

## Internet Appendix A1: Illustrative Pitch Examples in Finance

This appendix presents two exemplar finance templates – the first on a capital structure topic and the second on Financial Flexibility, Credit Re-ratings and Corporate Decisions.

### EG1: A Pitch on Capital Structure

#### A1.1 Preliminaries

Figure A1.1 presents a completed template for a hypothetical finance pitch, with a working title: “Explaining the Trade-off Theory Puzzle with a Unified Theory of Capital Structure” (Item (A)).<sup>1</sup> The title gives a reasonable insight into what the key thrust is – an ambitious plan to, in some way, combine competing theories on capital structure into a “unified” design. In terms of item (B), the basic research question is clearly articulated: “Can we meaningfully articulate and test a “unified” theory of the capital structure decision?” In terms of pitch item (C), three key papers are identified: Warr et al. (2012); Faulkender et al. (2012) and Dang et al. (2012). Given that this hypothetical pitch was devised in early 2013, the “currency” issue mentioned earlier is satisfied. Further, two of three papers are published in the Top 4 finance journals – one in *Journal of Financial Economics* and the other in *Journal of Financial and Quantitative Analysis*. As such, the notion of quality “foundational” papers is satisfied. In terms of pitch item (D), the motivation/puzzle is expressed as a quote from Hovakimian and Li (2011, p. 44):

“In the context of dynamic tradeoff models of capital structure with fixed adjustment costs and infrequent rebalancing, the magnitudes of the estimates suggest that it takes *more than ten years* for a firm to adjust to its target capital structure. These long adjustment times suggest that either *adjusting to target*

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<sup>1</sup> This choice of this example within finance, is not without controversy. As anonymously expressed to me in a private communication: “...My only concern is whether the unified capital structure example is the best way to illustrate your method. The current literature is divided on the correct dynamic panel techniques to test the speed of adjustment. Also, the jury is out on the pecking order. For example, many small tech companies don't hold debt. Overall, defining and testing a unified theory of capital structure seems extremely ambitious (and useful) research project, but possibly a more targeted topic would be better for PhD students...” While I recognise and understand the concerns raised, again I stress that there is no “right” or “wrong” answer. Most initial pitches will have (many?) weaknesses, but its more about the process going forward. The pitching exercise gives clear focus and sets an “agenda” for discussion between supervisor/student.

*capital structure is not a high priority goal for an average firm or that the empirical models currently used in the literature are not well-suited to identify the ways in which firms facing various tradeoffs manage their debt ratios. Understanding the reasons behind the relatively low economic importance of target debt ratios in partial-adjustment and debt-equity choice models is a priority for future capital structure research.” [emphasis added]*

The key elements of this quote are italicized, suggesting that a puzzle exists in the capital structure literature. Indeed, connecting to the working title of the pitch, the final entry in Item (D) of this pitch showcases the existence of the motivating “puzzle” with the question: “Why are there low SOAs (speeds of adjustment) when it seems that Target Leverage should and does matter?”

### **A1.2 IDioT**

Item (E) of the completed template identifies the “Core” idea. Suppose that a typical firm follows tradeoff theory in the long run, but pecking order (PO) and/or market timing (MT) in the short term. In empirical work, if we ignore this possibility, the estimated (overall) speed of adjustment parameter is biased downwards towards zero since it is an average of the positive speed of adjustment that applies to the scenarios applicable for tradeoff theory and the zero speed of adjustment that applies to the scenarios applicable to pecking order/timing. When TO/PO/MT theories are blended into a “unified” model (“UTOPOT”), the puzzle might be resolved. Item (E) of the pitch concludes with (i) a broad statement regarding the nature of the central hypothesis(es), namely, that they would comprise of a range of conditional hypotheses that capture the unified nature of the UTOPOT model; and (ii) highlighting the theoretical “tension”, namely, to exploit the differential predictions of TO/PO/MT theories to identify conditions when each prevail/dominate.

Item (F) of the completed pitch template address many dimensions of the data. (1) identifies the US as the chosen country/setting; individual firms as the unit of cross-sectional

analysis and annual sampling as the unit of time series analysis. (2) suggests an expected unbalanced pooled sample size exceeding 50,000 firm years encompassing the period 1951-2012 (current at the time of writing the original pitch). (3) the data sources are the usual suspects for this type of research (Compustat/CRSP/...), with no hand-collection of any data envisaged, no major time delays and relatively minor research assistance. (4) notes that these data are “standard” and recognised as high quality. (5) notes no major challenges/problems with the data/sample, but identifies the standard filtering practices e.g. excluding banks, winsorising, standard merge issues. (6) anticipates adequate power of the tests, in line with a mature prior literature.

Item (G) of the completed pitch template comments on the anticipated toolkit. It begins by noting that a relatively basic empirical framework of regressions built around the partial adjustment model forms the foundation, as standard in the literature. Dummy-variable and non-linear modelling, possibly including switching and or threshold type models. In terms of econometric software SAS and/or Stata are identified. The entry for Item (G) also clearly acknowledges a challenging empirical setup e.g. panel data modelling, endogeneity and clustered standard errors. Moreover, a “learning curve” and/or collaboration is flagged. Finally, this template item claims a compatibility of data with planned empirical framework – since it builds on a rich recent empirical literature applying similar models.

### **A1.3 What’s new? So what?**

Item (H) in the completed pitch claims that the IDEA is novel by blending/unifying/integrating existing theories to explain Leverage Policy puzzle. The pitch further states that the data and Tools are standard. As such, the IDEA is claimed to be the “driver”, while data/tools are STRONG passengers. Item (I) in the completed pitch responds to the “so what” question by arguing that getting a reliable answer to the chosen research

question will help us better understand the behavior of firms in making their capital structure decisions – under what circumstances do the incentives/drivers lead to a particular theory dominating the others and so, be consistent with maximizing shareholder wealth. The claim is that the research proposal gives a realistic chance of resolving a major puzzle – and perhaps play a part in restoring faith in corporate finance theories – collectively. Of course, the latter claim is quite extreme, and unlikely to ever be delivered upon. Aspirational goals like this still have value, especially if they are acknowledged as such.

#### **A1.4 Contribution**

As already highlighted above, by the time we arrive at the “king” of all elements in the pitch template, Item (J), much of the hard work has been done with regard to spelling out the source/nature of the contribution. The contribution will have “DNA” links to the idea, to the Data, to the Tools. The contribution will be defined in terms of the novelty and the importance of the question posed. The contribution will not simply be the summation of all the parts – it will benefit from synergies maximized by a smart overall experimental design. In the completed pitch of Figure A1.1, the bottom line primary source of the contribution is claimed to be a simple idea that (helps) resolve(s) a big puzzle. If successful, this research will go a long way to “harmonising” the big 3 theories on the corporate financing decision.

#### **A1.5 Other Considerations?**

The final item in the completed pitch template is Item (K), looking for any forgotten “snags” or obstacles. Regarding the question of whether collaboration is needed/desirable?, the answers are – idea: no; – data: no; – tools: maybe, in relation to switching/threshold modelling and sophisticated panel data and endogeneity issues. Regarding the target journal(s), an ambitious goal of Tier 1 finance. How realistic or unrealistic this target is,

becomes a matter of judgment. The final entries in item (K) relate to the “risk assessment” exercise. It is claimed; (i) “no result” risk is low – theoretical tension between three theories justifies most outcomes, though some will be more interesting than others; (ii) “competitor” risk is medium/high – capital structure research is a very topical and crowded space; and (iii) risk of “obsolescence” is low – since the financing decision is a key pillar of the finance discipline with a pedigree exceeding 50 years.

**Figure A1.1: Example of “3-2-1” Pitching Template - Completed Pitch on a Capital Structure Topic**

|                                    |  |
|------------------------------------|--|
| <b>(A) Working Title</b>           | <b>“Explaining the Trade-off Theory Puzzle with a Unified Theory of Capital Structure”</b>   |
| <b>(B) Basic Research Question</b> | Can we meaningfully articulate and test a “unified” theory of the capital structure decision?  |
| <b>(C) Key paper(s)</b>            | Warr, R., Elliot, W., Koeter-Kant, J. and Oztekin, O., (2012), Equity Mispricing and Leverage Adjustment Costs, Journal of Financial and Quantitative Analysis 47, 589-616.<br>Faulkender, Flannery, Hankins & Smith (2012), Cash Flows and leverage Adjustments, Journal of Financial Economics, 103, 632-646.<br>Dang, V., Kim, M. and Shin, Y., (2012), Asymmetric capital structure adjustments: New evidence from dynamic threshold models. Journal of Empirical Finance 19, 465-482.   |
| <b>(D) Motivation/Puzzle</b>       | Quoting Hovakimian and Li (2011, JCF, p. 44): “In the context of dynamic tradeoff models of capital structure with fixed adjustment costs and infrequent rebalancing, the magnitudes of the estimates suggest that it takes more than ten years for a firm to adjust to its target capital structure. These long adjustment times suggest that either adjusting to target capital structure is not a high priority goal for an average firm or that the empirical models currently used in the literature are not well-suited to identify the ways in which firms facing various tradeoffs manage their debt ratios. Understanding the reasons behind the relatively low economic importance of target debt ratios in partial-adjustment and debt-equity choice models is a priority for future capital structure research.”<br><b>Puzzle:</b> Why are there low SOAs (speeds of adjustment) when it seems that Target Leverage should and does matter?  |
| <b>THREE</b>                       | <b>Three</b> core aspects of any empirical research project i.e. the “ <b>IDioTs</b> ” guide   |
| <b>(E) Idea?</b>                   | <b>“Core” idea:</b> Suppose that a typical firm follows tradeoff theory in the long run, but pecking order (PO) and/or market timing (MT) in the short term. In empirical work, if we ignore this possibility, the estimated (overall) speed of adjustment parameter is biased downwards towards zero since it is an average of the positive speed of adjustment that applies to the scenarios applicable for tradeoff theory and the zero speed of adjustment that applies to the scenarios applicable to pecking order/timing. When <b>TO/PO/MT</b> theories are blended into a “unified” model (“ <b>UTOPOT</b> ”), the puzzle might be resolved.<br><b>Central hypothesis(es):</b> a range of conditional hypotheses that capture the unified nature of the UTOPOT model<br><b>Theoretical “tension”:</b> exploit the differential predictions of <b>TO/PO/MT</b> theories to identify conditions when each prevail/dominate   |
| <b>(F) Data?</b>                   | (1) <b>Country/setting:</b> US,. Why? Because we can! Big bang for buck. <b>Unit of analysis:</b> individual firms. <b>Sampling:</b> annual. <b>Type:</b> mainly firm specific.<br>(2) Expected <b>sample size:</b> > 50,000 firm years; <b>Cross-sectional:</b> several 1000’s; <b>Sample period:</b> 1951-2012; unbalanced panel data<br>(3) Data <b>source(s):</b> Compustat/CRSP/...? No hand-collecting required. <b>Timeframe:</b> given database subscriptions at UQ, no major time delays (1 week for core dataset); Research <b>assistance</b> needed?: “minor” assistance; Funding/ <b>grants</b> ?: not essential for viability, but potential opportunities;<br>(4) Standard data – nothing novel, high <b>quality</b> data from Compustat/CRSP etc<br>(5) Will there be any problem with <b>missing data</b> /observations?: nothing major, just standard issues – work through carefully eg banks exclusion, outliers & winsorising, standard merge issues etc<br>(6) Will your <b>test variables</b> exhibit adequate (“meaningful”) <b>variation</b> to give good power?: yes, since “blending” variables used in prior literature |
| <b>(G) Tools?</b>                  | Basic <b>empirical framework:</b> regression model approach focusing on partial adjustment, standard in the literature. Aim to enhance SOA model – via dummy-variable and non-linear modelling, possibly including switching and/or threshold models.<br>Econometric <b>software</b> needed/appropriate for job?: SAS and/or Stata – licenses held at UQ. Panel data modelling, endogeneity and clustered standard errors etc make the setting complex BUT doable.<br>Knowledge of <b>implementation</b> of appropriate or best statistical/econometric tests?: yes, but “learning curve” and/or collaboration<br><b>Compatibility</b> of data with planned empirical framework?: yes, building on rich recent empirical literature applying similar models  |

Figure A1.1 (continued)

|                                 |  |
|---------------------------------|--|
| <b>TWO</b>                      | <b>Two key questions</b>   |
| <b>(H) What's New?</b>          | <b>IDEA</b> is novel – blend/unify/integrate existing theories to explain Leverage Policy puzzle; data standard, tools standard<br>IDEA is the “driver”, and data/tools are the “passengers”: US setting with half century of data – strong; leading edge application of panel data methods, probably encompassing switching/threshold methods – strong. Data/Tools are <b>STRONG</b> passengers.  |
| <b>(I) So What?</b>             | Getting a reliable answer to the question will help us better understand the behaviour of firms in making their capital structure decisions – in what circumstances the incentives/drivers lead to a particular theory dominating the others and so, consistent with maximizing shareholder wealth. It gives a realistic chance of resolving a major finance puzzle. Restores faith in corporate finance theories – collectively.  |
| <b>ONE</b>                      | <b>One bottom line</b>   |
| <b>(J) Contribution?</b>        | <b>Primary source of the contribution:</b> simple idea that resolves a big puzzle. “Harmonises” big 3 financing decision theories.   |
| <b>(K) Other Considerations</b> | Is <b>Collaboration</b> needed/desirable?<br>– idea: no;<br>– data: no;<br>– tools: maybe, in relation to switching/threshold modelling and sophisticated panel data and endogeneity issues?<br>Target Journal(s)? Tier 1 finance. Realistic? Yes, given Warr et al (2012, JFQA).<br>“ <b>Risk</b> ” assessment:<br>– “no result” risk: <b>LOW</b> – theoretical tension between three theories justifies most (all?) outcomes, though some will be more interesting than others;<br>– “competitor” risk (ie being beaten by a competitor): <b>MEDIUM/HIGH</b> – is very topical and crowded research space – need to keep an eye out for key academics in this area eg authors of key papers above;<br>– risk of “obsolescence”: <b>LOW</b> – financing decision a key pillar of the finance discipline > 50 years since M&M gave birth to modern finance theory;<br>– other risks?: too big? [solution – collaboration, PhD topics later?] |

## EG2: A Pitch on Financial Flexibility, Credit Re-ratings and Corporate Decisions

### Figure A1.2: Example of “3-2-1” Pitching Template - Completed Pitch on Flexibility and Re-ratings Topic

N.B. this pitch was completed as a “reverse engineering” exercise, based on Agha & Faff (2014).

|                                    |  |
|------------------------------------|--|
| <b>Pitcher's Name</b>              | Saphira Rekker   |
| <b>(A) Working Title</b>           | An investigation of the link between Credit Re-ratings and Corporate Financial Decisions; the effect of Financial Flexibility.   |
| <b>(B) Basic Research Question</b> | Does the interaction of financial flexibility and credit re-ratings influence Corporate Financial Decisions?   |
| <b>(C) Key paper(s)</b>            | Graham, J.R., and C.R.Harvey, 2001: “The Theory and Practice of Corporate Finance: Evidence from the Field.” <i>Journal of Financial Economics</i> , 60, 187-243.  |
| <b>(D) Motivation/Puzzle</b>       | Previous literature has studied the effects of credit (re-)ratings on corporate financial decisions. While the effect of credit ratings on capital structure are studied by Kisgen (2006) and Kisgen (2009), and the effects of credit ratings on investment decisions studied by Gul et al.(2011), an important factor seems to be ignored in these studies. The survey-study of Graham and Harvey (2011) report that financial flexibility is the most important factor affecting a firm’s debt policy, followed by the desire to maintain a good credit rating. Therefore, integrating financial flexibility is likely to fill the gap in the previous studies and provide useful additional insights.  |
| <b>THREE</b>                       | <b>Three</b> core aspects of any empirical research project i.e. the “ <b>IDioTs</b> ” guide   |
| <b>(E) Idea?</b>                   | The core idea is to introduce the concept of financial flexibility to the existing literature on the impact of credit (re-)rating on corporate financial decisions. In short, does the financial flexibility of a firm impact the influence a credit re-rating has on Corporate Financial Decisions (CFD). First, the findings of the two previous studies by Kisgen(2009) and Gul et al.(2011) will be replicated. Then, financial flexibility will be introduced to see if the established relationships between credit rating and CFD change according to financial flexibility. Thus, based on the literature relating to financial flexibility, hypothesis will be developed to project the impact of financial flexibility, on the relationship between credit re-rating and the following Corporate Financial Decisions; cost of capital, capital expenditures and net debt vs net equity issuance. The central hypothesis would be: financial flexibility has an impact on the relationship of credit re-ratings to Corporate Financial Decisions. |
| <b>(F) Data?</b>                   | I propose to use credit-ratings provided by the Compustat database and financial data from the CRSP and Compustat merged database, which can be easily merged together. These databases are easily accessible through the UQ Business School. In line with previous studies, it is proposed to use all non-financial US firms with a credit rating in the <i>S&amp;P 1500</i> index, for the years 1985-2009. The reason for starting at the year 1985 is because the Compustat database only started collecting data on corporate credit ratings in 1985. It will be a cross-sectional panel dataset. There should be no problems with missing data and since it is partly a replication of previous studies, except for the variable financial flexibility, no issues with the data or model are expected.   |
| <b>(G) Tools?</b>                  | Overall the research uses a regression model approach. The first analysis will be replicating the regression analyses of the two previous studies by Kisgen(2009) and Gul et al.(2011) to compare our findings and set a baseline for the relationship between credit re-rating and Corporate Financial Decisions. To allow us to do both (compare and set a baseline), the three regressions of interest will be estimated using a full information maximum likelihood (FIML) model. OLS and 2SLS regressions will be ran for further analyses and robustness test will be performed. This can all be done in stata.  |
| <b>TWO</b>                         | <b>Two</b> key questions   |
| <b>(H) What's New?</b>             | The novelty is in the introduction of a new variable, namely financial flexibility, that is likely to influence the relationship between credit re-rating and Corporate Financial Decisions. The driver is that there is an empirical evidence that the major factor affecting a firm’s debt policy is financial flexibility, and the second important factor is maintaining a good credit rating. On the other hand, credit ratings have an empirically established effect on several Corporate Financial Decisions. As of yet, these three studies have not yet been combined and the likely essential link with financial flexibility is yet to be explored.  |
| <b>(I) So What?</b>                | If financial flexibility has a significant effect, the research will establish what financial decisions a firm is likely to make when a credit rating of a firm changes, given the level of financial flexibility of the firm. It would help financial institutions to make decisions on for example interest rates to create optimal outcomes to capital structure decisions of the firm.   |
| <b>ONE</b>                         | <b>One</b> bottom line   |
| <b>(J) Contribution?</b>           | The contribution is in the introduction of financial flexibility to the current literature on the effect of credit ratings on corporate financial decisions. It will provide new and significant insights for researchers and investors what factors to take into account when analysing the effect of credit ratings on capital structure and investment decisions.   |
| <b>(K) Other Considerations</b>    | None   |

## Reference

Agha, M. and Faff, R., (2014), “An Investigation of the Asymmetric link between Credit Re-ratings and Corporate Financial Decisions: "Flicking the Switch" with Financial Flexibility”, *Journal of Corporate Finance*, forthcoming.