Summary about the key controls for the ret and spread regressions20211009

1. Expected return and Discount Rate News (Expected return news)

We follow to Penman and Zhu (2014) and Penman and Yehuda (2019) to measure quarterly expected return and quarterly discount rate news from financial statement. First, we estimate the cross-sectional return model with variables that convey information about expected return, as follows:

*Rt*=*α*+*β1\*(Earningst-1*/*Pt-1*)+*β2\* (Bt-1/Pt-1*)+*β3\* ACCR t-1*+*β4\* INVESTt-1*+*β5\*ΔNOAt-1*+*εt (1)*

*Rt* is the buy and hold return from one month after the beginning of fiscal quarter *t* to one month after the end of fiscal quarter *t. Earningst-1* is earnings for faiscal quarter *t-1*, measured as earnings before extra-ordinary items (item IBQ) and special items (SPIQ), minus preferred dividends (item DVPQ). *Pt-1* is market value at the end of fiscal quarter *t-1. Bt-1* is book value of common equity (*CEQQ*) at the end of fiscal quarter. *ACCR t-1* is accruals divided by total asset (**average asset**/lagged asset) for fiscal quarter *t-1.* Accrual is measured as the sum of change in accounts receivable (item RECTQ), change in inventory (item INVTQ), and change in other current asset (item ACOQ)， minus the sum of change in accounts payable (item APQ) and change in other current liabilities (item LCOQ), minus depreciation and amortization expense (item DPQ)*.* *Investt-1* is investment for fiscal quarter t, measured as [change in gross property, plant, and equipment (item PPENTQ) +change in inventory (item INVTQ)]/total asset at fiscal quarter end (average asset**/lagged asset**). *ΔNOAt-1* is the change in net operating assets divided by the quarter-end total asset (**average asset** /lagged asset).Net operating assets is defined as the sum of account receivable (item RECTQ), inventory (item INVTQ), other current assets (item ACQQ), property, plant, and equipment (item PPENB), intangible assets (item INTANQ), and other long-term assets (item ALTOQ), minus the sum of account payables (item APQ), other current liability (item LCOQ), and other long-term liabilities (item LOQ).

Then we use the coefficient estimation from Equation (1) quarterly cross-sectional regressions over 2-year (3-year/4-year/5-year) period prior to measure the expected return as follows.

*Et-1(Rt)*=+*1\*(Earningst-1*/*Pt-1*) + *2\* (Bt-1/Pt-1*) + *3\* ACCR t-1*+*4\* INVESTt-1*+*5\*ΔNOAt-1*

Finally. we measure discount rate news (expected return) as the difference between the expected return for t+1 and that estimated for period t, as follows.

*ΔEt*(*Rt+1*)= *Et*(Rt+1)- *Et-1*(*Rt*)

Comp.fundq:

IBQ SPIQ PRCCQ ATQ DVPQ RECTQ INVTQ ACOQ APQ LCOQ DPQ PPENTQ INVTQ RECTQ INTANQ APQ LOQ CSHOQ CEQQ

|  |  |  |  |
| --- | --- | --- | --- |
| Period | Asset Scale | Var\_Expected Return | Var\_Expected Return News |
| 2 | Fiscal end total asset | eptret\_eat\_2 | eptretnews\_eat\_2 |
| 2 | Fiscal average total asset | eptret\_aat\_2 | eptretnews\_aat\_2 |
| 2 | Fiscal beginning total asset | eptret\_bat\_2 | eptretnews\_bat\_2 |
| 3 | Fiscal end total asset | eptret\_eat\_3 | eptretnews\_eat\_3 |
| 3 | Fiscal average total asset | eptret\_aat\_3 | eptretnews\_aat\_3 |
| 3 | Fiscal beginning total asset | eptret\_bat\_3 | eptretnews\_bat\_3 |
| 4 | Fiscal end total asset | eptret\_eat\_4 | eptretnews\_eat\_4 |
| 4 | Fiscal average total asset | eptret\_aat\_4 | eptretnews\_aat\_4 |
| 4 | Fiscal beginning total asset | eptret\_bat\_4 | eptretnews\_bat\_4 |
| 5 | Fiscal end total asset | eptret\_eat\_5 | eptretnews\_eat\_5 |
| 5 | Fiscal average total asset | eptret\_aat\_5 | eptretnews\_aat\_5 |
| 5 | Fiscal beginning total asset | eptret\_bat\_5 | eptretnews\_bat\_5 |

2. Details for modification from annually data to quarterly data

To be more accurate, Penman and Zhu (2014) and Penman and Yehuda (2019) measure the annually expected return and quarterly discount rate news from financial statement. We modify the following original points.

1) *Rt* is stock return for year t, calculated as buy-and-hold compounded monthly returns from crsp over the period from three months after the beginning of the fiscal year *t* to three months after the end.

*For the quarterly variables, I modify this as* the buy and hold return during fiscal quarter *t.*

2) Bt-1 is book value of common equity at the end of fiscal-year end for year t-1, calculated as common equity (item CEQ) plus any preferred treasury stock (item TSTKP) less any preferred dividends in arrears (item DVPA).

*For the quarterly variables, I modify this as common equity (item CEQQ). No any preferred treasury stock or preferred dividends for quarterly data.*

3) *Pt-1* is market value of equity three months after fiscal-year end for year t-1.

*For the quarterly variables , I modify this as is market value at the end of fiscal quarter t-1.*

Comp.funda:

IB SPI PRCC AT DVP RECT INVT ACO AP LCO DP PPENT INVT RECT INTAN AP LCO LO CSHO CEQ TSTKP DVPA