Paper submitted for the

2ND INTERNATIONAL CONFERENCE ON PATH DEPENDENCE

March 3-4, 2011

FU Berlin

WHY CORPORATE RATING AND CONSUMER SCORING

DO THE SAME BUT DIFFERENTLY

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14 November 2010

Abstract

Rating and scoring are two different methodologies for assessing the creditworthiness of borrowers. While rating agencies mainly rely on expert judgment when trying to foresee the future behavior of corporations, credit bureaus base their assessment of individual borrowers on formalized, automated calculation. Both economic theory and cognitive psychology propose that the rational formalization of decision making – as we find it in scoring – improves the quality of choices. It is, therefore, somewhat surprising, that credit rating agencies rely more on the art of subjective judgment while credit bureaus assess their loan applicants with highly formalized evaluation methods. It is even more puzzling once we consider that corporations are much better equipped in supplying the kind of quantitative input that formalized models use. In the paper we develop a path dependence explanation elaborating on the various mechanisms that locked in the two methodologies. In particular, we focus on three different variants of positive feedback- and lock-in mechanisms for reproducing paths: organizational founding effects, institutional lock-in, and market mechanisms.

Contents

1. Introduction

Credit markets cannot rely on prices alone to allocate loans. They depend on intermediaries who advise creditors on the creditworthiness of their potential borrowers. Just how important these intermediaries are has been thrown into sharp relief by the current credit crisis. The institutions responsible for evaluating the quality of borrowers have been investigated, criticized, and denounced for misleading lenders and investors and for their overall failure to perform their essential task. There are two kinds of credit rating agencies that credit markets rely on. Agencies assessing individual borrowers are often called credit bureaus, and those evaluating corporations are referred to as rating agencies.

Credit bureaus and rating agencies perform essentially the same task: they try to foresee and measure the future behavior of prospective debtors. While credit bureaus assess people and rating agencies appraise corporations, in certain cases, such as mortgage securitization that stands at the core of the current crisis, even this distinction becomes blurred since the corporations the rating agencies must assess are not much more than packages of individual debts. Despite these similarities, the two types of institutions have followed radically different philosophies in their evaluation process. There are two, contrasting methodologies of predicting the future: one relies on formalized, automated calculation the other on socially aggregated expert judgment; following the parlance of the industry, we will call the former 'scoring' and the latter 'rating.'

Both economic theory (Debreu 1959, Arrow 1951/1968, for a review see Yonay 1998, Weintraub 2002) and cognitive psychology (Dawes 1979, Dawes 1989, Grove and Meehl 1996, Grove et al. 2000), propose that rational formalization of decision involving careful, objective quantification and calculation, improves the quality of choices and both economic theory and common sense suggest that the higher the stakes, the less actors will put up with inferior methods of decision making. Therefore, one would expect that the incentive to formalize decision making should be much greater in corporate lending where the loans are higher by several orders of magnitude than in market for consumer credit. It is, therefore, somewhat surprising, that corporate lenders tend to rely more on the art of subjective, if informed, judgment from credit rating agencies while consumer lenders assess their loan applicants with the benefit of the highly formalized evaluation provided by consumer credit bureaus. This is even more puzzling once we consider that corporations are much better equipped in supplying the kind of quantitative input that formalized models use. Their armies of accountants provide detailed, highly standardized data no households can ever produce.

In this paper, we will first lay out the contrasting philosophies of the dominant credit bureaus and credit rating agencies in the US. We will point out that even though scoring and rating has been a stable feature of their respective fields for several decades, both scoring and rating have been always available for both. Then we will develop a path dependency explanation elaborating on the various mechanisms that locked in the two methodologies.

2. Science and Art

2.1 The Science of Consumer Credit Scoring

The creditworthiness of consumers is evaluated by consumer credit registries. In the United States, there are about a thousand consumer credit reporting agencies, but the market is dominated by three private credit bureaus. The Big Three, -- Experian, Equifax and TransUnion -- have files on over 90 percent of the adult population.[1] They are of approximately equal size and their data largely overlap. In most cases, they provide the same information, and even their methodology of rating individual consumers is virtually the same. Until recently, the analytic software that created the credit score for each individual was provided to all three of the registries by the same vendor, Fair, Isaac Co. (FICO) hence the credit score has been called the FICO score.[2] While the FICO score became the industry standard by the late 1980s in low collateral consumer credit, such as credit cards and purchase loans, it took FICO and automated scoring longer to take root in mortgage lending. Mortgage lenders believed that knowledge of the local housing market was more important than numeric measures of the applicant's credit history, and the relevant events of past credit behavior, such as bankruptcy filings, foreclosures, and late payments etc., could be included in the loan review without resorting to a single numeric score. However, with the concentration of mortgage lending, lenders became more and more removed from both the applicants and local real estate markets and began to lean more heavily on the FICO score that allowed for quick comparability of cases. The position of the FICO score became cemented when in 1995 the two principal players on the secondary mortgage market, Federal Home Loan Mortgage Corporation (Freddie Mac) and the Federal National Mortgage Corporation (Fannie Mae), the two federally chartered mortgage corporations, adopted scoring for their

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[1]   According to a 1997 survey, there were 1000 companies in the business employing 22,000 people. The small, local credit reporting companies mostly either license or sell their data to the Big Three.
[2]   Each bureau has its own name for its FICO score: BEACON at Equifax US and Canada, FICO Risk Score, Classic at TransUnion US, Experian/Fair Isaac Risk Model at Experian.

own (re-)underwriting, which forced lenders to use FICO if they wanted to sell their mortgages to Fannie or Freddie.[3]

> Fair, Isaac Co. explains its product this way:

> That score is calculated by a mathematical equation that evaluates many types of information from your credit report at that agency. By comparing this information to the patterns in hundreds of thousands of past credit reports, the score identifies your level of future credit risk. (FICO, Understanding Your Credit Score, http://www.fairisaac.com/NR/rdonlyres/DA689E4A-08E8-42C7-9DD0-1D87FA6ED726/0/UnderstandCreditScoreBklt.pdf)

It is the score itself, and not the credit bureau or the lender, that "identifies your future risk," and the score is calculated not by any fallible human or machine that may malfunction but a "mathematical equation." The equation assigns a number to each person between 300 and 850. Despite FICO's claim that it is just an ordinal measure, the FICO score appears as a quantity, like height or weight, measured on an interval or ratio scale, as if every individual were gauged against a fine, highly calibrated measuring tape of creditworthiness resulting in an exact scientific reading. Because lenders work with cutoff points, a single point difference may have grave consequences on this 550 point wide scale. Leaving the cutoff to lenders, FICO hands over a part of the responsibility for the decision to them. Whether or not one gets the loan is never decided by the FICO score alone: it is always the score and the cut off rule together that matter. Yet the cut-off score is now largely driven by Freddie Mac's and Fannie Mae's underwriting criteria that prescribe a floor for the FICO score, hence in most cases the FICO is the de facto final arbiter.[4] Freddie and Fannie define scores below 620 as "low."

This is how Equifax describes its consumer scores lifting some language from FICO's description of the FICO scores:

> A credit score is a rating used by a lender to help determine whether you qualify for a particular credit card, loan, or service. Based on information in your credit file, the credit reporting company analyzes your information using a complex mathematical model to yield your credit score. Most credit scores estimate the risk a company incurs by lending you money or providing you with a service -- specifically, the likelihood

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[3] Freddie Mac and Fannie Mae were primarily concerned not with accuracy but with cost and standardization. To bundle housing loans from various lenders, they needed a way to compare risk of loans from multiple sources.

[4] In 2006, the Big Three – or rather the Triplets -- rolled out their own statistical scoring technology called VantageScore with a similar scale. Now both are available, although FICO is still dominant (www.VantageScore.com).

that you'll fail to make payments in the next two to three years.[5] The higher the score, the less risk you represent. Your score is calculated by a mathematical equation that evaluates many types of information found in the credit file.

Experian in explaining consumer ratings contrasts it to past practices emphasizing the gains that formalization has brought:

> Before credit scores, lenders physically looked over each applicant's credit report to determine whether to grant credit. A lender might deny credit based on a subjective judgment that a consumer already held too much debt, or had too many recent late payments. Not only was this time consuming, but also human judgment was prone to mistakes and bias. Lenders used personal opinion to make a decision about an applicant that may have had little bearing on the applicant's ability to repay debt.

> Credit scores help lenders assess risk more fairly because they are consistent and objective. Consumers also benefit from this method. No matter who you are as a person, your credit score only reflects your likelihood to repay debt responsibly, based on your past credit history and current credit status. (Credit Score Facts by Experian http://www.experian.com/credit_score_basics/facts.html)

Consistency and objectivity is achieved by eliminating any expert participation from the decision process. In a statement of touching modesty, TransUnion reassures us that its scoring is not a result of any judgment it makes:

> You can count on objectivity, fairness and integrity. As an impartial third party, we do not create any of the data contained in a credit report; we simply collect, compile and display the information that creditors provide." (Credit Reports and Scoring by TransUnion
> http://www.transunion.com/corporate/business/clientSupport/resources/creditReportsScoring.page)

FICO, the source of the technology, promotes its score as a tool of automating not just lending but human decisions in general. In 2005, its CEO explained in an interview entitled The Math Advantage how the original formal approach of the founders to credit rating can be extended to any form of economic decision making:

> "When I started at Fair Isaac five years ago, it was primarily a risk management company […]. I saw Fair Isaac as a wonderful technology company that could use mathematics to help companies across industries make many kinds of decisions in an

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[5]   Two to three years refer to the horizon of the prediction not the length of missing payment.

automated fashion. The decisions [founders] Bill [Fair] and Earl [Isaac] started on were related to credit risk. Now, we have either built or acquired applications across the entire customer life cycle. All I really had to do was take the DNA of the model that Bill and Earl had developed and replicate it in new industries, new verticals and new applications. We see that evolution continuing and believe that we're just at the beginning stages of applying mathematical models to business problem solving. (DM [Decision Management] Review, May 2005)

FICO claims that predicting the future is a science:

Predictive analytics is the *science* that makes decisions smarter. It turns today's data into forecasts of future events, and puts that insight to use by directly guiding individual decisions. (Emphasis added)

2.1.1 The Process of Scoring Individual Loan Applicants

Loan applicants receive the same automated evaluation regardless whether they apply for a credit card or a home mortgage.[6] The lender submits the request for a score to the credit bureau. The credit bureau finds the record of the applicant in its registry and calculates the credit score. The bureaus have an immense database and they use millions of past records to derive a prediction for the applicant. The calculation of the FICO score is a proprietary secret but it is based on a statistical algorithm known as logistic regression, that links the outcome variable (whether a person is delinquent on a loan) to a set of predictive factors that describe people's credit history. The statistical analysis calculates the optimal weights for each factor. The resulting model shows how to combine the predictive factors to get the most accurate prediction given the factors and their statistical relationship to the outcome. These weights are recalculated periodically as new data flows into the registry.

The scoring process simply establishes the value for each predictive factor for the applicant and combines them using the weights. The result is a probability estimate that shows how likely it is that the applicant goes delinquent on the loan. This probability number is rescaled to create a FICO score. The actual algorithm is more complex than that, as it has a sophisticated process of handling missing values and a host of other things.[7] All of these are part of the proprietary computer program FICO sells and maintains for clients.

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[6]   Recently, credit registries began to offer a special score for car loans.
[7]   Missing values are a serious problem. Many people have so called "thin files," because their credit history is short or very simple. To estimate their likelihood of repaying the loan, FICO must first estimate the missing elements of their credit history.

2.2 The Art of Corporate Credit Rating

There are countless agencies assessing the creditworthiness of corporate borrowers but in the world of corporate debt, there are three international giants that dominate the market for rating services. Moody's, Standard and Poor's and their smaller competitor, Fitch, form a tri-partite oligopoly just as the three credit bureaus do. The three agencies provide a variety of investment services the most important of which is the rating of financial obligations (i.e. debt). While FICO insists on the scientific nature of ratings, the corporate raters emphasize the importance of expert judgment. This is how Moody's begins its explanation of its rating methodology:

> "Because it involves a look into the future, credit rating is *by nature subjective*. Moreover, because long-term credit judgments involve so many factors unique to particular industries, issuers, and countries, we believe *that any attempt to reduce credit rating to a formulaic methodology would be misleading and would lead to serious   mistakes*." (http://www.moodys.com/moodys/cust/AboutMoodys/AboutMoodys.aspx?topic=rapp roach) (Emphasis added)

Moody's seems to agree with the famous dictum attributed to the physicist Niels Bohr: "Prediction is difficult especially about the future." Yet one could believe that predicting the future is hard while simultaneously maintaining that if it has to be done, formalized attempts at prediction will still produce better results. This is clearly not the position Moody's takes. As its first "basic principle" Moody's presents the following:

> **"Emphasis on the Qualitative:** Quantification is integral to Moody's rating analysis, particularly since it provides an objective and factual starting point for each rating committee's analytical discussion. Those who wish further information on the numerical tools we use may consult our written research on industries and specific issuers. However, Moody's ratings are not based on a defined set of financial ratios or rigid computer models. Rather, they are the product of a comprehensive analysis of each individual issue and issuer by experienced, well-informed, impartial credit analysts" (Emphasis in original).

Moody's decision process mixes formalized and judgmental elements. The former plays a larger role in the beginning and the latter is what takes over later and delivers the final decision. The main rival of Moody's, Standard and Poor's, is no different. In its 2006 report on its own compliance with industry standards, S&P began:

> Ratings Services ratings are *opinions* regarding creditworthiness that are based upon both qualitative and quantitative factors. As such, they are *inherently subjective*. Analytical thought involves a complex application of criteria and methodologies to facts. (S&P 2006 p.2, emphases added)

Standard and Poor's also stresses the ultimately judgmental nature of credit rating. Judgment is called for because criteria and methodology cannot be mechanistically applied to facts. The smallest of the three, Fitch goes further and makes an even more radical claim:

> Ratings are opinions reflecting the ability of an entity or a securities issue to meet financial commitments such as interest, preferred dividends, and repayment of principal, in accordance with their terms. *Ratings are not themselves facts, and therefore cannot be described as being 'accurate' or 'inaccurate.'* (http://www.fitchratings.com/corporate/fitchResources.cfm?detail=1&rd_file=intro) (Emphasis added)

> FICO and the credit bureaus could not disagree more.

2.2.1 The Process of Rating Corporate Debt

The process that produces the final rating in all three agencies is not computational but social. There is a committee set up to analyze the case and to issue the rating. The role of the committee is "to introduce as much objectivity to the process as possible by bringing an understanding of the relevant risk factors and viewpoints to each and every analysis." While for FICO objectivity is achieved by the elimination of expert judgment, the corporate raters see involving experts with diverse opinions as necessary to attain objectivity. Moody's describes its process as follows:

> Moody's ratings are determined through the rating committee process. Although not formulaic or rigid in any way, Moody's rating practices are designed to maximize the value of ratings to the markets as a whole by fostering rating consistency and efficiency across Moody's; by ensuring the integrity of the ratings process; and by integrating the decision making process on a global basis.

> The objective of the rating process is to reach an appropriate rating opinion in an efficient and consistent manner. This objective is accomplished by convening a diverse rating committee with the depth and breadth of expertise that is appropriate to the credit being considered; by making a conscious effort to ensure objectivity; by considering different points of view; and by testing a variety of assumptions. (Hilderman 1999: 1).

For FICO, the diversity of expert opinions is proof of their unreliability and bias, for corporate raters differences are the precondition of achieving reliable and unbiased decisions. The social process is designed not to suppress but to elicit different views. The size of the committee depends on the complexity of the issue. Fitch stipulates a minimum of four members, Moody's and Standard and Poor's specify two. There is always a chair or lead analyst who is responsible for the correct functioning of the committee. The committee begins its job by assembling the proper data. Some of the information comes from third parties, but much of it is provided by the corporation to be rated. Gathering this second type of information is an interactive process or, as Moody's calls it, a "conversation."

> Moody's deliberations are typically preceded by conversations with the issuer to allow full understanding of and discussion about the credit issues being considered. (Hilderman 1999: 3)

The committee requests information and once it receives the data it often makes supplemental requests, submits questions of clarification and interviews top management. This stands in stark contrast with consumer scores, where the applicants are completely cut out of the process as information is never gathered directly from them but only from their creditors. Whenever a "conversation" about a consumer's score ensues between the rater and the rated, it is always in the context of the rated contesting their records. The issue is always accuracy and errors of fact and not understanding and interpretation.

The final decision on corporate rating is by vote. The committee strives for consensus but it can take its decision by majority. Before the rating is made public, the corporation can lodge an appeal with the agency's policy board. The policy board is responsible for setting guidelines for the committee process, for monitoring their implementation and evaluating the quality of the committees' ratings.

The three agencies use similar scales to distinguish between investment and speculative grade obligations and gradations of riskiness within the two groups. Each has separate scales for long-term and short term obligations and there are subscales for other types of debt. The finest scale with the most steps is Moody's long-term rating system with 21 grades, although subtle differences, such as its distinction between the Aa1 and Aa2 grade, are never explained. The ratings are clearly meant as ordinal rankings of low precision.

During the last decade, the agencies have been under pressure to standardize their corporate ratings. One source of this pressure has been globalization as international investors want ratings that are easily comparable around the world. In many ways, corporate lenders experience the same problem as consumer lenders do: they too are spatially removed from

their borrowers and their markets that are now scattered at great distances. So far, the corporate credit rating agencies fought off any effort to create a common system. For instance, when the Asian-Pacific Economic Cooperation (APEC) called for the harmonization and standardization of corporate credit reporting in the aftermath of the 1990s Asian crisis, a survey of agencies found that most respondents believed that:

> [P]roposals for harmonisation or standardisation are based on a misconception as to what ratings are and what they measure. They are not and do not seek to be objective homogeneous products. Standardisation even if achievable would erode much of the value of ratings and be in itself misleading. (ADB 2000, p.152)

In drafting the Credit Rating Agency Reform Act, the issue of standardization was raised again, but Congress decided that it

> "would be impractical because credit rating agencies use different methodologies to determine credit ratings and different definitions of default and that the use of such measures could interfere with the methodologies for determining credit ratings" (SEC 2007, p.46).

In fact, for corporate bonds, the three even disagrees on what should be rated. Standard and Poor's and Fitch estimate default probabilities while Moody's predicts expected default losses, which also includes an estimate of collection recovery.

The actual practice of the rating of complex financial instruments, such as Residential Mortgage Backed Securities (RMBS) and the even more intricate Collaterized Debt Obligations (CDO), are at some variance with the rating philosophy of the three agencies which describes much better the traditional mainstay of their trade: the evaluation of bonds issued by companies or other corporations. While formalization plays a larger part in the rating of structured finance products, even in this realm the rating agencies did not abandon their principle of stressing the indispensability of expert judgment and kept to the committee format.

2.2.2 Alternatives

While the Big Threes dominate their respective fields with their own distinct technology and philosophy, that are radically different across but surprisingly uniform within the two fields, we find contrasting practices within both fields once we move away from the dominant players. There are companies that offer automated scoring technology for evaluating corporate debt and there are lenders who assess consumers by expert judgment further

demonstrating that there is nothing that inherently forces corporate lenders to use judgment or compels dispensers of consumer credit to rely on 'science.'

In the corporate realm, formal models like FICO's are widely available. One of the best known tool is the Expected Default Frequency (EDF) method that uses a mathematical model that processes market-based measures and was developed by a smaller agency called KVM that later was bought by Moody's. Comparisons of the accuracy of company ratings and these models show results that are inconclusive, in other words, there is no evidence to the superiority of judgmental method in corporate lending (Loeffler 2004). In the consumer field, banks often dispense with scoring altogether and rely on the judgment of their officers. Many smaller community banks lend to their clients on the basis of a qualitative evaluation of their application. Large banks also use judgment. Fringe lenders such as Provident in Europe and the private banking operations of most commercial banks that target high value individual clients make their credit decisions after a careful personal assessment involving conversation with applicants in their homes.

3. Theories of Persistence - Path Dependence

How can we explain that two competing methods within two stable organizational fields developed to perform the single task of assessing the creditworthiness of borrowers? Why is it that they persisted over time without challenging each over: why did neither S&Ps nor Moody's try to either explore the science of scoring for corporations nor venture into the business of consumer scoring with its method of expert judgment? Or why did FICO not offer its services to large corporations, with or without complementing their formal method with expert judgment?

To tackle these questions we develop an explanation based on path dependency. Path dependency theories are concerned with institutional persistence and stability in the face of environmental challenges. Their focus is on "mechanisms that anchor and stabilize trajectories while paying less attention to the mechanisms of change" (Djelic/ Quack 2007: 161). Frequently used in social sciences, path dependency explanations are especially powerful when functional or efficiency arguments are inapplicable. In path dependency theories, "[s]pecific patterns of timing and sequence matter; starting from similar conditions, a wide range of social outcomes may be possible; large consequences may result from relatively "small" or contingent events; particular courses of action, once introduced, can be virtually impossible to reverse; and consequently, […] development is often punctuated by critical moments or junctures that shape the basic contours of social life" (Pierson 2000: 251).

There is a broad range of definitions of path dependency. In social science contexts path dependency often appears as a vaguely defined concept whereby the smallest common denominator is the assertion that history matters in the sense that today's institutional landscape can only be understood in the light of past courses of events, or that "the past influences the future" (Mahoney 2000: 507) or as "what has happened at an earlier point in time will affect the possible outcomes of a sequence of events occurring at a later point in time" (Sewell 1996: 262f.). This weak version of the theory, which is often accused of having little "theoretical bite" (Djelic/ Quack 2007: 163), is rejected by Mahoney who proposes a narrower definition and argues that path dependence "characterizes specifically those historical sequences in which contingent events set into motion institutional patterns or even chains that have deterministic properties" (Mahoney 2000: 510). This approach has a strong focus on mechanisms of the entrenchment and reproduction of institutions. It differentiates between the initial moments of innovation often dominated by contingency and the agency of the actors and phases of stabilization and reproduction of these paths driven by deterministic processes.

Historically, path dependency approaches have grown out the work of economists and economic historians critical of neoclassical assumptions that in markets efficiency will always prevail (Mahoney 2000: 514f.). While neoclassical theory held the assumption that technologies or products will yield decreasing marginal returns creating a negative feedback, Arthur (1994) posited that certain technologies produce increasing returns and that may result in the success of less efficient technologies or products (David 1985, Beyer 2006: 16). Some years later, North (1990) extended the path dependency concept from technologies to institutions thereby elaborating the foundations for a theory of institutional change which expanded the range of the approach to institutional economics (Beyer 2006: 19). Besides increasing returns, North identifies inefficient markets, the existence of transaction costs, and the bounded rationality of actors as preconditions for path dependence. As others, North distances himself from neoclassical assumptions that the most efficient model will always prevail. Instead, his approach allows for several institutional systems with different degrees of efficiency which change in a continuous and incremental way. The corresponding mental models for future developments, however, are constrained by past events and experiences, so that the potential for innovation remains constrained. Following North, Pierson transferred the concept of path dependency to social and political sciences establishing it there as a distinct area of research (Pierson 2000; Beyer 2006: 22f.). As institutions create a stability of expectations they produce positive feedback mechanisms that secure their own stability and survival. Mahoney (2000) has further extended Pierson's approach with the insights of historical sociology (Beyer 2006: 23).

3.1 Mechanisms, Processes and Sequences

Path dependency theories explain the persistence of particular paths with several mechanisms of reproduction that lock-in given institutional patterns, thus "making them extremely difficult to abolish" (Mahoney 2000: 515). Increasing returns is the key mechanism that leads to lock-in situations by providing positive feedback (Arthur 1994). Due to this increasing returns-principle "initial steps in a particular direction induce further movement in the same direction such that over time it becomes difficult or impossible to reverse direction" (Mahoney 2000: 512).

Increasing returns may be triggered by different reasons and may take different forms. With regard to products and technologies Arthur (1994: 112f., cf. Pierson 2000: 254) names at least four causes for the positive feedback effects gaining momentum: large set-up or fixed costs, learning effects, coordination effects or adaptive expectations. Once in motion, increasing returns may also display different shapes: through the mass effects or network externalities created by following a certain path, the usage of a product or technology becomes the more attractive the higher the number of users gets (Katz/ Shapiro 1986); asymmetric power constellations privileging a certain path intensify the longer the path is followed (Pierson 2000); technical interrelatedness or institutional complementarities, e.g. between a certain technology and the relevant programs set up to train people in using this technology, stabilize paths due to interdependencies and mutual support (David 1985; Deeg 2005, Morgan 2005); policy feedback tailored to an existing path reduces the possibilities of alternative approaches (Djelic/ Quack 2007); the legitimacy of a particular path results in a taken-for-grantedness of the corresponding routines and practices and to isomorphism and conformity with these routines and practices (DiMaggio/ Powell 1983); finally, the sequences of events not only play a crucial role in setting up trajectories, when during "critical junctures" from among two or more alternatives a particular institutional arrangement is adopted (Mahoney 2000: 513), they may also have a path-stabilizing effect by involving an irreversibility of events when previous sequences reduce the potential for later developments (Rueschemayer/ Stephens 1997).

In the following part, we will look at these different variants of positive feedback- and lock-in mechanisms for reproducing paths. Therefore, we will address three mechanisms: organizational founding effects, institutional lock-in, and market mechanisms.

3.2 The Circumstances of Foundation

The circumstances of foundation are imprinting the shape of new organizational forms, an argument Stinchcombe (1965) prominently developed in his essay "Social Structure and

Organizations": "The organizational inventions that can be made at a particular time in history depend on the social technology available at the time" (Stinchcombe 1965: 153). In addition, this helps to understand in "how social structure imprints new organizational forms in time-inflected ways or how new forms may suffer from a liability of newness" (Lounsbury/Ventresca 2002: 7). As it was founded and consolidated in a time when statistical methods supported by new technologies were not available, corporate rating is using expert judgment. Consumer ratings, on the other hand, remained a competitive decentralized market longer and emerged only later as a stable market at a time when statistical tools and computer technology were available.

3.2.1 Corporate Ratings

The history of the corporate credit rating agencies that dominate the market today reaches back to 1909, when John Moody came upon the idea of linking three hitherto separate fields into a single service. What had been developed earlier as credit reporting, as the publishing of financial information, and as issuing bonds, were drawn together, condensed and modified into the act of collecting, judging, and publishing information as a service for the issuing of bonds. In that way, John Moody took over an intermediary role that had been absent before and thus – as an institutional entrepreneur – created a new market for credit rating. Until the late 1920s, this new market lived through a phase of growth and consolidation, thereby establishing the trajectory of credit rating.

The historical beginning of corporate rating has its forerunner in company credit reporting which started in the 1830s. Thus, it started much earlier than consumer credit reporting that became a "significant industry only in the twentieth century" (Olegario 2003: 115). In the early years of American capitalism, letters of recommendation sufficed to bear witness of a borrowers' creditworthiness. From the 1830s the scale and scope of American business grew considerably and made things more complex and uncertain. In order to satisfy the creditors' needs for more reliable information, Lewis Tappan founded the Mercantile Agency in 1841 in New York to professionally provide commercial information. Through a network of agents collected information about the character and habits of merchants all over the United States and sold to it subscribers. "The early agencies, however, could not systematically collect payment data; at best they were able to obtain anecdotal information only" (Olegario 2003: 123). "The company's subscribers, which included wholesalers, importers, manufacturers, banks, and insurance companies, grew from 7,000 in the 1870s to 40,000 in the 1880s, and by 1900 its reports covered more than a million businesses" (Sylla 2002: 23). A similar firm was founded by John Bradstreet in 1849. In 1859, the Mercantile Agency was renamed R.G. Dun

and Company. And in 1933 these two companies merged to form Dun & Bradstreet that still operates today as one of the main players in the reporting business.8

Apart from these first credit reporting agencies that collected all kinds of information from gossip to financial data, a specialized financial and business press was a second necessary route for credit ratings to evolve. In 1832, the American Railroad Journal reported about what were the worlds' most important businesses at the time. Henry V. Poor, who in 1849 became editor of this journal, from 1868 onwards published Poor's Manual of the Railroads in the United States which appeared annually and reported financial and operating statistics of most the American Railroad Companies (Sylla 2002: 24).

The third development which made corporate rating possible was the need for large capital sums for the expansion of the railroads into unsettled territories with few local banks. The development of a new market of bonds and bonded debt in United States railroad corporations was the solution to this financing problem (Sylla 2002: 22). The investment bankers issuing the bonds insisted to receive all relevant corporate information on an ongoing basis. Sometimes these investment bankers even demanded to be given seats on the board of directors (Sylla 2002: 24).

In 1909, two years after the financial crisis of 1907, John Moody recognized the opportunity these three developments of a growing credit reporting market, a growing specialized financial and business press and a growing bond market created and began not only to present data but also to make and sell judgments on the basis of the available corporate information in the form of ratings (Sylla 2002: 24f, Sinclair 2003.) Thus, the beginning of rating represents a step from personal, face-to-face relations based on trust (i.e. from the investment banker to the corporation) to more objectified formalized professional relationships where credit rating agencies systematically provide condensed information and judgments about the majority of corporations.

In 1916, the Poor Company, which was the successor of Henry V. Poor's Manual, entered the bond rating market. In 1941, Poor merged with Standards Statistics, another information and ratings company, to form Standard & Poor's (S&P; Sylla 2002: 24).9 One century later, S&P and Moody's are still the worlds' most influential rating agencies.

The further development of the credit ratings market passed through several phases. In the first years after 1909, low cost barriers to entry led to a competitive rating market which was interrupted by the stock market crash of 1929 where numerous ratings had to be lowered

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8 1962 Dun and Bradstreet acquired Moody's Investment Service that it sold again in 1998 (Sinclair 2005: 27). During that time credit reporting and bond rating were organized in one company (Sylla 2002).
9 In 1960s Standard & Poor's was taken over by McGraw Hill (Sinclair 2003: 149, Sylla 2002: 24).

abruptly. After 1929 rating entered into a period of growth and consolidation: "Rating became a standard requirement for selling any issue in the United States, after many state governments incorporated rating standards into their prudential rules for investment by pension funds in the early 1930s" (Sinclair 2005: 26).

However, until the late 1960s credit rating remained a purely American market. The process of financial globalization that began in the 1970s started an international credit rating boom that is comparable to its first growth phase in the United States after 1909. More and more private corporations from around the world used the new financial possibilities to issue bonds. In many countries financial regulatory authorities started to incorporate ratings into their regulations (Sylla 2002: 34). That opened the way for Moody's and S&P to expand on a worldwide scale. "Like skilled surfboarders, the rating agencies once again caught a large wave of financial development and rode it" (Sylla 2002: 35).

Today, S&P and Moody's judge securities worth three trillions US $ each year (Sinclair 2005: 4). Bruner and Abdelal have reflected this as a "a dual monopoly, each possessing separate monopoly power in a market that has grown to demand two ratings" (Bruner/Abdelal 2005: 197). Taking Fitch into consideration Smith and Walter (2002: 302) have spoken from a "duopoly-plus-one". Although in the meantime more than three credit rating agencies exist there are still only a few on the market. This fewness "contrasts sharply with the thousands of stock analysts, employed by hundreds of securities firms, who regularly offer opinions about companies' equity share price prospects" (White 2002: 45).[10]

How can this fewness be explained? According to White (2002), regulation plays an important role. In about the first 20 years in the history of corporate rating there have been no regulatory issues (1909-1931). But following the world financial crisis in the years after 1929 regulators attempted to limit the riskiness of assets of institutions such as banks, insurance companies, or defined-benefit pension funds. The goal of the regulations following was to "protect the liability holders of such institutions from the losses that would arise from the insolvencies of the institutions" (White 2002: 51). The regulators did this by either forbidding the holding of securities below a specific grade, or by defining certain capital requirements (White 2002: 51). In the year 1936, the Comptroller of the Currency (COC) enacted the ruling that the purchase of "investment securities" is prohibited when these are speculative (i.e. below a minimum BBB rating from no less than two rating agencies). "This ruling created the most valuable regulatory licences to date, and was a shot in the arm for the rating agencies"

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[10] The Credit Rating Agency Reform Act of 2006 has tried to open up competition in the US with limited success so far.

(Partnoy 2002: 71). In the years and decades following, these regulations became more widespread.

From 1973 onwards regulation became even more important as in this year the SEC created the NRSRO as mentioned before (Partnoy 2002: 74).11 As the criteria for NRSROs have been defined rather strict, the SEC had created "an absolute barrier to entry, thereby limiting supply" (White 2002: 52). Therewith, a stately protected oligopoly has been created that only few rating firms were able to conquer. As a result, "the supply-limiting effect of the de facto ban on new NRSRO designation" and the "demand-enhancing effect of the expanding safety-and-soundness regulation" complement one another (White 2002: 53).12 Partnoy (2002: 66) describes this as "regulatory licences": "Put simply, credit ratings are important because regulations say they are". Altogether, while ratings-dependent regulation guaranteed a continually growing market the strict NRSRO status kept the barriers to enter this market considerably high. Few incumbents are legally favoured over many potential contenders and can uncontestedly skim the globally growing rating market.

In the new millennium, the negotiations and agreements by the Bank for International Settlement's Basel Committee on Banking Supervision (Basel II) proposal have brought new dynamics into the rating market. With the aim to prevent larger financial crises, the Basel II "standardized approach" gears the capital requirements of banks to the credit ratings of their borrowers, greatly increasing the demand for ratings within the member states of the Bank for International Settlement (White 2002: 55). Basel II does not challenge the oligopolistic position of the dominant rating agencies. It not only ties ratings to even more regulatory issues, it also puts a modified NRSRO status on an international level. While the Basel II criteria for assessing credit rating agencies are more sensitive to "output" considerations (e.g. historical validity of a rating agency's method) than the SEC, it nevertheless "will tend to favour large incumbents over smaller innovative entrants. Adoption of the BIS proposal in its current form is thus likely to raise worldwide barriers to entry into the credit rating industry" (White 2002: 56).

3.2.2 Consumer Scoring

Consumer scoring developed at a later time when statistical methods and modern technologies for calculation were already available. Until the 1960s, consumer rating was a local, decentralized business. Information about individuals creditworthiness lodged either with each creditor, -- open book retailers, manufacturers of big ticket items selling their products on installment, local savings and loans, loan sharks etc. – or with local credit registries. All

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[11] White 2002, Sinclair 2005: 44 mention the year 1975.
[12]Even Basel II has stick to these entry barriers in general (not in detail) (White 2002: 55ff.)

three consumer credit bureaus started as a sideline for a company already established in a different business. Experian began in 1980 in Britain as CCN by Great Universal Stores plc. (GUS), a retailer that wanted to take advantage of the large information base it developed from its mail-order business. In 1996, CCN merged with the US company, TRW Information Systems & Services, a sideline of a large automotive and aviation company that decided to enter the consumer data business in the 1960s. TransUnion was created in 1968 by Union Tank Car Co., a railcar leasing firm. TransUnion soon purchased the Credit Bureau of Cook County, a large credit registry in Chicago. Equifax has the earliest roots of the three. Started as the Retail Credit Company by two grocer brothers in Tennessee in 1898, it originally sold credit information to other food retailers. By the 1920s the company shifted its focus to insurance reports and left the retail credit business for a while to return to it anew as the Great Depression began. During the post-war boom, the company grew quickly and in the 1970s it began to buy up smaller competitors. In 1979 it changed its name to Equifax.

The centralization and the consolidation of consumer information were made possible by information technology that developed at a rapid pace since the 1960s. The mechanization of lending began in the 1930s when mail-order companies introduced credit control cards, a short questionnaire, that credit officers had to fill out for each applicant. This later developed into a score card where each answer received a certain number of points which then were summed creating a credit score (Smalley and Sturdivant 1973). The Second World War gave another push to automation as a shortage of trained loan officers forced lenders to create simple algorithms that untrained novices could use. The idea to use statistical technology in lending decisions was introduced by Durant, who in 1941 applied for the first time discriminant analysis, developed by R. A. Fisher (1936), to derive weights for the different variables on the score card.[13] This technology then was developed by William Fair and Earl Isaac, who founded their company in 1956. The formalization of lending decisions were strongly resisted by lenders until the 1970s for various reasons but the technology was impractical until computers became available at reasonable prices.

3.3 What Explains the Inertia? Lock-in Mechanisms

The fact that corporate and consumer ratings emerged at different times with different technologies available, does not explain why they are still so markedly different. Why did not corporate rating agencies switch to automation or why is formalized decision making still dominant in consumer credit? To answer these questions we must also provide the lock-in mechanisms that explain how the initial differences are reproduced into the present. We will

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[13]   Fishers' idea to discriminating between groups in a population solved the problem when we "cannot see the characteristic that separates the groups but only related ones" (Thomas 2000: 151).

present two sets of such mechanisms: institutional and market mechanisms. Institutional lock-ins created different forms of legitimation for corporate and consumer credit assessment. We argue that these lock-ins just as the circumstances of the creation of each industry, were historical accidents. Institutional lock-ins happened through legislations and regulative acts. Market lock-ins are mechanisms that generate increasing returns to scale in a given market even in the absence of institutional constraints.

3.3.1 Market Mechanism

As we have seen, both the consumer and corporate ratings market are highly concentrated.[14] Some of the reasons for this concentration are common, others are specific to each. In this section, we will survey some of the market mechanisms that result in oligopolistic markets. The importance of oligopoly is that it diminishes market competition and lessens competitive pressures for change.

Both rating types benefit from standardization as standardized ratings facilitate comparability and consistency. Standardization creates network externalities: the more widely a standard is spread the more likely it is to spread even further because its usefulness for comparison is enhanced at each step. All three consumer credit bureaus used the same FICO score and when they recently decided to develop their own bureau score, it was not just uniform across the three agencies but it was using the same scale and similar technology as FICO. The corporate rating agencies too use very similar rating scales. The value of ratings is to guide decisions by reducing uncertainty. Inconsistent advice creates confusion and fails at this task. Ratings from the Big Three in both markets are highly correlated. In fact, one explanation for the trinity of these markets is that while monopolies would go unchecked, duopolies would create evenly split decisions, thus a third player is necessary to break ties.

The monopoly of a standard does not necessarily result in the monopoly of its producer in the long run, as the examples of Remington for type-writers or IBM for personal computers clearly demonstrates. Standardization of a product does not necessarily mean the standardization and formalization of the way it is produced. When it does, it weakens the competitive advantage producers enjoy because it turns the know-how into public knowledge and the technology ceases to be a barrier to entry for newcomers. If rating had a single algorithm anyone with a computer and the proper data would be able to open shop as a rating agency. FICO, being fully aware of this threat, patented its methodology yet there is no

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[14] Bruner and Abdelal describes corporate rating as "a dual monopoly, each possessing separate monopoly power in a market that has grown to demand two ratings" (Bruner/Abdelal 2005: 197). Taking Fitch into consideration Smith and Walter (2002: 302) calls it a "duopoly-plus-one." This fewness "contrasts sharply with the thousands of stock analysts, employed by hundreds of securities firms, who regularly offer opinions about companies' equity share price prospects" (White 2002: 45).

shortage of algorithms developed by others that use the same statistical principles and produce virtually the same results.

Reputation is a second mechanism that feeds the tendency towards oligopolistic rating market structures (SEC 2008: 37, 2003: 24). Rating agencies need a good reputation for being able to send market signals coordinating demand and supply at the credit market. For building up a good reputation a successful track history is needed which signals that the current rating is independent, accurate and objective because only ex post can lenders verify the quality of a particular rating. As Walter (2004: 371) put it: "It is equally clear that a reputation for technical competence, continuity, transparency, objectivity and impartiality comprises the principal asset of the rating agencies. Without these attributes there would be no justifiable demand for ratings."

Reputation is difficult to build therefore it is a market entry barrier. Without track history there is no demand and without demand there is no possibility to build up a track history Coffee (2006: 3). Just as with standards, we see increasing returns to scale at work as reputation begets reputation. As the SEC puts it:

> "[E]stablishing and maintaining a reputation for ratings quality is very important to any credit rating agency. Or, to put it differently, the ratings' reputation is their added value to the financial markets. Once, they were successful by building up a good reputation, they are powerful and inevitable intermediaries in the credit market. " (SEC 2008: 37)

Fitch, as the youngest of the three large rating agencies managed to enter the market by offering *unsolicited ratings*. Even though those are not highly profitable, they can build up reputation that later can result in more profitable solicited ratings.

Reputation is also important in consumer rating. FICO has remained the dominant brand because of its long track record. So far not even the credit bureaus have been able to replace it with their own brand.

Yet, as history suggests as important as reputation is, failure has never dislodged a dominant player from the ratings market. Thus, reputation alone cannot explain the strong staying power of the rating giants. Since the unanticipated Stock Market Crash of 1929, corporate rating agencies failed many times, either grossly misjudging individual issuers (e.g., WorldCom, Global Crossing, Orange County, Enron) or larger economic developments (e.g., Asian crisis and the recent property bubble). FICO failed during the subprime mortgage crisis and had to redesign its algorithm (Rona-Tas and Hiss 2010). While these fiascos clearly

tarnished their reputation, they did not bring them down. Each time they were treated like a reprobate relative who can be reprimanded but not be replaced.

There are two additional mechanism that are, unlike standardization and reputation, unique to one or the other market. The two reflects the difference in the way credit ratings are paid for. Initially, both markets followed the same business model: it was the lenders who selected the rating agency and paid for its services. This changed for corporate ratings in the early 1970s, and now it is the debt issuer who pays chooses the rater and pays for its services.

In consumer markets, the main cost of producing the consumer score is the creation of the data base that allows the calculation of the credit scores. Consumer credit scoring depends on credit history data that are dispersed nationwide and must be collected from a large number of lenders. Credit bureaus enjoy their rating oligopoly not so much because of the superiority of their scoring methodology but because they have files on the vast majority of the population as almost all lenders voluntarily and without charge hand them over their consumer lending data. Anyone who wanted to start a consumer rating agency, would have to create a fourth nationwide credit registry convincing all lenders to send their data to this new credit bureau (and then pay for each score or a membership fee). Being comprehensive – covering all lenders and all borrowers – is key, because otherwise judging new applicants will run into either the problem of incomplete or absent files. Even if another credit bureau could be created, it would take many years until sufficient amount of historical data could be accumulated, unless all lenders could be convinced to provide data from previous years as well. In developing countries, new credit registries that usually build on some historical black list of bad borrowers, are not functional for their first two years.

In the corporate ratings market debtors choose the agency and pay for the rating directly. Unlike consumers, who don't have a choice and often are not even aware that credit bureaus exist, corporate borrowers are strategic actors who will try to get the best rating for their money. In a competitive market, where borrowers have many agencies to choose from, the quality of the ratings will be compromised by rate-shopping, a point that the Big Three never fail to emphasize (see e.g. McDaniel 2002). Limiting choice cuts down on rate shopping and contributes to the oligopolistic nature of corporate rating.

3.3.2 Institutional Mechanism

Passing judgment over people or corporations is a business that rife with conflicts. If deserving borrowers do not get credit or undeserving borrowers do, the credit decision will be scrutinized and often challenged. Liability, therefore, is a crucial issue, and credit scoring and rating must be seen as legitimate and legally defensible.

Corporate Rating and the Institutional Mechanism

In the history of corporate credit rating a critical juncture was the financial crash of 1929. This crisis that ushered in the Great Depression was unanticipated by the agencies and led to a massive and abrupt downgrading of ratings. While in different historical circumstances such a crisis could have resulted in the complete de-legitimation of the rating business, instead, the enormous uncertainty following the crash reinforced the need for an impartial and informed rating process. In a pattern, that has been replayed since then many times, the lesson learnt from the failure was that the market needs to rely more rather than less on ratings just agencies have to do a better job. As early as 1931, the Federal Reserve decided to use credit ratings to evaluate banks' bond holdings (Partnoy 1999: 689). With the advent of the Glass-Steagall Act, that put a wall between banking and the securities market, states adopted rating standards as part of their prudential rules for pensions funds (Sinclair 2005: 26). As a result, the failure of ratings actually accelerated their expansion. As the Federal government relied more and more on ratings in its own regulations, and as it was reluctant to set up a public rating agency or to entrust the Securities and Exchanges Commission (SEC) with the task, in 1973, it decided to tie the permission of a series of financial transactions to ratings by a Nationally Recognized Statistical Ratings Organization (NRSRO) [15] a designation granted by the SEC itself (Partnoy 2002: 74, White 2002: 52). This built a formidable barrier to entry for any newcomer. The big three got the NRSRO status and the regulatory license that comes with the title which cemented their oligopoly practically shutting out everyone else from the market. By the 1990s, only the three had this recognition. The Credit Rating Agency Reform Act of 2006, in an attempt to increase competition, loosened the NRSRO criteria and now there are seven others. [16] [17]

It is curious that the word "statistical" is included in the label because the relevant law is clear that a NRSRO should "employ a qualitative *or* quantitative model, or both, to determine credit ratings." [18] Subsequent laws and regulations require no statistical methodology for creating ratings as a precondition to become a NRSRO. The SEC requires only that the accuracy of the ratings is evaluated post hoc with statistical models.

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[15]   For instance, bank reserves depend on the NRSRO rating of their assets. Money market funds cannot invest more than 5 percent of their portfolio into second-tier papers and more than 1 percent in papers by the same second-tier issuer as judged by an NRSRO. Insurance regulators also use ratings from NRSROs to assess the financial strength of the reserves of insurance companies.

[16]   As of September 2008, these are Dominion Bond Rating Service Ltd., Egan-Jones Rating Company, Japan Credit Rating Agency, Ltd., Rating and Investment Information Inc., A.M. Best Co., LACE Financial, Realpoint LLC.

[17]   Rating agencies must present a three year good track record to be able to apply (SEC 2008: 3, 37).

[18]   The amended Securities and Exchange Act 1934, Section 3(a)(61)(B). Emphasis added.

Until the late 1960s credit rating remained a purely American market. The process of financial globalization that began in the 1970s started an international credit rating boom. As the US securities market became the dominant one for anyone wanting to issue debt, the three NRSROs became international forces. Foreign governments and international organizations soon incorporated the Big Three rating agencies into their own rules and regulations. From the 1980s financial innovation on the securities markets has accelerated offering new financial products from junk-bonds to complex derivatives and giving an even larger role for corporate rating agencies. In the new millennium, the negotiations and agreements by the Bank for International Settlement's Basel Committee on Banking Supervision (Basel II) proposal have brought new dynamics into the rating market. With the aim to prevent larger financial crises, the Basel II "standardized approach" gears the capital requirements of banks to the credit ratings of their borrowers, greatly increasing the demand for ratings within the member states of the Bank for International Settlement (White 2002: 55). Basel II does not challenge the oligopolistic position of the dominant rating agencies. It not only ties ratings to even more regulatory issues, it also puts a modified NRSRO status on an international level. While the Basel II criteria for assessing credit rating agencies are more sensitive to "output" considerations (e.g. historical validity of a rating agency's method) than the SEC, it nevertheless favors large incumbents over smaller innovative entrants (White 2002: 56).

Corporate rating agencies, therefore, are subject to little market pressure. This means that they have little incentive to change their ways. While regulatory protection that largely eliminates market pressure to change is an important factor in organizational inertia (Stinchcombe 1965) it is only a "negative lock-in" as it gives no positive reason to stick with a particular path. Regulatory lock-in cemented the actors in place but not necessarily their practices. For that, we turn to a second positive institutional lock-in mechanism that provides legitimacy.

It is not enough for rating agencies to occupy a secure position in a safe market they also need protection against individual law suits by disgruntled issuers and unhappy investors. The legal case that settled this issue was Jefferson County School District vs. Moody's Investor's Services.[19] In 1993, Jefferson County School District in Colorado decided to refinance some of its bonds by issuing new refunding bonds to take advantage of lower interest rates. Moody's offered to rate the new bonds, but the School District, although earlier did use

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[19]   There were a series of other court cases when unhappy investors sued rating agencies. Prominent examples are the class action litigation related to the Washington Public Power Supply System default (1983), claims related to the Executive Live bankruptcy (1991), Quinn vs. McGraw Hill Co. parent company of S&P (1999) and claims by Orange County, California against S&P (1996). In general, the rating agencies present a two-pronged argument; credit ratings are protected speech, and they state explicitly that they are "not a recommendation to buy, sell, or hold" (Partnoy 2002: 79, Kerwer 2005: 469).

Moody's services this time declined and choose two other agencies.20 When the bonds were put on the market, Moody's issued an unsolicited negative rating that cost the School District (i.e. the tax payers) over three-quarter of a million dollars.

The case was decided in favor of Moody's. The judge argued that Moody's rating was an opinion protected by the First Amendment to the US Constitution (the right to free speech). The rating was an opinion because it did not "not contain a provably false factual connotation" because a "statement regarding the creditworthiness of a bond issuer could well depend on a myriad of factors, many of them not provably true or false." The judge added:

> For example, one evaluator of the bonds might point to legal developments like those identified by Moody's in concluding that the issuer was not creditworthy. Another evaluator might point to increasing property values in making a more optimistic assessment. The difference in the evaluators' assessments of the bonds could result from differing views about the relative weight to be assigned to those factors or from other philosophical or theoretical disagreements rather than from one evaluator's reliance on inaccurate information. We therefore conclude that, in light of its failure to identify a more specific statement, the School District has failed to demonstrate that Moody's implied statement about its creditworthiness is provably false. (Jefferson County School District No. R-1 vs. Moody's Investor's Services, May 4, 1999 paragraph 31.)

It is not that credit rating agencies can say whatever they please. They can be held liable for their statements but only if they imply a factual statement that can be proven false:

> We emphasize that the phrases "negative outlook" "ongoing financial pressures" are not necessarily too indefinite to imply a false statement of fact. If coupled with specific factual assertions, such statements might not be immunized from defamation claims by the First Amendment. Moreover, the fact that Moody's article describes its evaluation as an opinion is not sufficient, standing alone, to establish that Moody's statements are protected. [..] Moody's sells its opinions much as a title attorney would sell a title opinion. Indeed, in its appellate brief, Moody's refers to "the proven objectivity of [its] opinions, which are issued in accordance with Moody's responsibility to investors and subscribers." [..] (emphasis added). If such an opinion were shown to have materially false components, the issuer should not be shielded from liability by raising the word "opinion" as a shibboleth. However, in this case, the School District's failure to identify a specific false statement reasonably implied from

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20   One of the agencies chosen was Fitch.

Moody's article, combined with the vagueness of the phrases "negative outlook" and "ongoing financial pressures" indicates that Moody's article constitutes a protected expression of opinion. (paragraph 34.)

It is only the "factual assertions" made in support of the judgment that can be disputed, the statement[21] that the county was not creditworthy or had a "negative outlook" is an opinion that cannot be.[22]

Consumer Rating and the Institutional Mechanism

While corporate rating found its legal protection as art, the law offered to defend consumer rating as objective science. Until the 1970s, most consumer lenders were uninterested in formalizing their decision-making process but in 1974 Congress conducted a series of hearings on gender discrimination in lending and passed the Equal Credit Opportunity Act. The act was amended in 1976 to outlaw discrimination based on race, color, religion, country of origin, age, receipt of public assistance and because having exercised of one's rights in good faith under the Consumer Credit Protection Act. During the hearings one central issue was to determine what conduct would protect lenders from future lawsuit of discrimination. The solution, Congress found, was the use of methods that are Empirically Derived, Demonstrably and Statistically Sound (EDDSS) (Federal Reserve 1985). Statistical models were EDDSS and were adopted by lenders as a shield against discrimination suits.

Yet, formalization neither suited the lenders at the time nor did it solve in itself the discrimination problem. Formalization, to a large extent, removes discretion from the hands of the rating agency or lender as the consumers are rated by the computer algorithm with no human intervention in any individual case. Formalization ties the hands of the rater which is why it was deemed to protect against discrimination. Actuarial decision making, Fair and Isaac argued at legislative hearings, will make discrimination impossible because once we agree on what characteristics of the applicant are proper to consider the rest follows without giving anyone the opportunity to bias the decision by his prejudices. Formalization provides control, but a control shorn of arbitrariness. This was the reason why lenders objected to formalization. During the congressional hearings leading to the ECOA 1974, an industry representative protesting formalization explained that it would

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[21]   The rating agency is not responsible for the factual accuracy of the evidence it uses to issue its verdict if the incorrect data were supplied by the issuer (Securities Act 1933 section 11.) That they received misstated information was one line of defense by the rating agencies during the mortgage crisis.

[22]   One thing that is never mentioned in the ruling is that the rating is a prediction about future events and behavior. The parallel with the 'title opinion' is especially telling. Title risk is a result of incomplete information about the past.

> "…freeze credit granting criteria into established molds, to the detriment not only of the creditor but of the consumer as well. This would have the effect of introducing one rigid structure in the credit granting process, i.e., immobilizing criteria so that the creditor's option of employing its own funds to extend credit to an applicant could almost be viewed as mandated rather than voluntary on the creditor's part" (cited in Taylor 1979: 29).

In other words, the technology would strip banks of the discretion to lend freely. Eliminating discretion presented a second benefit for the lenders. It made it easier for management to control the internal operations of its own organization. Loan officers became data entry clerks and each transaction now had a complete electronic record.

Discrimination was not eliminated by formalization it just took a different form. [23] Statistical models, as Senator Biden pointed out during the hearings,

> I am getting less and less concerned about that kind of discriminations and more and more concerned about the person getting caught between the rock and the hard spot, becoming the statistic, the person becoming the punch card in a computer and somehow falling into a general category which is used in a point scoring analysis where they are really the exception to that category, and there is no way they can get out from under it […] You know, in the name of objectivity, I am afraid we are getting more toward a mechanized society which in fact will discriminate more than the risk we ran when we had the plain old rednecked, prejudiced antiblack who sat there and said, "I don't want that boy to get no credit." (Biden 1974 p. 455.)

What Biden saw clearly was that using the rules of statistics and judging people on the basis of a general category is precisely how discrimination works. Judging people on the basis of how others behave runs against basic ethical norms but this is exactly how statistical models work which is why the law to protect certain groups had to specify certain variables that the models could not use. Credit scoring by the credit bureaus today does not use any socio-demographic characteristics. Its statistical models are now based purely on the person's credit history variables.

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[23] For women, formalization could have been helpful. Had Congress allowed the use of gender in statistical scoring models women would have received better deals and men would have been penalized (Elliehausen and Durkin 1989).

4. Conclusion

Consumer and corporate rating travelled two different paths to legitimacy. Consumer rating became legitimate through formalization, corporate rating became legitimate through regulation. Formalization is legitimate in the sense that it is perceived as democratic and non-discriminating. Regulation is perceived as necessary to stabilize the financial markets in historically turbulent times. When formalization received growing legitimation in the decades after the Second World War, society for many years was already used to the expert judgement of rating agencies as the appropriate way to reduce uncertainty on the financial markets. While the perceived democratic and non discriminating effect of formalization has been successful in the entire area of consumer scoring and has made some way into the corporate arena, it has not been able to fundamentally challenge the expert judgement of rating agencies as a legitimate method. Independently from the question of superiority of one or the other method, expert judgment has managed to receive societal legitimation by institutionally safeguarding its formally monopolistic position. This has been achieved legally by tying rating to regulation, by courts' decisions that rating results are mere opinion and thus protected by the Constitution, economically by erecting an oligopolistic market with high entry barriers, and politically by signalling support to the rating agencies and their method of expert judgement.

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