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Portfolio Management for Privately-Held Securities: Investment Selection and Performance Measurement

Terry Dorsey

I. INTRODUCTION

This paper develops a portfolio model for performance measurement and selection of investment securities for which there is no public market: investments such as venture capital investments, private placements, or real estate partnerships. The paper can be used as the basis of research to measure the risk/return properties of privately-held securities, and such research can be used to develop portfolio measurement tools for these securities.

The paper proceeds as follows:

1. It reviews recent conclusions that traditional measures of financial risk do not adequately describe the riskiness of venture capital investments and other privately-held securities with the following characteristics:

- a) Lack of market price
- b) Investment illiquidity
- c) Multi-year holding period

2. It describes two recent papers—Ruhnka and Young (1991) and Ruhnka, Feldman, and Dean (1992)—which report on investor perception of two types of venture capital risk: the risk of losing capital and the risk posed by the “living dead” phenomenon. Those risks are consistent with the risk measures incorporated in the portfolio model, risk of loss and risk of opportunity.

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3. It develops two independent measures of investment risk inherent in venture capital investments and uses a simple example to illustrate how they can impact portfolio return. These are:

- A. Risk of loss: loss of portfolio capital through unprofitable investments.
- B. Risk of opportunity: loss of return that derives from an inability to reinvest illiquid, unprofitable capital in more profitable situations. This amounts to an opportunity cost for unprofitable capital and has been discussed as the "living dead" phenomenon in venture capital literature.

4. Development of a multiperiod, multiinvestment portfolio model begins with the following equation which states the relative contribution that each investment makes to performance of the portfolio:

$$\sum_{i=1}^z C_i(1 + r_i)^n = V(1 + r)^n, \quad \sum_{i=1}^z C_i = V,$$

where C_i = amount of capital invested in situation i ;
 r_i = geometric mean return of investment i ;
 n = investment holding period, in years;
 z = number of investments in the portfolio;
 V = total capital invested in the portfolio; and
 r = geometric mean return objective for portfolio

The value of the portfolio at the end of year n equals $V(1 + r)^n$: initial invested capital plus gains made by profitable investments minus losses.

5. The portfolio is next partitioned into two segments whose respective components include profitable investments and unprofitable investments, and the equation is solved for r_p :

$$r_p = [\{ (1 + r)^n - 1 + \beta + \mu \} / \beta]^{1/n} - 1,$$

where β = portion of total capital invested in profitable investments;
and
 μ = portion of total capital lost to unprofitable investments.

The value of r_p defines that target rate of return which the profitable portion of the portfolio must achieve in order for the total portfolio to

- A. Recover capital losses;
- B. Offset returns lost through investment of portfolio capital in unprofitable, illiquid situations; and
- C. Achieve overall portfolio return objectives.

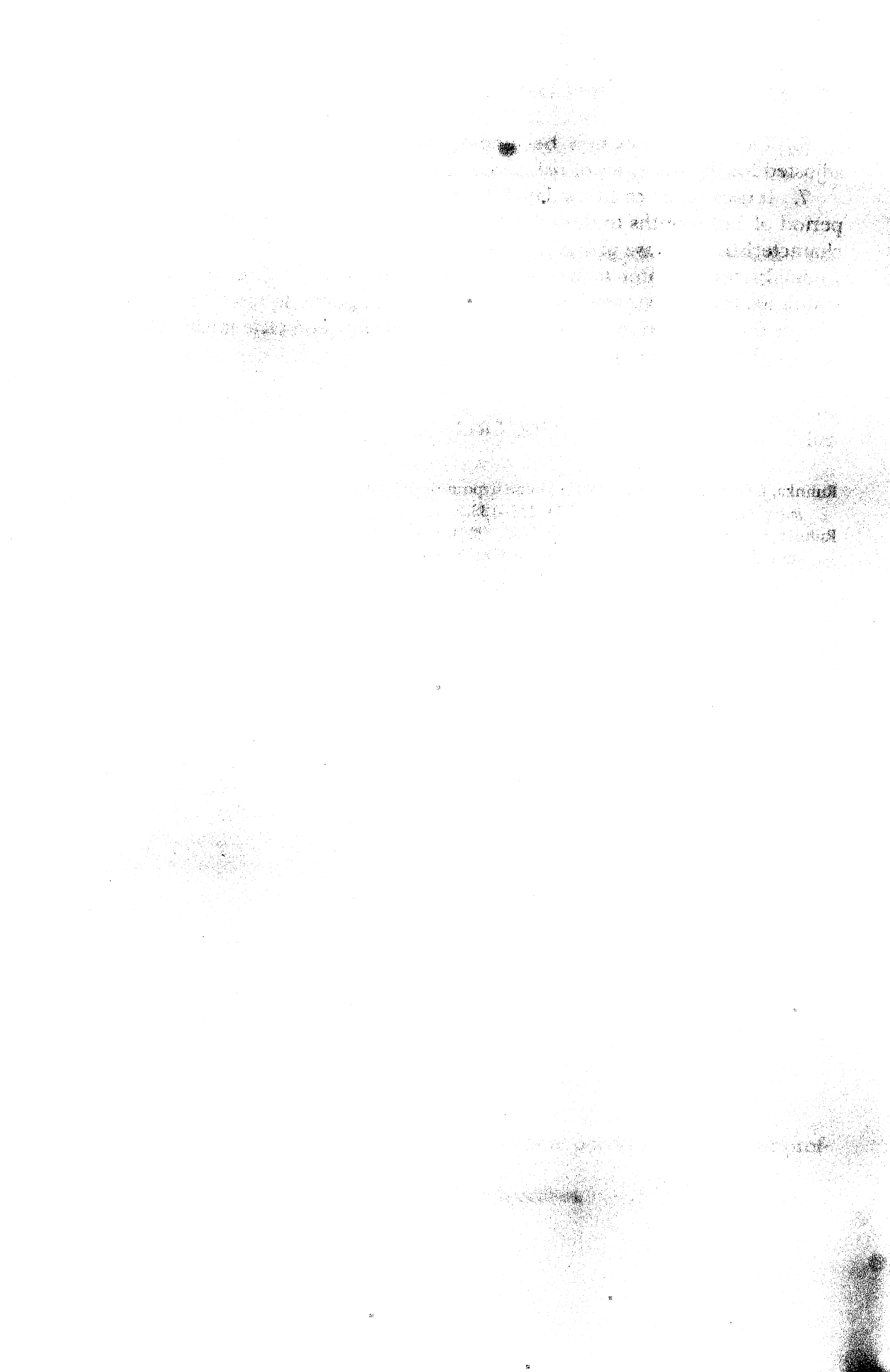
6. The model can now be used to compute a target rate of return adjusted for the two types of risk described above.

7. It uses actual cashflow data for 110 venture capital investments over a period of 120 months to illustrate how the model can measure risk-reward characteristics of these privately-held investments.

8. In order better to handle the reinvestment of interim investment cashflows, the paper presents a slightly enhanced portfolio model that substitutes the modified internal rate of return for the geometric mean return used in the original model.

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Small Business Credit Risk: Perceptions of Commercial Banks in Missouri

Jan R. Squires

I. INTRODUCTION

A survey of 548 Missouri commercial banks asked respondents to rank, among other items, alternative definitions of credit risk for small business borrowers; alternative bank responses to deteriorating small business credit risk; and alternative characteristics of a "high risk" small business borrower. Data were collected from 137 (25%) responding commercial banks, and this paper focused on responses to the above questions for the entire sample and for subsamples defined by a set of bank characteristics.

Small business credit risk is seen generally to reside in the chance that the borrower will default outright on the loan; however, some banks also define risk in terms of the chance that the loan will not be repaid according to original terms. The most common bank reactions to increasing credit riskiness are to require additional security/compensating balances, additional equity capital, and additional personal guarantees; some banks do attach more importance to requiring substantial paydowns, raising the interest rate, and/or restructuring the maturity of the loan. "High risk" in a small business borrower is signified by lack of management ability/poor planning, high levels of debt and low levels of equity, and poor profit margins.

In general, these responses are consistent across bank types and characteristics; however, some significant differences do exist. For example, larger banks place greater emphasis on:

1. failing to meet original loan terms as a facet of credit risk;
2. raising the interest rate in response to deteriorating credit risk; and

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3. inadequate asset value as a "high risk" borrower characteristic.

Less aggressive banks tend to emphasize more:

1. failing to provide adequate loan security as a facet of credit risk; and
2. requiring paydowns in response to deteriorating credit.

Suburban banks give greater weight to:

1. raising the interest rate in response to deteriorating credit risk; and
2. low interest coverage as a facet of "high risk" borrower status.

The results tend to confirm prior research findings as well as often-voiced "conventional wisdom" regarding small business borrowers; that is, elaboration of business expertise, evidence of sound planning, and attention to reasonable financial projections, especially pertaining to leverage levels and profit margins, will all be an important part of the lender's initial decision and ongoing assessment with respect to the credit relationship. The extent to which adequate equity capital, security, and guarantees exist will be an integral part of the monitoring process as well. Finally, borrowers should expect to find similar parameters and fairly consistent lending postures across different bank types and characteristics; that is, bank location, profitability, lending aggressiveness, ownership status, and the like seem to make only small differences in the assessment of the small business credit relationship.