REFINITIV INDICES

VENTURE CAPITAL INDEX METHODOLOGY

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TR Venture Capital Index Methodology

Version 1.0

Contents

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Introduction

The **TR Venture Capital Index** ("TR VC Index") tracks the return of the venture capital universe by replicating movements in the TR Venture Capital Research Index ("TR VC Research Index"). The TR VC Research Index is constructed from observed valuations of venture-backed firms at discrete points in time, such as during funding rounds, acquisitions, and exits. These observed valuations fuel a sophisticated econometric methodology that estimates the value of each venture-backed firm in every month, not just the months in which the firm value is observable. Aggregating this time-series of firm values, the TR VC Research Index constructs a value-weighted index of the returns to a theoretical fully-diversified portfolio of venture-backed firms capturing a high percentage of all VC-backed companies.

The nature of the valuation events used in the TR VC Research Index is such that data are available only after some significant delay, and are subject to revision for some time after they become available. As a result, the TR VC Research Index returns are published on a quarterly basis, and are subject to revision for 8 quarters.

The TR Venture Capital Index seeks to replicate the return profile of the VC industry by constructing a theoretical dynamic portfolio in public, liquid assets that tracks the movements of the TR VC Research Index, which in turn tracks the VC industry. Since this portfolio is constructed using observable prices and indicators; its return can be computed in real-time, providing immediate information about movements in the VC universe. Further, since the VC Index portfolio is constructed using liquid securities and is not subject to revision, it is an appropriate benchmark for investable products seeking to achieve venture capital returns in real time.
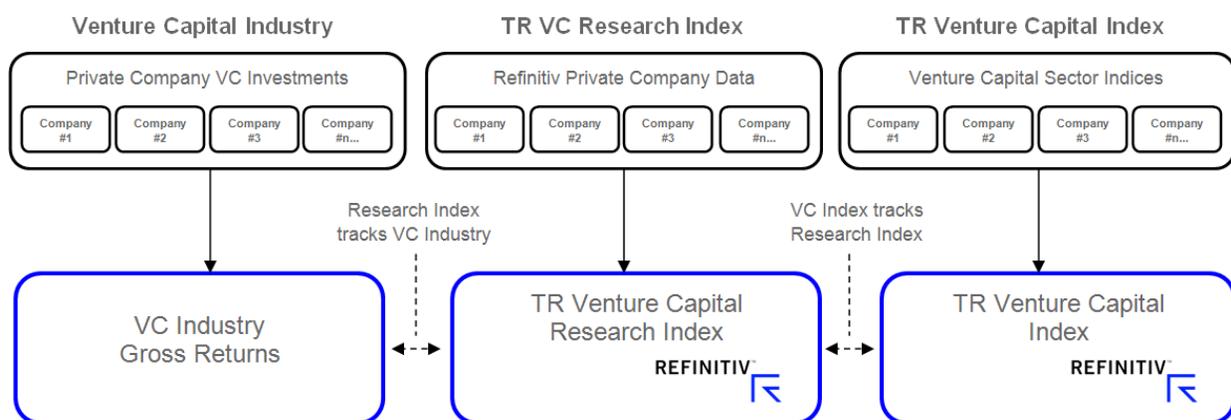

The TR VC Index is constructed as the return to a theoretical portfolio containing a series of venture capital sector indices ("sector indices"), each seeking to replicate a sector of the VC universe, as well as universal characteristics of VC-backed firms. The sector indices are constructed using proprietary econometric models and seek to mimic the risks and return characteristics of venture-backed firms associated with each economic sector. These sector

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indices, in turn, contain liquid securities which may include equities, derivatives, and indices, among others. These securities can be priced in real time and, when weighted appropriately, seek to mimic the behavior of the TR Venture Capital TR VC Research Index.

It should be noted that the TR Research and VC Indices seek to match the returns of the venture capital industry (asset class) *before* fund-level management and incentive fees.

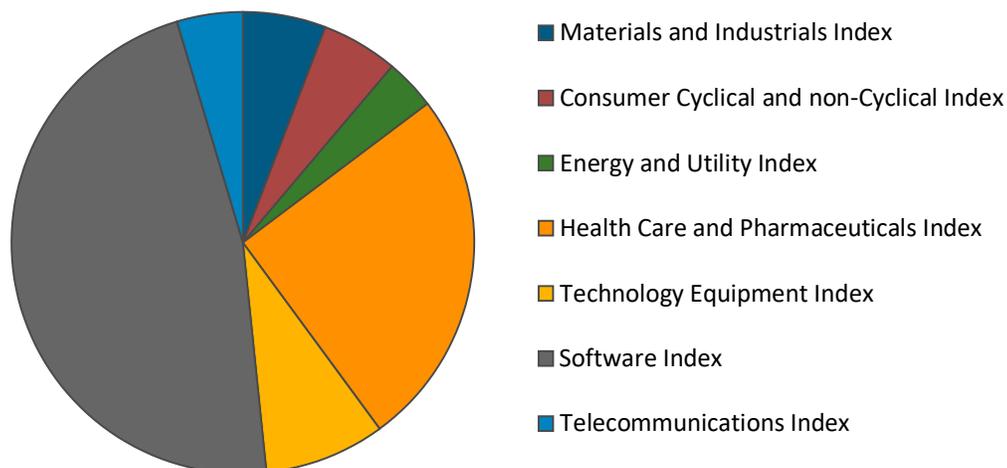| Annualized Return	January 1996 - September 2012
TR Venture Capital Research Index:	19.67%
TR Venture Capital Index:	19.38%
TR US Technology Index:	9.03%

Thomson Reuters VC Indices vs Thomson Reuters US Technology Index

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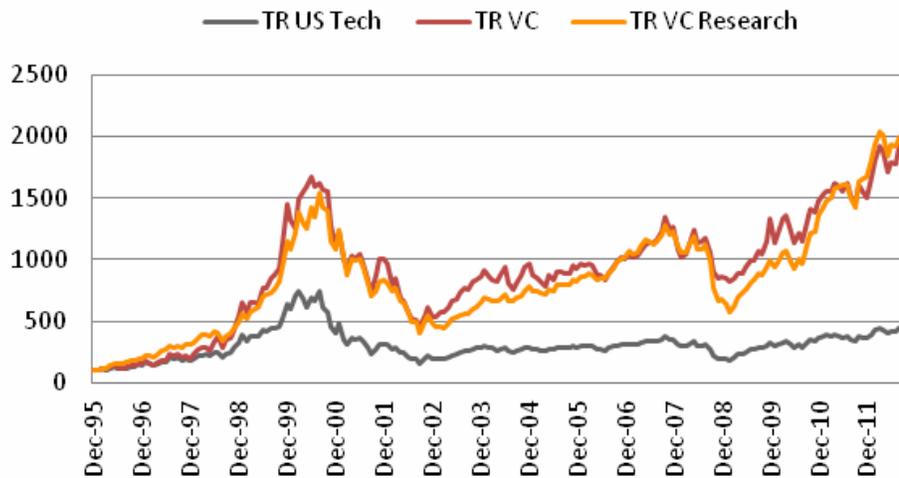
Weighting Methodology

The TR VC Research Index tracks the performance of venture-backed private firms across a number of economic sectors. These firms, collectively, make up the venture universe. The approach of the TR VC Index is to construct portfolios that seek to mimic characteristics of the venture firms in each economic sector in the venture universe and, jointly, to capture the risks/reward characteristics of venture capital as an asset class.

Research Sector Composition by Capitalization Sep 30, 2012

- Materials and Industrials Index
- Consumer Cyclical and non-Cyclical Index
- Energy and Utility Index
- Health Care and Pharmaceuticals Index
- Technology Equipment Index
- Software Index
- Telecommunications Index

Within the computation of the TR VC Research Index, each VC-backed firm is mapped to a Thomson Reuters ("TR") sector. The penultimate result of the TR VC Research Index computation is a list of the estimated values of each venture-backed firm in each month. Using these VC firm weights, we can compute the weight of each TR sector in the VC universe. These weights are used in determining the final weights of the specially constructed, venture-like sector indices corresponding to each TR sector.

Venture Capital Sector Indices

The TR VC Index is computed as the weighted return of seven TR VC sector indices.

TR Venture Capital Sector Indices:

- TR Venture Capital Materials and Industrials Index
- TR Venture Capital Consumer Cyclical and non-Cyclical Index
- TR Venture Capital Energy and Utility Index
- TR Venture Capital Health Care and Pharmaceuticals Index
- TR Venture Capital Technology Equipment Index
- TR Venture Capital Software Index
- TR Venture Capital Telecommunications Index

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Weight Computation

The TR VC Research Index is computed quarterly. This means that live sector weights are not immediately available for use in weighting the TR VC Index. Instead, the latest available sector weights from the TR VC Research Index are used, along with an update accounting for relative performance of each sector in the public market (market-weighted TR sector returns).

Since the TR VC Research Index and TR VC Index are value weighted, no explicit rebalance is needed on a day-to-day or month-to-month basis. However, a new set of weights is received when the TR VC Research Index is updated once a quarter; therefore a quarterly rebalance is computed using the following:

Let the weights of each VC sector as of the last published TR VC Research Index month be denoted by W^i_{t-j}. Here i denotes the sector, t the current date, S is the performance of the matching TR VC index, and j the number of months that have passed since the last available TR VC Research Index weight. The current weights can be computed using:

$$W^i_t = \frac{(1 + S^i_{t-j,t}) * W^i_{t-j}}{\sum_{k=1}^{7}(1 + S^k_{t-j,t}) * W^k_{t-j}}$$

Thus the required portfolio weights are last known weights of those sectors in the VC industry, updated using relative performance of corresponding TR VC Indices.

Index Computation

Although the TR VC Index seeks to track the non-tradable TR VC Research Index, its sector indices are made up of liquid securities. The TR VC Index returns are computed in a similar fashion to other weighted total-return portfolios in public equities. Thus, the TR VC Index monthly return is computed:

$$R_t = \sum R^i_t * W^i_t$$

These 7 sector indices include the 7 portfolios associated with TR sectors. Notice that R^i_t in this equation denotes the return to sector index i in period t and W^i_t is the weight sector index i receives in period t (that is, the weight implemented at time $t-1$ and affecting the return until time t).

Once the returns are calculated, the TR VC Index levels are then computed:

$$L_t = L_{t-1} * (1 + R_t)$$

The base value of the TR VC Index is 100 as of January 1, 1996.

GOVERNANCE

Index Action Committee (IAC)

The Index Action Committees (IAC) for the TR Venture Capital Index is composed of representation from the Refinitiv Indices and independent outside members of the financial community (TBD).

The main activity of this Index Action Committee is to ensure that the attributes the TR Venture Capital Index claims to possess are indeed present. These reviews take place a week before the quarterly rebalance results are published (3rd Friday in April, July, October and January). The Index Action Committee deals with making sure algorithm that calculates the index is accurate. The committee will also review the results of the quarterly rebalance and reserves the right to make any necessary changes.

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- **Alpha-creating Indices**
- **Custom Index Services**
- **Index Calculation Services**
- **Sector Classification with TRBC**

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CONTACT US:

For further information, visit the Refinitiv Indices website or Index_Queries@refinitiv.com

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