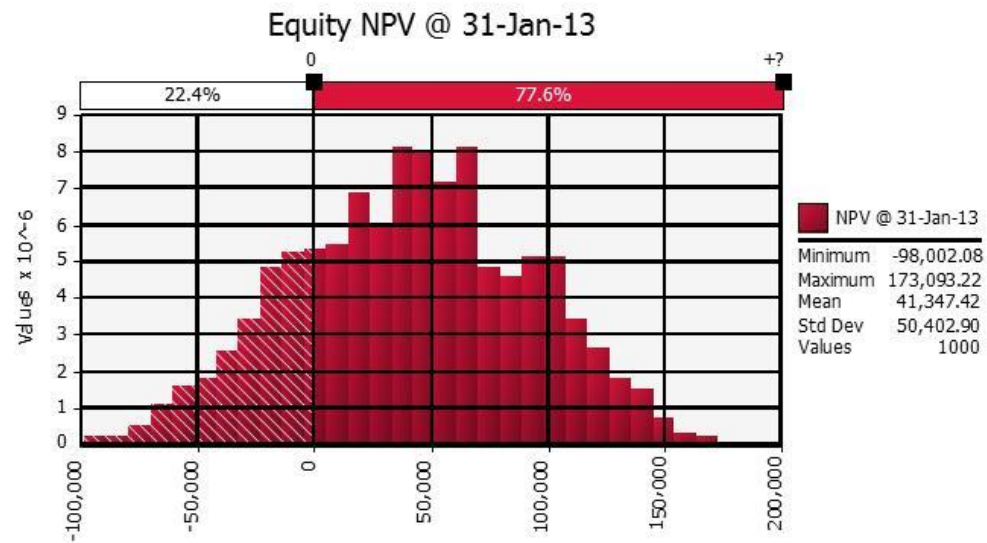
Simulation Inputs: Variable Distribution Profile

	Name	Worksheet	Cell	Graph	Min	Mean	Max	5%	95%	Errors
	CapexContingency	Inputsheets	D18		20%	35%	50%	21%	48%	0
	Withholding tax on dividend	Summary	D9		0%	7%	12%	2%	11%	0
	Cost of Equity	Summary	E31		17%	21%	28%	18%	26%	0
Category: GDP Cost Inflation										
	GDP Cost Inflation / 31-Dec-12	Operations	B8		4%	8%	12%	4%	12%	0

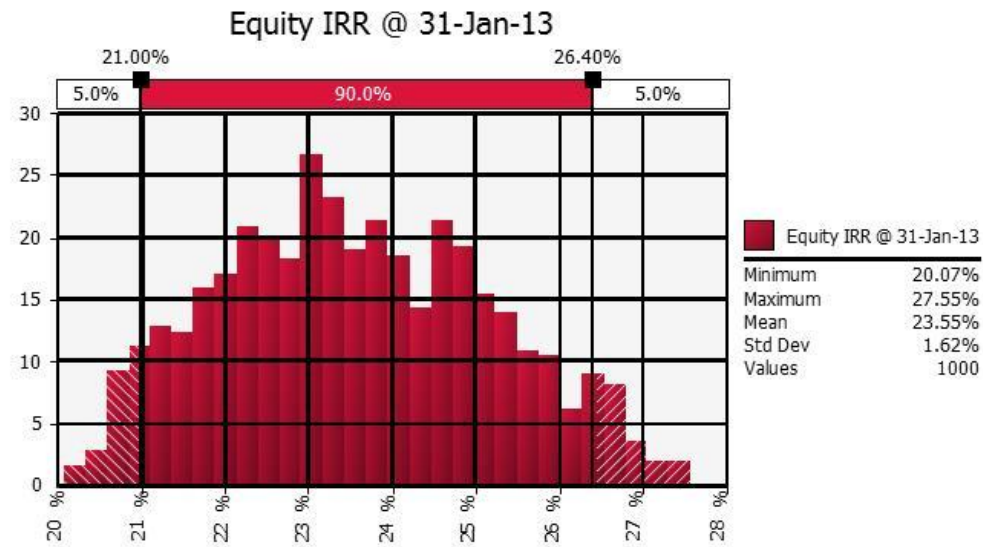
Simulation Outputs



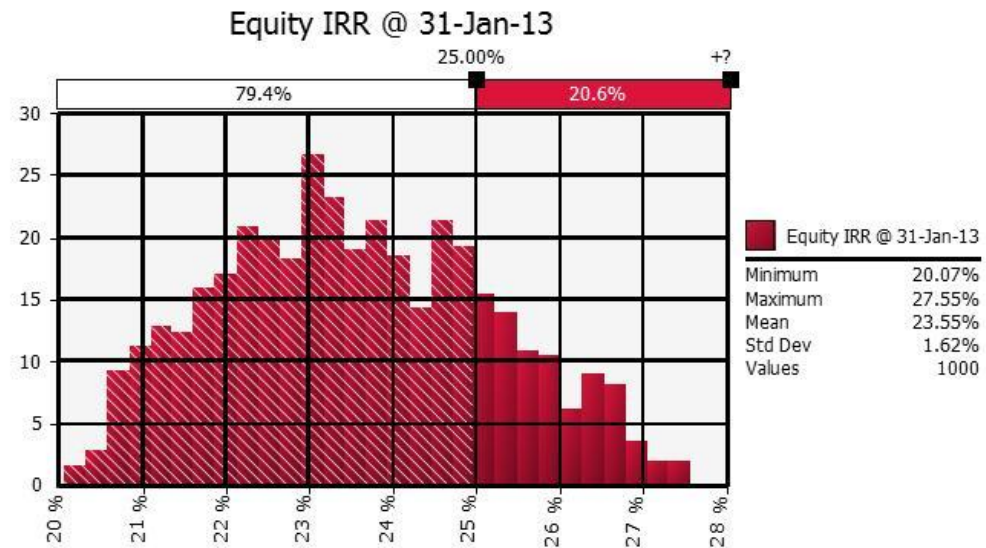
Based on the sensitised inputs, Equity NPV has a 90% chance of being between -42,452 and +121,015 based on the distribution of possible Equity NPVs



Based on the sensitised inputs, Equity NPV has a 77.6% chance of being greater than 0.



Based on the sensitised inputs, Equity IRR has a 90% chance of being between 21% and 26.4% based on the distribution of Equity IRRs.



Based on the sensitised inputs, Equity IRR has a 79.4% chance of being less than or equal to 25%.