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The Bankruptcy-Success Modeling Project

Successhe Modeling Project is an effort by the UCLA-LoPucki Bankruptcy Research Database (BRD) to encourage statistical modeling of bankruptcy and turnaround management success. The project is funded by grants from the TMA Board Designated Endowment, The Anthony H.N. Schnelling ABI Endowment Fund, and the National Conference of Bankruptcy Judges (NCBJ). The goal is to develop regression models at the case level that will enable us to measure the difficulty of a turnaround and discover what treatment is most likely to enable a company to succeed. We invite TMA

members not only to participate in the project, but also to lead it. This article explains how you can do that.

The BRD has been in operation since 1994 and became a project of the UCLA School of Law in 2009. Doug Irion became its first fulltime manager in January 2010. The BRD's mission is to encourage empirical research on large public company bankruptcies by collecting basic case data and making it available in analysis-ready form for academic researchers at no charge. An abbreviated version of the BRD is also available to the public at no charge on the BRD Web site (http://lopucki. law.ucla.edu).

The complete version of the BRD has long been available on request to academic researchers who are writing for publication. We furnish the complete version to about 130 such researchers annually. Under the terms of the grant from TMA, ABI, and NCBJ, the complete version is now also available to



BY LYNN M. LOPUCKI, SECURITY PACIFIC BANK DISTINGUISHED PROFESSOR OF LAW, UCLA LAW SCHOOL

TMA members at turnaround.org, regardless of whether they are writing for publication.

The immediate goal of the Success-Modeling Project is to build statistical models—essentially regression models—of the bankruptcy and turnaround process. The ultimate goal is to improve the process by adding a scientific dimension to what has long been an art. The BRD's role in the project is solely to provide data. Academics and bankruptcy professional firms will do the modeling. We encourage all TMA members to participate.

Each participant will define "success" for himself or herself. The BRD already contains several variables that measure aspects of success: (1) whether a plan was confirmed, (2) whether the debtor emerged from bankruptcy as a stand-alone company, and (3) whether the debtor refiled bankruptcy within five years. The BRD also provides tools for linking to other measures of success, including postemergence income, operating income, and

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leverage. Over the coming months, we will be adding more. We will supply all the data we consider essential to the project, but participants are welcome to invent, collect, and analyze additional variables.

Participants will construct and run their own regression models, including whatever variables they choose. Obviously, some basic knowledge of statistics and rudimentary skill in using statistical software are needed to participate. If you have those, the BRD data set will enable you to generate your own models within minutes of your download. We encourage you to post your models on your own Web sites or

on ours, and to publish your findings in law reviews and other bankruptcy or turnaround publications.

Success-Modeling Theory

Restructuring success is generally modeled as a function of bankruptcy and turnaround procedures applied to solve a distressed company's financial problem. When the model is operationalized, some measure of success is the dependent variable in a regression model and some measures of procedures and problem-aspects are the independent variables.

Success. Scholars have employed essentially five measures of success: (1) completion of the formal bankruptcy process by confirmation of a reorganization plan, (2) survival of the business as a stand-alone company, (3) survival of the business and not filing another bankruptcy for some fixed period of time after confirmation, (4) maximization of firm value, and (5) maximization of the distributions to

creditors and shareholders at the end of the case. Based on the legislative history of the U.S. Bankruptcy Code, maximization of employment is a sixth measure that should be used. Modelers may choose to create a success variable by combining these variables or collecting other variables they think will better measure success.

Problem. The problem that bankruptcy and turnaround procedures address has three principal aspects. The first is the financial condition of a firm, including insolvency, unprofitability, and possibly adverse patterns of creditors and debts. (Derivative contracts have recently emerged as a potentially important adverse pattern.)

The second is the state of the company's management (for example, tainted management in place prior to distress, or turnaround management hired after distress began; old boards or new boards; turnaround manager or turnaround advisor, etc.)

The third is the firm's economic environment, which includes both the state of the industry and the state of the economy during the bankruptcy case. The state of the industry is represented by an index of how well firms in the industry are doing or a set of industryspecific adjustments that a researcher makes to measures of a firm's financial condition. For example, average leverage ratios and percentages of operating profits for healthy firms differ widely by industry. Researchers can adjust for these differences in making cross-industry comparisons. The state of the economy is represented in the regression model by measures of economic growth, interest rates, and the availability of funding for acquisitions.

Procedures. Bankruptcy and turnaround procedures can be loosely grouped as reorganizations or sales. Either can be achieved by plan confirmation. Plans can be negotiated before (prepackaged), partially before (prenegotiated), or after (free fall) the filing of a bankruptcy case. In some cases, no plan is negotiated, but the court imposes a plan (cram down). A plan may restructure some or all debt (restructuring). Sales may occur prior to confirmation (363 sale) or in conjunction with confirmation (plan sale). Restructuring may involve some or all debt, and a sale may involve a portion or all of the company.

Firms may borrow money at the beginning [debtor-in-possession (DIP) financing] or end (exit financing) of a bankruptcy case. Firms may forum shop to attractive courts or file in their home courts. Firms may reject collective bargaining agreements and/or terminate pension plans. If particular types of creditor and shareholder groups exist in particular cases, they may or may not be represented by committees, attorneys, financial advisors, and other professionals. The identities of the professionals or turnaround managers may be determinative of success.

While it may seem vague or trivial to state that bankruptcy or turnaround success is a function of procedures and problems, this is in fact the implicit theoretical framework within which bankruptcy academics generally conduct their research. Bankruptcy outcomes are typically modeled as though the financial problems of the company and its economic environment influence the choice of procedures, and the choice of procedures influences the financial health of the emerging company. Academics have engaged in success modeling for decades. What is new with this project is our ability, thanks to the grants we received, to furnish a larger number of more carefully designed variables. For the first time, those variables can facilitate a reasonably comprehensive model of bankruptcy success.

When testing the effect of procedures on success in the operationalized model, the

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variables representing the problem are controls. The variables representing the procedures can be tested by participants one at a time or in related groups for correlation with the variables representing success.

We will not be able to supply some variables that might be necessary to the model, because there is no obvious variant that would satisfy a substantial number of researchers. We contemplate that database users will design and implement those variables to suit their particular theories.

The decision to include a particular variable in the BRD is a matter of economy and flexibility. Adding and updating a variable may require substantial effort and expense. For that reason, we add only variables that we are reasonably certain scholars will use and update only those they are actually using. Variables we decline to update remain in the database so that users who wish to update them can do so. Because we identify the BRD cases, BRD users can relatively quickly develop and collect custom variables on their

Figure I: Variables Expected to be Available

Success Measures	Problem Measures	Procedure Measures
Plan confirmation*	Leverage prior to treatment	Plan type (prepack or prenegotiated)*
Business survival*	Profitability before treatment	363 sale or plan process*
Absence of refiling*	Legacy management	DIP financing
Distributions to creditors	Industry conditions	Turnaround manager
Distributions to shareholders	Gross domestic product	Creditors' committee
Employment	Interest rates	DIP lead bankruptcy attorneys
Professional fees*	Level of M&A activity	Court chosen*
Leverage after treatment	Collective bargaining agreement	Time in bankruptcy*
Profitability after treatment	Pension plan	Trustee
	Industry*	Examiner*
		Venue transfer*
*Currently available		

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own. In general, we tend to provide simple, objective variables and leave users to construct their own complex or subjective ones.

How TMA Members Can Participate

We update the BRD monthly, during the first few days of each month. As soon as an update is complete, we forward the Excel file to TMA for posting in the members-only section of its Web site, from which members who log onto the site can then download it. The complete text of our data collection protocols, which explains precisely what each variable represents and how we collected it, is available along with the data.

The period of the grant runs from February 1, 2011, to January 31, 2012. During that time, we plan to complete collection of all of the variables listed in the **Figure 1**. TMA members will have access to the data—including post-grant period updating—for a year after the end of the grant period, until January 31, 2013. Participants can either begin analyzing the available data now or wait until all of the success-modeling fields have been added.

TMA members have developed corporate restructuring as an art and brought cross-case comparison data to bear to the extent that such data have been available. The Success-Modeling Project will dramatically expand that availability and focus the data. Our hope is to achieve a huge leap forward in the turnaround profession's understanding of what helps and hinders the restructuring process. It is also our hope that TMA members will embrace and lead the effort.

Lynn M. LoPucki is the Security Pacific Bank Distinguished Professor of Law at the UCLA Law School, and, each fall semester, the Bruce W. Nichols Visiting Professor of Law at the



Harvard Law School. He teaches secured transactions and empirical analysis of law at both schools. He has done empirical research on large public company bankruptcies for more than 25 years. The UCLA-LoPucki Bankruptcy Research Database provides data for much, if not most, empirical work on the topic.



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