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Taxation influences upon the market in venture capital trust stocks: theory and practice

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Abstract

Individuals investing in a venture capital trust (VCT) IPO listed on the London Stock Exchange receive a number of conditional tax incentives; the time-related nature of the associated conditions can create a ‘lock-in effect’. By deriving and testing a model of the value of these incentives we examine how they influence investors’ pricing and trading decisions. This paper contributes to the ongoing tax capitalisation debate in three ways: first, by calculating the magnitude of the lock-in effect without reference to underlying shareholder records; second, by adopting a time series approach in view of the time-varying magnitude of the potential lock-in effect, and thereby avoiding control issues involved in cross-sectional analysis of the effects of taxation on pricing; and third, by focusing on changes in the bid–ask spread rather than, for example, mid price, so reducing the impact of changes in the market value of the instruments under

consideration on the analysis. Our results have direct policy implications in suggesting a conflict between the existence of time-related conditional tax incentives and the requirement for VCTs to be listed on the London Stock Exchange explicitly in order to promote liquidity in a historically illiquid sector of the market.

Keywords:

venture capital trust | taxation | relief | lock-in effect | listing

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Notes

In order to comply with European Commission regulation of state aid this requirement was relaxed to require listing on any ‘European Union Regulated Market’ (HM Treasury 2009a). The necessary legislation would be included in the Finance Act 2010.

In general, financial institutions and non-UK income tax payers dominate the ownership of UK quoted companies. As at 31 December 2001 UK tax-exempt pension funds held 16% of the market value of the London Stock Exchange and UK insurance companies whose business also includes tax-exempt pension funds held a further 20%. The largest shareholding group was non-UK institutions and individuals, which held 36% (ONS

2002). At 31 December 2006 a similar position held, the respective percentages were 13, 15 and 40% (ONS 2007).

After allowing a three-year period in which to identify and appraise potential investments, at least 70% of the VCT's investments must comprise new issues in unquoted trading companies. Of this 70%, at least 30% must be in the form of equity, and the balance may be preference or debt capital.

In an attempt to ensure a diversified portfolio, no single holding may exceed 15% of the VCT's investments.

In order to target investment at small, unquoted funds, there is an upper limit on the size of companies in which VCTs may invest. Immediately prior to investment by the VCT, the gross assets of the investment target company must not exceed £15 million; and immediately after, they may not exceed £16 million (prior to 6 April 1998 the corresponding figures were £10 million and £11 million).

Discussions with VCT managers indicate, however, that VCT investors rarely consider exit strategy options at the time of initial subscription. This view is consistent with the findings reported in PACEC (2003).

Liquidity could also be provided under general powers available to all limited companies (S.163, Companies Act 1985) to make market purchases or buy-backs of their own shares. All of the 17 VCTs focused upon in Section 5.3 and Tables 4 and 5 (see subsequent discussion) have adopted such powers. The terms of the permitted buy-backs, based on a review of the buy-back terms of 10 of the 18 VCTs, indicates that the maximum price permitted is based on 105% of mid-market price (6 VCTS) or the lower of 105% of the mid-market price and net asset value (4 VCTs). Clearly, under both mechanisms of price determination, the conditional form of the investment relief will still create a lock-in effect, although taking a mid-market price reduces its magnitude.

In his budget speech, the Chancellor of the Exchequer announced on 17 March 2004 a series of changes to the nature of the tax incentives. For shares issued on or after 6 April 2004 the rate of income tax relief for investments was to be increased from 20 to 40%; CGT deferral relief was no longer available for gains re-invested in VCT; and the annual taxpayer VCT investment limits was raised from £100,000 to £200,000. These changes recognised the primacy of income-tax-related reliefs over gain deferral or roll-over relief.

Subject originally to an upper investment limit of £100,000 per fiscal year per individual, later raised (see previous note).

We assume rationality in the repayment of overdue tax, that is, given the usual level of clawback interest rate in comparison to expected risk-adjusted asset returns, that overdue tax will be paid immediately a liability is recognised.

As might be expected, later analysis shows a significant correlation between VIR and bid price, which is used as a control variable in the multivariate regression analysis which follows. The use of VIR decomposed into variables VIRA and VIRB partially overcomes the potential multicollinearity present when using a single VIR variable. See note 18 for further details.

These 137 are represented in Table 1 as 125 new issues, 1997–98 onwards, plus 12 of the 14 issues in 1995–96 and 1996–97 where no split between new issues and further issues is reported.

It was necessary to complete the collection of the required data-set by purchasing the volume data directly from the London Stock Exchange because of Datastream's decision not to collect data on number of customer bargains and number of shares traded therein from 27 March 2002.

The exclusion of PB between zero and one pence entailed the removal of relatively few observations, but avoided extreme values arising when SPREAD was considered as a proportion of PB (see later section). Comparability with the VCT sample is not compromised, however, since the smallest PB observation in the VCT sample was four pence.

Since the London Stock Exchange was unable to provide data on daily trading prior to 1 October 1997, the final samples included (respectively) only 145,124, 24,517 and 44,388 daily observations for number of customer bargains and number of shares traded in customer bargains.

See Enders (1995) or Greene (2000) for a discussion of the ADF test and appropriate responses where the series test was nonstationary.

The spread declines just before the end of the holding period. The implication is that the required holding period ended in fact, on average, just prior to the date which we calculated. A possible reason is our calculations were necessarily based on the listing

date of the VCT shares; yet required holding properly runs from subscription date, which often preceded the listing date. We thank a reviewer for drawing our attention to this observation.

All but two of the VCTs in our sample were issued at a price of 100 p per share. One VCT was issued at a price of 98 p per share; and another at 20 p per share.

The mean correlation coefficient between the variables ΔVIR and ΔPB is 0.751 for the sample of 17 active VCTs. When the decomposed variables are used, the mean correlation coefficient between ΔVIRA and ΔPB is −0.026; and that between ΔVIRB and ΔPB is 0.752. A number of individual coefficients, however, are in excess of 0.9. Therefore, there is a strong possibility that the reported results are affected by multicollinearity with respect to the variables ΔVIR and ΔPB in the first model and ΔVIRB and ΔPB in the second model. None of the correlation coefficients amongst the other control variables are ‘high’ (the highest value being 0.552, as between VOL and BAR).

In preference, for example, to the Cochrane–Orcutt procedure, which, unlike Hildreth–Lu, is susceptible to finding local rather than global optima.

The only noteworthy deviations are in the OLS estimation of Model (9), where, when r = 8 or 16% is adopted, the number of estimated ΔVIRA coefficients are reduced to 8 or 7 (respectively) out of 17, of which 7 are significant; that is, reduced incidence of positive estimates of the ΔVIRA coefficient, but increased incidence of significant positive estimates.

James (2000) suggests a spread of 0.75% of market price within an overall upper bound of 1.80% on trading costs.