Individual Take-Home Assignment for

Empirical Methods in Finance

Course Code: 6314M0203

Lecturer: Florian Peters

In this assignment you are asked to replicate selected and slightly modified parts of the article "Playing it safe? Managerial preferences, risk, and agency conflicts" by Gormley and Matsa, Journal of Financial Economics, 2016 (in the following referred to as "GM").

For this assignment you will need to use data from four databases:

- Compustat North America – Fundamentals Annual (to construct the main sample of firms and the key variables such as state of incorporation, state of location, and financial variables)
- Compustat North America – Fundamentals Quarterly (to construct the cash flow volatility measure)
- CRSP daily stock file (to compute stock return volatility as well as a dummy indicating performance-related exit), and
- Table A.1 of Gormley and Matsa (2016)

Start from the entire universe of Compustat firms from 1976-2006. You can use the Compustat variable *state* for state of location and the Compustat variable *incorp* for the state of incorporation, i.e. you do not need to use data from Cohen (2012) as in the original article. Use the quarterly Compustat data to compute the cash flow volatility measure, and merge the data into the main file. Use daily CRSP stock return data to compute stock return volatility and an indicator for whether the firm suffered a performance-related exit, and merge the data into the main file. Code the key independent variable, the dummy *BC* using the Table A.1 in the article. This is an indicator variable taking the value of one if, for a given observation, the state in which the firm is incorporated has passed a BC law by year *t*, and zero otherwise.

Questions:

1. Provide a table equivalent to GM's Table 1, except that you omit the two rows on acquisition outcomes, but add two rows for the variables *Ln(Cash)* and *Performance-related exit*. Briefly summarize the results and compare them to those of GM. Do you roughly match the numbers in the Table?
2. Replicate Table 2 of GM.
3. Run the following regression:

$$y_{ijlst} = \sum_{\tau=-5}^{+8} \beta_\tau \, 1_{\{t=T_s+\tau\}} + \alpha_i + \delta_{lt}$$

for two different dependent variables, stock volatility and performance-related exit. In this regression, α_i are firm fixed effects and δ_{lt} are state-by-year fixed effects. Report the coefficients β_τ in a table (two columns for

the two dependent variables) and also plot them against event time τ.

$1_{\{t=T_s+\tau\}}$ is a dummy variable equal to one if the current year t of the observation is τ years after the adoption of a business combination law. This means that you need to define 8+5+1=14 new dummy variables as your independent variables. E.g. if state s passed a BC law in 1989, then, for a company incorporated in state s, the variable $1_{\{t=T_s+3\}}$ takes a value of one in year 1992 and zero in all other years. How can these coefficients be interpreted?

4. Produce a table identical to GM's Table 2, but replace the dependent variable with various measures of leverage: (1) book leverage; (2) market leverage (both as defined in tutorial 1, exercise 1), (3) short-term leverage defined as debt in current liabilities divided by total assets, (4) net leverage defined as debt in current liabilities plus long-term debt minus cash and short-term investments, all divided by total assets. Could a decrease in leverage be interpreted as "playing it safe"? Do you find results consistent with GM's hypothesis?
5. Provide two robustness checks of your main results (Table 2):
   1. Run the regressions on the sample period 1976-1995
   2. Run the regressions on the full sample period, but exclude financial firms.

Tables and figures should look like those in the top finance journals (Journal of Finance, Journal of Financial Economics, Review of Financial Studies). They must be self-contained, requiring no further information from other sources, including the main text, to broadly understand them. In particular, the caption must define all variables and briefly explain what the table or figure shows. Use descriptive names for the variables, not cryptic ones. E.g. use "Book leverage" instead of "bk_lev".

Good luck!