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A Century of Bond Ratings as a Business

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Abstract

Historical accounting datasets about a leader of the bond rating industry have been gathered in order to provide an unprecedented long term view on this business. To better judge of the dynamics at play, similar data for representatives of older and broader business fields is also introduced. Overall, this empirical discussion plays down the importance of regulatory « licenses » given to bond rating firms and puts forward the coming of a « modern » business model where issuers pay for ratings.

Key words: industry study, bond ratings, financial regulation

JEL codes: L84, G18, G24

Résumé

En utilisant l'historique comptable d'une grande agence de notation, on fournit une vision sur le long-terme du dynamisme de cette activité. Par souci de comparaison, on utilise des données semblables pour des activités connexes à la fois plus anciennes et plus courantes. Cela conduit à relativiser l'importance de l'utilisation réglementaire des notes et à se concentrer sur la mise en place d'un *business model* « moderne » où les émetteurs paient pour l'activité de notation des titres de dettes.

Mots clés: étude industrielle, notations d'obligations, réglementation financière.

JEL codes: L84, G18, G24

In the early decades of the past century, a couple of American firms started to provide bond ratings and managed to run a lasting business out of it. In the 1930's, American Financial authorities introduced rules relying on these privately issued opinions. This particular way of dealing with regulation was then left unchallenged and even extended, particularly over the last quarter of the twentieth century. Once authorities had started using bond ratings straightforwardly, Partnoy (1999, pp. 681-703) argued that private third party certifiers relevant to the marketplace were bound to end up mostly providing regulatory benefits or “licenses”.

To provide a ground for such a “regulatory license” theory, one may want to draw a parallel between the profits of bond raters and the extent of statutory rules relying on bond ratings. This is required to provide more than yet another statement on how the rating business might have been regulatory inflated. Yet relevant data is scarce... This paucity of hard information has not fostered the coherence of the views on the bond rating business. For example, Partnoy (2006) also argued that what made the rating firms attractive to investors was their involvement in the structured finance issuance boom and the fact that they had repeatedly escaped liability in courts.

What did really matter? More broadly, does the rating business truly appear so special that one needs to turn to such “exogenous” factors? In an attempt to deal with these questions, the present paper introduces a number of genuine datasets. *Moody's* is the rating firm that has managed to stay independent for the longest time and to go public on the stock market on its own. Historical accounting datasets about this corporation then provide an unprecedented long term view on the dynamics of the rating business. In particular, since *Moody's* changed its business model in the late 1960's, this allows an historical discussion on the role of the fee structure chosen by rating firms.

Part 1 of this paper gives background information about the development of the rating business. Part 2 introduces an empirical discussion using accounting data unavailable to date. The two main results are the followings. First, the pattern of earnings of the early *Moody's* corporation does not fit the regulatory license theory well: it becomes less sustainable on the wake of the first financial rulings using ratings as straightforward inputs. Not surprisingly, equity investors also do not appear to value that much the coming of a regulatory rent. Secondly, when rating firms exhibited impressive profitability measures over the early 2000's, these remain in line with a trend that can be traced back to the mid 1970's and to the transition to an "issuer pay" business rating model. Part 3 provides a discussion of these results by looking at the structure of the American bond market since 1945. After 1970, "modern" (publicly available and issuer-paid) ratings were of particular interest for foreign corporate bond issuers increasingly entering the American bond market and for the new major buyers of non-Treasury bonds (households and foreign holders). Concluding remarks comes back on the issue of dealing with two rating business models in regulatory discussions on the wake of the structured finance crisis.

1 – Some Remarks on the History of the Bond Rating Business

Credit reporting or *mercantile* credit agencies have sometimes been introduced as the main precursors to bond rating firms (see Cantor & Packer (1994, p.1 col b, §1) and Partnoy (1999, §2 p.636-§1 p.637)). Sylla (2002, pp. 19-25) introduced a broader perspective by raising a simple question: why did rating firms develop that late in bond market history? Indeed, investors had been buying bonds since the sixteenth century centuries and a meaningful experience of rating securities came as late as the early twentieth century¹. The main reason is that bond markets remained mostly sovereign debt markets: businesses in Europe met most of their capital needs thanks to bank loans and stock issues. Dating back to the 1850's and focusing on railroads in its early decades, the corporate bond market can be considered as an American financial

¹ This does not mean that there were no previous experiences with rating securities; but their scope remained limited. According to the founder of the first rating firm: "I cannot claim much credit for creating the idea, and certainly I think the general use of commercial and credit ratings had something to do with bringing the idea of possible bond ratings to my mind. While no one in this country had attempted such a thing as investment ratings by means of symbols, yet even in those days bonds were classified into groups according to quality and salability, especially by large investment institutions, such as insurance companies. Moreover, there had existed for a considerable time, I think, a bond rating system in Vienna and also I believe in Berlin. These foreign systems had been developed by symbols, and the *Austrian Manual of Statistics*, which carried these symbols, was quite well known in Europe, although not at all in this country." (see Harold (1938, p. 11)).

innovation that later spread to the rest of the world. The bond rating business was born out the needs coming from this innovation. Before the creation of any rating firm, the American corporate bond market experienced half a century of spectacular growth. This growth went along with 3 historical developments that provide a picture of the boundaries of the rating business:

(i) *the credit-reporting or mercantile credit agencies*: The critical role played by this intermediary in the development of credit lines among American business networks is studied in full length by Olegario (2006). Precedents to these institutions developed well before the rise of the American corporate bond market, the business however especially took hold over the second half of the nineteenth century. Founded in 1841 by L. Tappan, the *Mercantile Agency* gathered information on the business standing and creditworthiness of businesses all over the United States through a network of agents and sold reports to subscribers. It became *R.G. Dun & Co* in 1859. The company's subscribers grew from 7,000 in the 1870's to 40,000 in the 1880's, and by 1900 its reports covered more than a million businesses. In 1849, J. Bradstreet founded a similar firm, which by 1857 was publishing what apparently was the world's first commercial credit rating book. In 1933, the Dun and the Bradstreet companies merged to form *Dun & Bradstreet (D&B)*. In 1962, *Dun & Bradstreet (D&B)* acquired *Moody's Investors Service*, the bond rating firm that J. Moody had created in 1909.

(ii) *the specialized financial press*: Over the second half of the nineteenth century, journalists created the business of supplying comparative information on the assets and earning power of the companies. As the editor of *The American Railroad Journal*, H. V. Poor gathered and published systematic information on the property of railroads, their assets, liabilities and earnings. In 1868, he started a firm to publish yearly his *Manual of the Railroads of the United States*, which reported financial and operating statistics for most of the major American railroads and was widely recognized as the authoritative source of such information for several decades (see Chandler (1956, chapters 9 and 11)). In 1906, J. Moody entered this business and underwent solvency on the wake of the 1907 panic. Reincorporating his company in 1908, he innovated with the publication of a rating manual in 1909 (see Harold (1938, pp. 9-12)). In 1916, the *Poor Company* entered this bond rating business as a natural outgrowth. In 1922, the second new entrant, *Standard Statistics*, was also a financial information company. In 1924, the third and last firm to enter the early rating business was the *Fitch Publishing Company*, a security quotation publisher since 1913. In 1941, two of these rating firms merged to form *Standard & Poor's (S&P)*. In 1966, *S&P* was taken over by the publishing giant *McGraw & Hill (MG&H)*.

(iii) *the investment bankers*: Flandreau & Flores (2007) studies sovereign bond markets over the 1820's and concludes that the hierarchy of underwriters was a proxy for the one of issuers. As

financial intermediaries for the railroad securities, American great investment bankers had a strong reputation incentive to monitor every deal. Their access to the suppliers of capital through a vast network, often international, was at stake. They did act as investors' insiders, insisting that issuers provide all relevant information related to company operations on an ongoing basis and sometimes requiring seats on the board of directors of corporations. At the turn of the twentieth century, the size of the investing class started to grow and this pivotal role of investment bankers started to be questioned. The broad public's request for more publicly available information on the quality of investments first reflected in State "Blue Sky" laws and would later bring both mandatory disclosure laws for issuers of securities and the Securities and Exchange Commission (SEC). Embedding trust in a number of key individuals was certainly better suited to closed networks of wealthy individuals (Sylla (2002, 1 p. 34)). Especially with the 1912-1913 Money Trust investigation in mind, the rise of the rating business looks quite contemporaneous to the weakening of great investment bankers over the 1920's. Harold (1938, 2-3 p.16) states that "in circles has the attitude toward bond ratings been more hostile than among investment bankers" and mentions a number of attempts to influence ratings by some investment banking houses.

Reviewing the three historical precedents, the rating business can be considered at the border of two different activities. Historical ties with (i) and (ii) portrays this business as a mere development of *financial journalism*, the purpose of which is to provide relevant information to investors. With (iii), however, *private certification* is stepping in. Great American investment bankers did not give reviews on the deals they were selling; they did act as quality certifiers who ended up placing people on the board of companies... Sylla (2002, pp. 25; 33) mentions a transfer of reputational capital from these quality certifiers to the rating firms and focuses on the historical forces that may have led to it. But the extent of this transfer remains unclear...

Since the development of rating firms came to a standstill with the 1940's, Partnoy (1999, p. 646) argued that any reputation that might have been gained over the 1920's had quickly gone away on the wake of the 1929 crisis. Remember that the market structure remained quite concentrated (4 established firms after 1924, back to 3 following the 1941 merger that created *S&P*). Furthermore, weakened market leaders of the rating industry became external growth opportunities for related business over the 1960's. This may be interpreted as a poor ability to deal with the post World War II (WWII) American capital markets. In any case, at the turn of the 1970's, rating firms changed their business model: when they had formerly been selling their ratings to investors in every manner manageable, they started charging issuers². The reasons for

² S&P began charging municipal bond issuers in 1968 and most other issuers in 1971, Fitch and Moody's began charging corporate issuers in 1970 (see Cantor &Packer (1994, p. 4)).

this change still remain to be established (see White (2009, pp. 6-7)). Existing comments can be sorted in two broad views of rating industry development:

❖ *Financial market development*: With the post-WWII decades, growth brought more stable and higher corporate earnings and this allowed the use of internal funds for investment purposes. Market finance was also replaced by other institutional means: over 1948-1965, about half of debt securities were privately placed; furthermore, commercial banks introduced term loans as an alternative to bond financing (see Atkinson (1967, Chapter II); Sylla (2002, 5 p. 30) and (Kemmerer (1952, pp. 459-481)). The change in the fee structure can then be presented as a natural outcome of both the poor profitability of a business model dating back to the 1910's and a kind of risk free environment. Yet, explaining the pressure on a business model is hardly explaining the birth of a new one³. With the “functional” view introduced above in mind, rating firms may be reviving their links with private certification at the onset of a new era of market finance. The issuer-pay ratings were first introduced in 1968 by S&P for sub-sovereign issues. The increased role of ratings in this field would soon bring public attention (see NYT (1972) and Twentieth Century Fund (1974)). Furthermore, following the Penn central default in 1970, commercial paper issuers began to solicit ratings to lower their capital costs and revitalize confidence. This succeeded in changing market perception, a result that certainly expanded the market niche for charging issuers (Cantor & Packer (1994, p.4)). Last but not least, comparing nineteenth, early twentieth century and modern (1993-2007) sovereign bond underwriting practices, Flandreau et al. (2009b) provides results tending to show that modern investment bankers outsourced certification tasks to rating firms.

❖ *Regulation*: in the 1930's, American authorities began to use bond ratings for the purpose of regulating bank and insurance investments (see, *infra*, box 1 p. 12). On the wake of the financial difficulties of the early 1970's, the practice of incorporating ratings in regulatory procedures was revived by the Securities Exchange Commission (SEC) in its regulation of broker dealer in 1975. This rule referred to “Nationally Recognized Statistical Ratings Organizations” (NRSRO), a new category that paved the way for the use of ratings by other official bodies (Partnoy (1999, pp. 693-698; and 2001, pp. 16-17) provide descriptive statistics on how regulatory uses mushroomed over the last quarter of the twentieth century in America; JFRAC (2009, pp. 87-118) gives a thorough global picture of financial regulations using ratings). As

³ There have been organizations following the “old” business model since the coming of the modern rating business (see BIS (2000, p.25)). Overall, the global rating industry is however heavily weighted toward the modern rating business model with an oligopoly allowing the 3 “modern” rating firms (Moody's, S&P and Fitch) to own more than 80% of the global market.

regulatory references to ratings multiply, ratings starts deriving value from ensuring that a security complies with these regulations. Shifting away from the sale of information to investors, bond rating firms may end up merely providing “regulatory licenses” (see (Partnoy (1999, pp. 681-703)). In any case, regulation first increased demand with regulatory procedures starting in the 1930’s and then contracted supply with the NRSRO category as a barrier to entry from 1975 (White (2002)). The 2006 Credit Rating Agency Reform Act targeted the supply side: entry was made easier by working on the NRSRO designation process. A focus on regulatory interferences tends to downplay the coming of the modern business model. If anything, this evolution may be interpreted as a move to better extract a regulatory rent.

These two broad views of rating development remain open to debate and pervade most discussions on the rating business. As can be seen in appendix A, a recognised source of investor research considers the modern *Moody’s* as a part of the publishing industry (broken down as follows: magazines (*Martha Stewart Living*), financial information publishers (*McGraw-Hill, FactSet, IHS Inc., Moody’s, Thomson*) and internet directories (*R.H.-Donnelley, Monster Worldwide*)). On the contrary, Partnoy (2006, p. 67) argued that *Moody’s* had financial ratios in no comparison to major financial publishers and a stock price evolution in no comparison to major broker dealers. Partnoy (2006) further put forward three factors to explain the impressive business record of the modern *Moody’s*: the critical role that rating firms played in structured products issuance; regulatory benefits or “licenses” and an immunity from civil and criminal liability for malfeasance. Which role do these factors really play? for example, Hill (2004, pp. 67-68) noted evidence of a “sticky institutional norm” favouring two ratings from *S&P* and *Moody’s* that could not clearly be related to existing regulations. The following empirical analysis aims at contributing to this debate.

2 – Empirical Analysis

Since most rating firms are subsidiaries, access to relevant data is a major issue. This issue is obvious in existing attempts to run “traditional” industry analyses following the “Structure Behavior Performance” breakdown (see White (2002, pp. 44-51) and Smith & Walter (2002, pp. 293-305)). Similarly, Flandreau et al. (2009a, pp. 11-12 and table 1) provided by an interesting discussion of the interwar rating business that ended up focusing on output and signals (number, frequency and price of publications, branching). Overall, this difficulty has brought a pervading use of proxies in analyses of the rating business. Musing on the impact of regulatory licenses, Partnoy (1999, pp. 649-650) looks at the workforce and the number of outstanding

ratings as proxies for business activity. Musing on the impact of competition, Becker & Milbourn (2008) looks at outstanding American corporate ratings to judge on how market shares evolved over 1998-2006. This use of proxy has also been endorsed by regulators. In its first report on NRSRO as required by the 2006 Credit Rating Agency Reform Act, the Security and Exchange Commission (SEC) produced a view on competition by looking at outstanding ratings (see SEC (2008, pp. 34-36)).

This paper aims at adding to these analyses by keeping the discussion on financials. Consider that *Moody's* is the only rating firm that went public as an independent corporation and that it managed this for quite limited periods of time (1929-1962; 2000-today). For the first time, the resulting public accounting information has been compiled into single datasets. Note that *Moody's* has always been one of the very few leaders of the rating industry. Furthermore, the “old” *Moody's* follows an investor-paid business model while the “modern” one follows an issuer-paid business model. This makes this historical discussion valuable since modern analyses of the two business models are bound to compare small competitors to market leaders. To better judge of the dynamics at play and to deal with periods when *Moody's* is not public, similar datasets have been gathered for *Dun & Bradstreet (D&B)* and *McGraw & Hill (MG&H)* (that is, respectively, the credit reporting firm that controlled *Moody's* from 1962 to 2000 and the publishing giant that counts *S&P* as one of its business segment since 1966). These may not be the best business peers but they make sense considering the discussion on the history of the rating business introduced in section 1⁴.

2.1 The bottom line: power in earnings

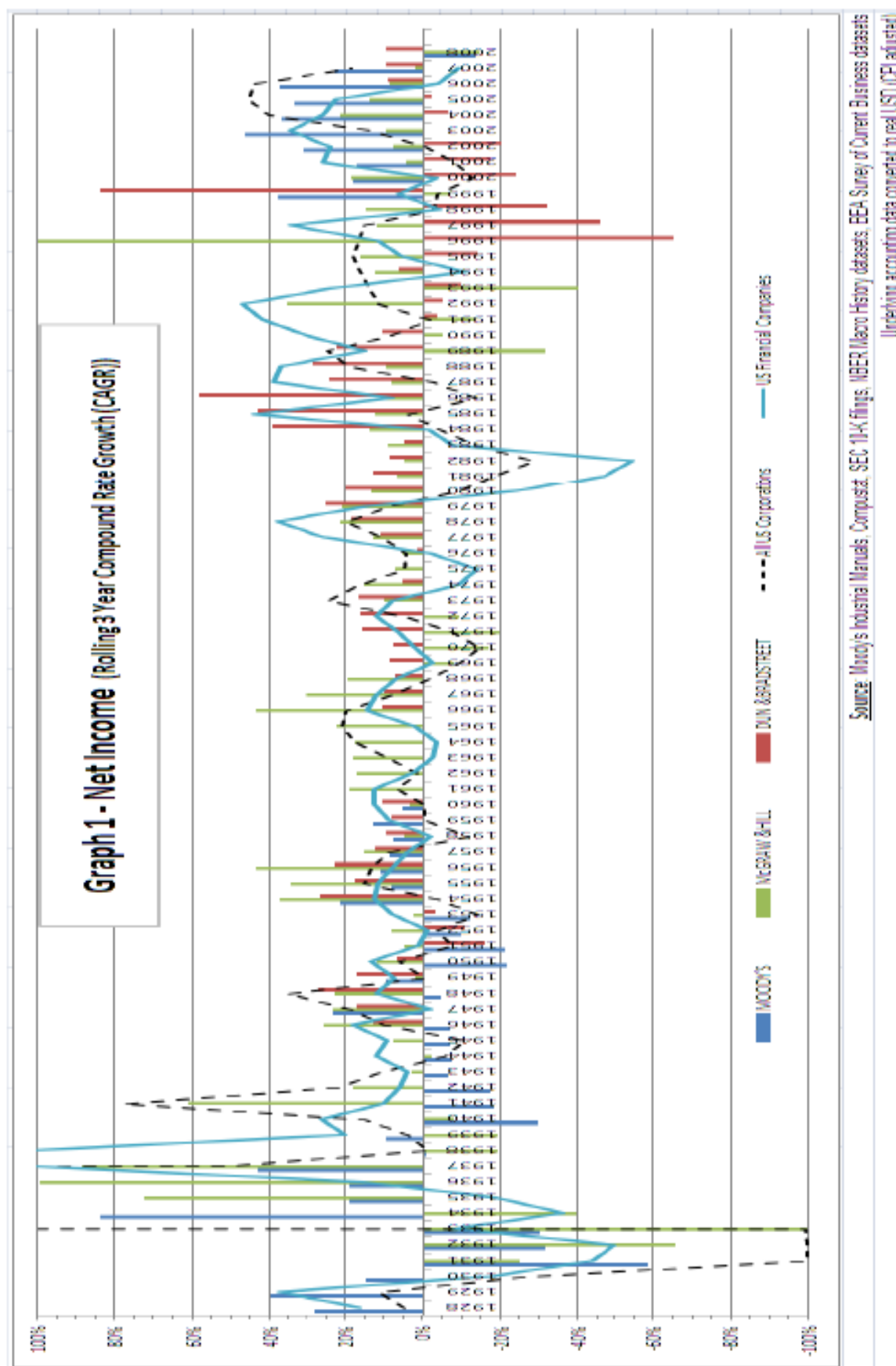
For any firm, looking at net income brought the greatest historical range. To get a middle term view, graph 1 does not display annual figures but rolling 3 year Compound Average Growth Rates (CAGR). These rates may be compared to the ones of the business peers evolve and to how the profits of all American firms and of all American Finance & Real Estate corporations evolve. Graphically, bear in mind that any positive figure means a positive growth: whatever the volatility, a lasting stage of positive figures means good times.

⁴ Take the example of the interwar period. Flandreau et al. (2009, 4 p. 10) mentioned that business peers could be found in other financial information businesses developments “tying advice to data” (business forecasts, for instance (see Favero (2007))). Yet finding public data over decades from a typical business entity of this kind is quite a challenge (Flandreau et al. (2009, 1 p. 11)). Here, one can still regret that *McGraw & Hill (MG&H)* is not that associated with financial press at this time. Still, this company is dealing with specialized press publishing and will soon step in the financial press. Needless to say, a true empirical follow-up to Sylla (2002) would have required continuous accounting data over the 1920's from a credit reporting firm, from a financial press publisher and from an investment banking house.

From 1925 to 1930, the early *Moody's* corporation has an impressive pattern of earnings as compared to the average American firm and even to the average American financial firm. After the Great Crash, the investor paid rating firm recovers with the real economy (dotted line). This means earlier than the average financial company and than *MG&H*. This recovery does not last long though. Bad times start at the end of the 1930's first in the real economy and then in finance. As compared to *MG&H*, *Moody's* first resists better but then it is unable to profit from growth in real activity over the early 1940's. Positive signs appear at the end of the 1940's but business growth is brought to a halt at the turn of the 1950's. This slowdown is weathered out by *MG&H*. Both *Moody's* and *D&B* suffer the blow, but the rating company shows difficulties earlier and to a more preoccupying extent than the mercantile agency. Over the early 1950's, *Moody's* recovers yet *MG&H* and *D&B* seem well more attractive. This said, for the first time since 1929, a truly sustainable pattern of earnings is managed by *Moody's* over 1951- 1960. This allows the rating company to face the slowdowns in real activity and finance occurring at the end of the 1950's. When *D&B* settled to buy *Moody's* in the early 1960's, the investor paid rating company was indeed an attractive business opportunity.

This business record hardly fit the extent of the regulatory rent coming from the use of ratings in financial regulations (Partnoy (1999)). As can be seen in box 1, the first rules came at the beginning of the 1930's and the regulatory reliance on ratings reached its full extent at the end of the decade. Yet graph 1 shows that *Moody's* does not find a sustainable pattern of earnings before the early 1950's and, further, that recovery occurred earlier in related activities. These findings are quite unsurprising considering that the "regulatory licenses" came as American regulators enacted the Securities and Exchange Act (1934). This Act codified mandatory financial information by corporate issuers: a quite valuable service of early investor-paid rating firms would now be obsolete...

From 1961 to 1998, graph 1 displays data only for the business peers. *MG&H* suffered at the turn of the 1970's and of the 1990's but each time quite quickly recovered. In contrast, *D&B* did not meet troubles before the early 1990's but then encountered more structural difficulties. From 1999, the modern *Moody's* power in earnings has proved impressive with most of the 3 year CAGR well above 20%. This is in sharp contrast with *D&B's* experience, but *MG&H's* earnings have also shown a nice pattern since the second half of the 1990's. To some extent, the expansion of the modern *Moody's* is coherent with the pattern of financial profits. This said, the rating company has the up side, especially in weathering out a downward trend starting in 2003. However, the last observation shows that *D&B* is the only one to face the bust of the structured finance episode.



Source: Moody's Industrial Manuals, Compustat, SEC 10-K filings, IBER Macro History datasets, BEA Survey of Current Business datasets
Underlying accounting data converted to real USD (CPI adjusted)

Box 1 – The Coming of a Regulatory Rent*

Insurance:

In an answer to the 1931 crisis, the New York State Insurance Department ruled in 1932 that bonds rated in the first five rating grades by one of the rating agencies would be considered eligible for amortization on a cost basis. The decision was criticized over the 1930's: extensive use of amortization led to dubious valuations in front of quite low market prices. In 1940, the National Association of Insurance Commissioners (NAIC), the follower of the NCIC, however stood by this practice and stated that amortization would be given to bond rated: i) in the first four grades by two rating agencies, ii) in the first five grades by three agencies or iii) in the first five grades by two agencies plus a pricing requirement (priced at 55 or better in September, October, and November). In 1953, the NAIC reformulated the eligibility criteria in two tests. "Test 1" was a rating from the first four rating grades of one of the accredited agencies or a number of balance sheet requirements. "Test 2" mainly dealt with earnings requirements (see Atkinson (1967))

Banking

By 1930, the Federal Reserve had begun using bond ratings in their examination of member bank portfolios. This use could be considered "informal". In 1931, the Comptroller of the Currency officially adopted ratings to measure national banks' bond quality: bonds rated Baa/BBB or above would be carried at cost; bonds with lower ratings would be marked to market thanks to fractional write-offs. In tune with previous insurance practices, this ruling was well received at the time (see WSJ (1931a &b); Harold (1938, p.27)). During the following years, many State banking superintendents adopted the Comptroller's plan (see Harold (1938, pp. 27-28)).

In 1935, Amendments to the Federal Banking Act specified that all national banks were subject to the orders of the Comptroller's Office as for the securities they might purchase for their own accounts. On February, 15th 1936, the Comptroller issued a new ruling stating that "the purchase of investment securities in which the investment characteristics are distinctly and predominantly speculative, or investment in securities of a lower designated standard than those which are distinctly and predominantly speculative, is prohibited". A footnote added that "the terms applied herein may be found in recognized rating manuals" (see Harold, (1938 p. 30)). This more radical decision spurred unprecedented hostility about the use of bond ratings as tools to influence the structure of commercial banks portfolios (see WSJ (1936a &b)). It also created confusion about what the footnote exactly meant because it was relying on an unsettled market convention: Moody's kept interpreting the ruling as pointing to Baa/BBB as a cutoff but the American Banker considered A/A (see MIS (2004, pp. 1-2)). The Comptroller refused to make this point clear and then stated that ratings were not "the sole criterion, or even a necessary criterion, for judging whether or not a particular bond was eligible for purchase by a national bank" (see WSJ (1936c &d)). Nonetheless, controversies did not quiet down (see WSJ (1936e)). On June 27th, 1938, all the federal banking authorities published a joint statement more in tune with the 1931 ruling: bonds would be divided into groups and that bond issues bearing any of the first four rating grades were to be given a privileged status (by being valued at their purchase price or at par and by being therefore insulated from day-to-day price fluctuations).

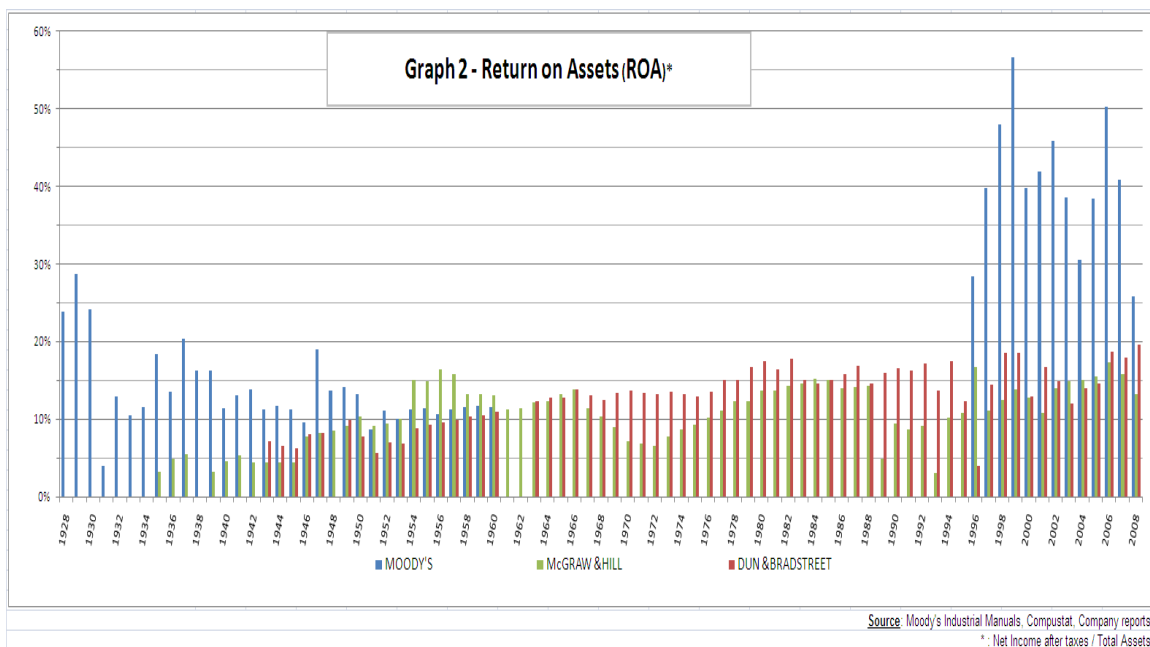
The use of ratings by all banking authorities was now clearly set. For individual banks, this meant that informational requirements and uncertainties would be minimized for investments in the top four rating categories while lower rated or even unrated bonds would require an added burden of justification. In 1949, the Executive Committee of the National Association of Supervisors of State Banks joined the Federal authorities in reaffirming the process outlined by the 1938 statement (see Federal Reserve (1949)).

* : this box introduces only the first regulations in History, see *supra*, section 1 p. 7-8 for how the regulatory rent evolved through the second half of the twentieth century

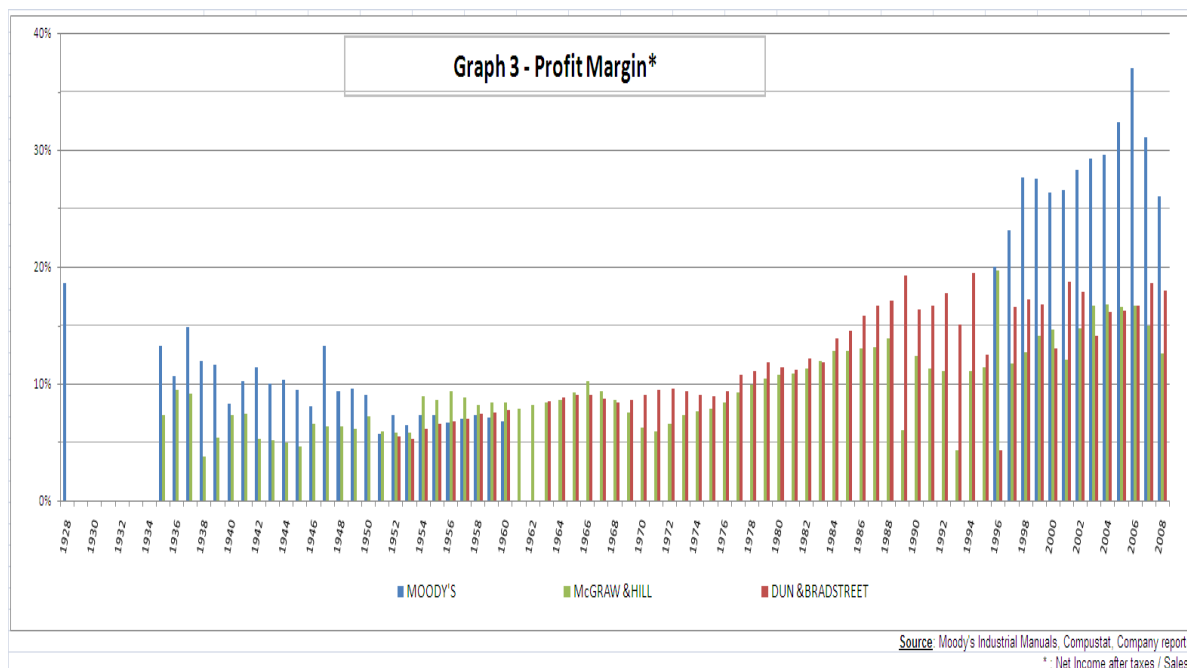
2.2 Financial ratios

Using accounting data, a number of financial ratios can be drawn over the past 80 years. A natural starting point is to look at basic profitability measures.

First, graph 2 displays Returns on Asset (ROA). The early *Moody's* had a rate of return always above 20% before 1931. Up to 1950, this ratio still proved advantageous to the investor paid rating firm as compared to *MG&H* and *D&B*. The three businesses then settled for similar figures around 10-15%. Plotted against *MG&H*, *D&B* has the downside from the early 1940's to the early 1960's. The situation is then strikingly reversed and this occurred at the time when *Moody's* was incorporated as a business line... The modern issuer paid *Moody's* displays very high and volatile ROA. A sharp upward trend over 1996-1999 is brought to a halt in 2000. The recoveries are always ended by further declines but the ROA remains very impressive (>25%): this pattern may be more linked to asset management than to external shocks.

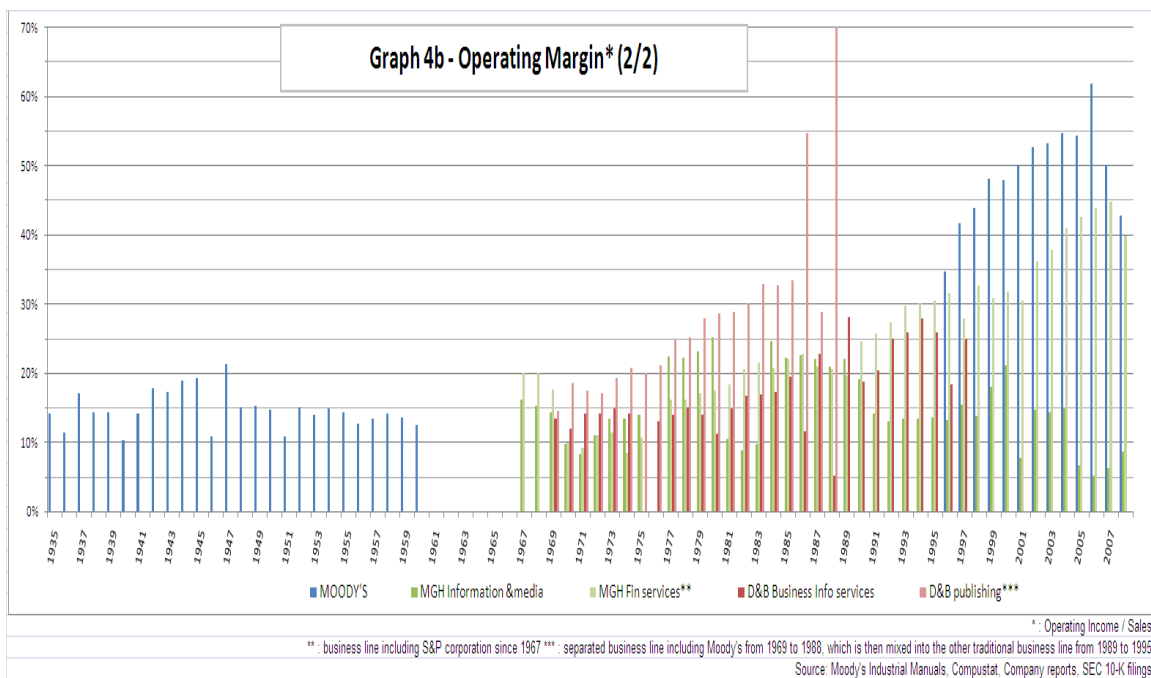
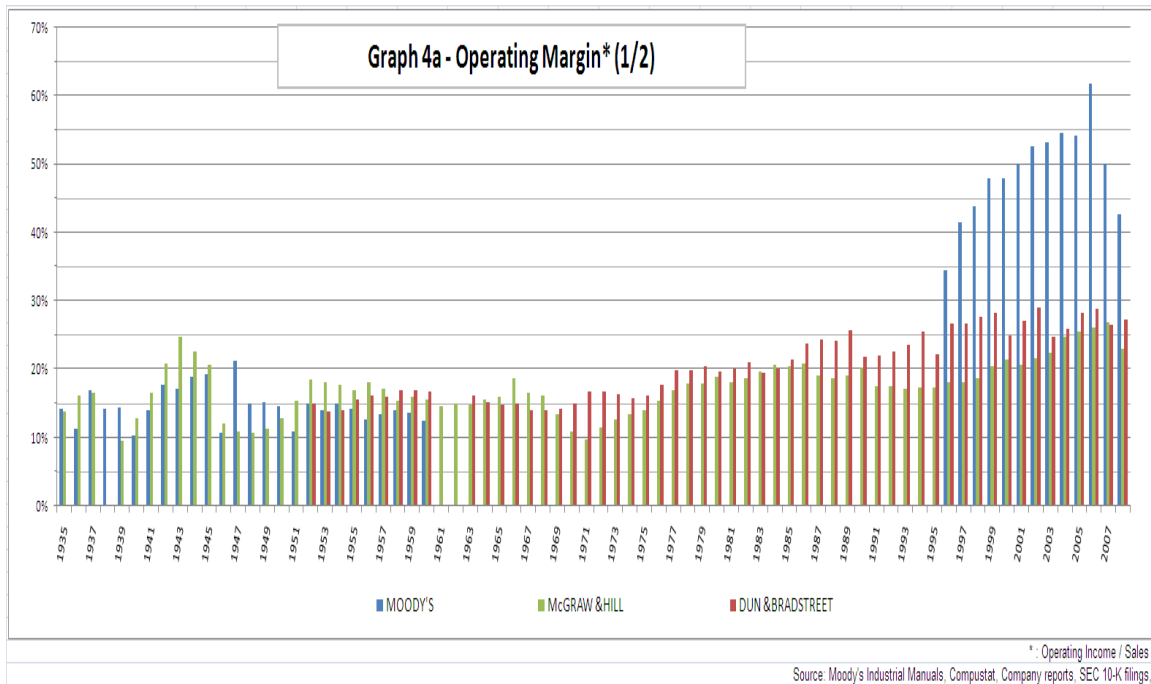


Secondly, to better assess any bias due to asset management policies, graphs 3 and 4 provide profit margins. Graph 3 gives straight profit margins. In 1928, *Moody's* was able to extract 18, 56 cents of net profit out of every dollar of sales. Despite a downward trend, this investor paid corporation had a better profit margin than *MG&H* until 1950 and than *D&B* until 1957. The modern *Moody's* corporation starts in tune with *MG&H* in 1996 but then displays an impressive upward trend until 2006. Although it is a close call in 2008, *Moody's* has always extracted more than quarter of net income out of every dollar of sales. Furthermore, it managed this when *D&B's* and *MG&H's* have been gravitating around a 15% margin.



Graphs 4a & b differ from graph 3 by looking at “raw” profits. Unfortunately, the data starts when good times are over for the old *Moody's* corporation. Nevertheless, Graph 4a brings a new light on the comparison between the investor-paid *Moody's* and *MG&H*. From 1935 to 1951, looking at operating margins completely change the picture of graphs 2 and 3 to the advantage of *MG&H*. This is quite welcome since this new picture is more in tune with the net earnings dynamics displayed in graph 1. Turning to the right-hand side of the graph, the modern *Moody's* corporation again appears to be something else by extracting between 30 to 60 cents in operating income out of every dollar of sales. The modern *Moody's* started with an operating margin well above the ones *D&B's* and *MG&H's*. Furthermore, this margin grew at a fast pace when the two others stayed between 15% and 30%.

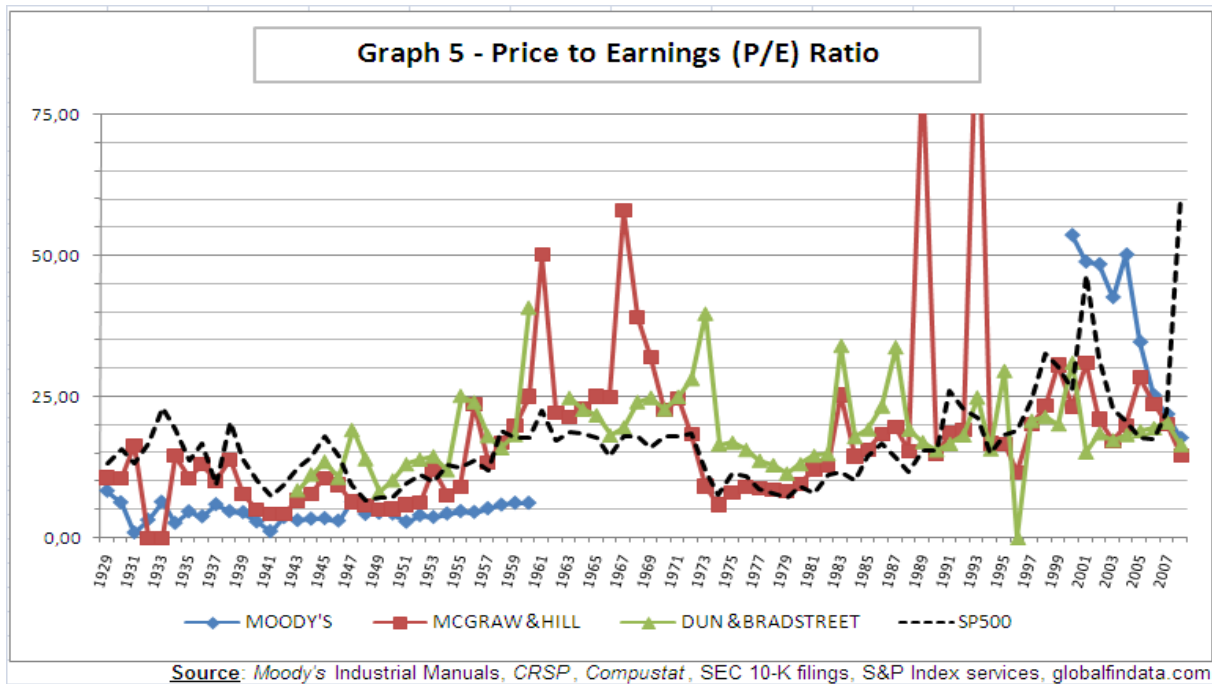
Looking at raw profits, segment reporting from *D&B* and *MG&H* can be used in an attempt to overcome *Moody's* accounting data limitations. Graph 4b then shows operating margins for the modern *Moody's* next to the business lines incorporating rating firms. By starting from the right, note how the profitability of *MG&H's* financial services division shows a trend keen to the one of the modern *Moody's*. Furthermore, the financial service division of *MG&H* displays an impressive trend line going back to 1975. Such a trend could hardly be achieved without a steady and long term profitability of the modern rating business. This interpretation is further confirmed by the operating margins of the *D&B* business line incorporating *Moody's* from 1969 to 1988.



Such an interpretation tends to downplay numerous statements made on the wake of the structured finance crisis. Most commentators had ended up associating the impressive profitability measures from rating firms to their involvement in structured finance securities issuance during the speculative episode of the early 2000's. Going into more details, the SEC showed that staffing among the three leaders of the rating business followed the rise in activity and in revenues in the RMBS field but not in the CDO field (see Appendix B). This certainly raises issues about business management. This said, overall, the recent profitability of the leaders of the rating industry remains in line with a trend that can be traced back to the mid 1970's. This trend occurred on the wake of the transition to the modern "issuer pay" business rating model in the early 1970's.

2.3 The opinion of the stock market

When each of the ratios used above has some advantages, it is generally held that stock markets generate better estimates than any model using financials as inputs. For this reason, graph 5 provides historical Price to Earnings (P/E) ratios. This measure has some disadvantages. First, low or negative earnings per share bring hardly informative extreme values. Secondly, this measure may be manipulated by managers. Looking at horizontal patterns is a way of overcoming these issues.



The old *Moody's* corporation went public in October 1928. Over 1929, *Moody's* stock was on average bought at more than 8 times its earnings, as compared to more than 10 for *MG&H's* stock and for the SP500 average. *Moody's* stock endured the market crash yet equity investors' confidence never came back to pre-crisis levels: the P/E moved around 5 up to 1939. As for the comparison to the business peers, extreme values aside, the reference point for *MG&H* remained somewhere around 10 until 1938. Note that confidence fades from 1937 to 1941 and that this holds for *Moody's*, *MG&H* and the SP500. It seems that equity investors do not see a particular windfall in the final rulings standing by the use of ratings as inputs and establishing the regulatory license for an undetermined period of time (see, *supra*, box 1: 1938 for banking and 1940 for insurance). From 1941 on, the SP500 bounces back and *MG&H* quickly recovers to reach the 10 P/E reference point in 1945. *Moody's* P/E also recovers but stagnates; thankfully it does not suffer the market slowdown occurring over the second half of the 1940's. Looking at 1949 and 1950, it is still an open shot between *Moody's*, *MG&H* and *D&B*. An upward trend starts in 1950, and *Moody's* appears standing aside from it by remaining around a 5 reference point. By contrast, *D&B* early takes the up side to the SP500 while *MG&H* exhibit volatility before consistently beating the market at the end of the decade.

The SP500 P/E stagnates over the 1960's as compared to both *MG&H* and *D&B*. Things do not change for the best with the 1970's. A couple of years aside, *MGH*'s P/E ratio remained aligned to the SP500 average over the last quarter of the century. Considering the last decade, the reference point for this stock would be somewhere between 20 and 25. *D&B* managed the slowdown of the 1970's better than *MG&H*. These good times ended in the late 1980's: *D&B* de-correlated from the SP500 average and exhibited volatility. Over the last decade, a reference point for this stock would be around 20. In September 2000, the modern *Moody's* corporation concluded its spin-off from *D&B*. Confidence in the future of this independent rating entity was high among investors: over 2000, they proved on average ready to pay more than 50 times *Moody's* earnings to become shareholders. The P/E ratio then evolved but the reference point for this company could still be thought around 50 until 2004. Confidence has then strikingly faded... *Moody's* line joined the one of *MG&H* in 2006 and the three lines became one over 2007-2008. Bear in mind that equity investor trust in a dedicated rating entity like *Moody's* eroded well before any public concern over structured finance securities.

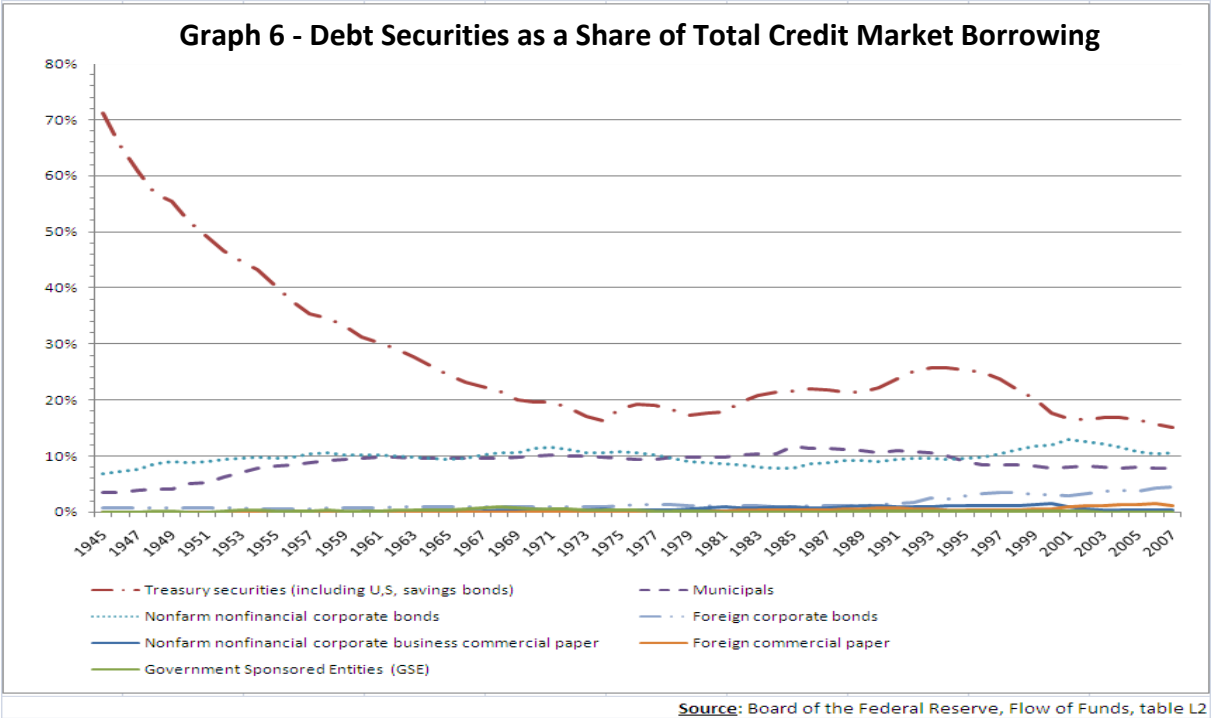
3 – Result Discussion: the Structure of the American Bond Market since 1945

Is there something so special about the rating business that one needs to turn to exogenous factors? To deal with this question, a narrow business analysis is hardly enough. Musing on the historical development of rating firms Sylla (2002, 3 p. 33) pointed to macroeconomic factors and mentioned “historical rhymes” between the 1920's and the last quarter of the twentieth century.

In an attempt to further link the history of rating firms to the one of the American corporate bond market, this section provides descriptive statistics allowing a discussion of the microeconomic figures presented above. These statistics rely on a normalized body of datasets going to date (the Federal Reserve flow of funds). This is not the case for information on earlier periods. For the sake of comparison, some data from the most common sources on 1900-1945 are given in appendix C but the discussion here will focus on the post-World War II decades.

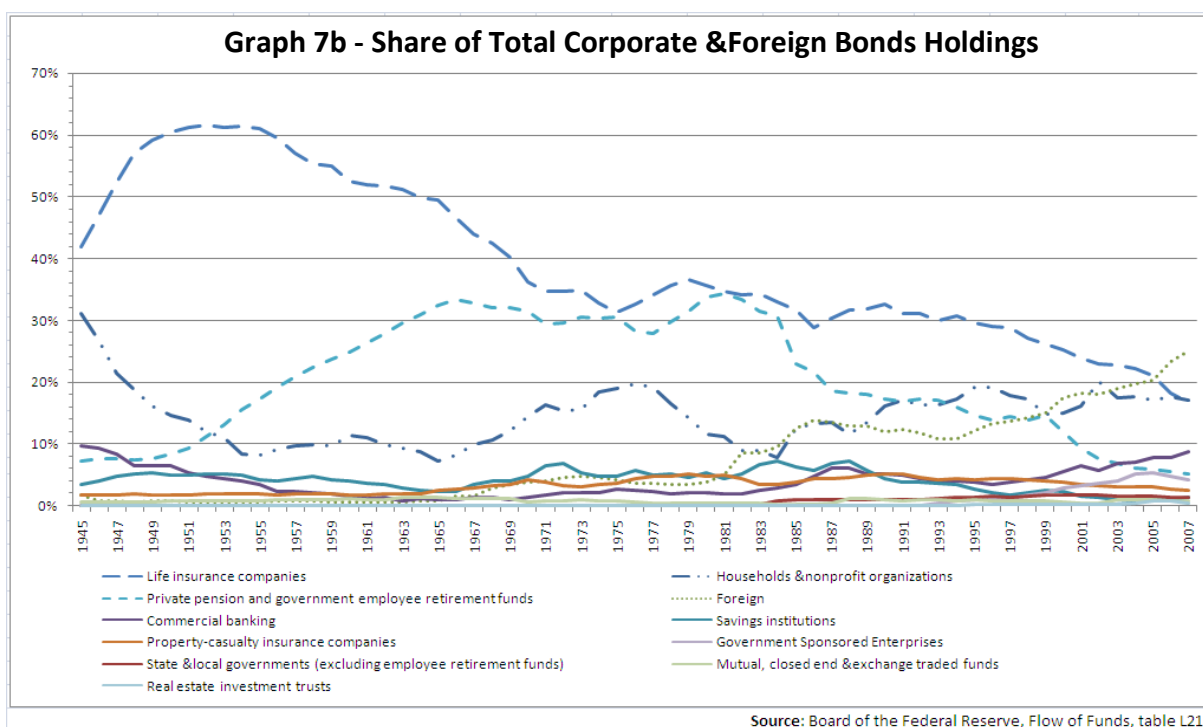
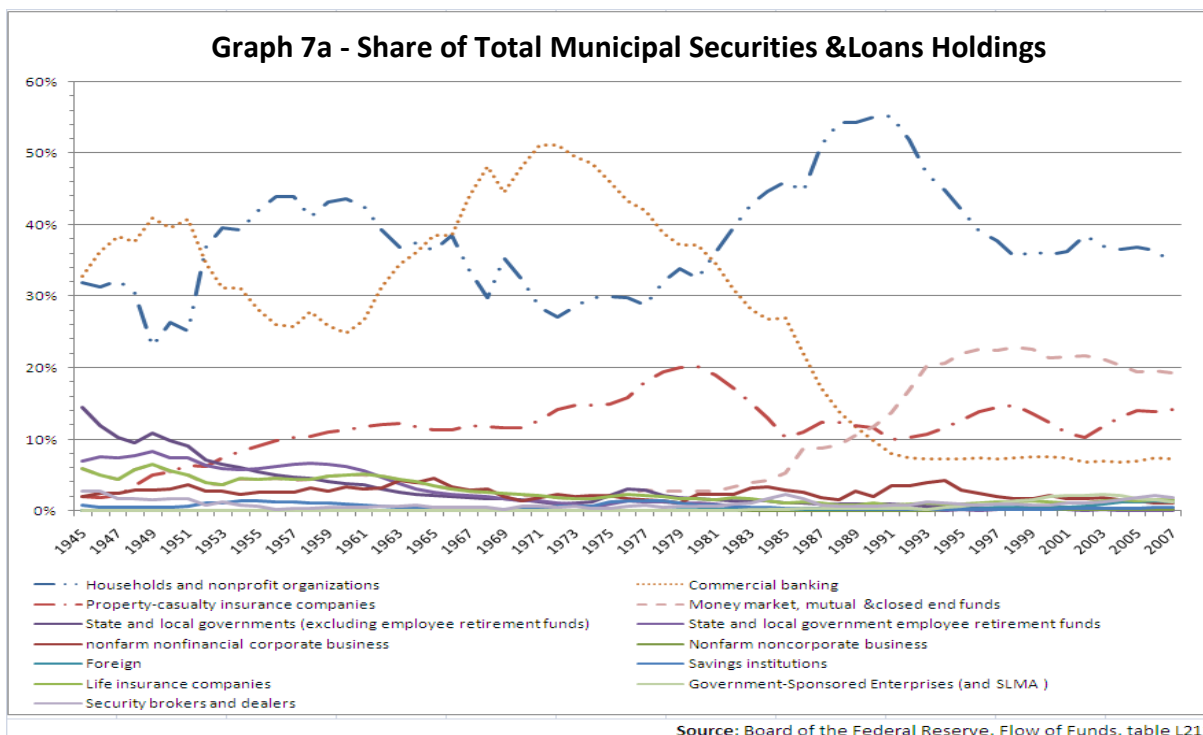
The first matter of interest is whether the coming of financial globalization and financial deregulation brought unprecedented levels of bonded debt after 1970. On graph 6, a striking feature is the decrease of Federal bonded debt which has steadily freed capital over the post world-war II era. Another important point is that other areas of the American bond market have not that benefited of this structural change. American sub-sovereign government and corporate bond market issues have remained around a 10% level achieved by the late 1950's. Municipals then settled to a 8% level after 1995. The American corporate bond market share proves a little more volatile: there is a 12% peak over 1969-1971, a 8 % low over the mid-1980's and a 12% peak over the early 2000's. The rise of American corporate bond levels over the second half of the 1990's seems to benefit from the decreasing share of Treasuries over 1995-2001. Overall, the main long term trend of interest is the

rising share of foreign corporation bonds since the 1990's: when this share had been below 2% since 1945, a steady growth brought it around 4% since 2003. This means good business for modern issuer paid rating firms: is there a better way than buying the services of this intermediary to manage a bond issue on the American field? By providing a perspective on the relative importance of three fields at the core of rating activities, graph 6 mostly evidences a straightforward consequence of financial globalization as a structural factor behind "modern" rating success.



When graph 6 provided a look on shares in the supply of credit market debt, Graphs 7a & b turn to the demand side: who are the key holders of American & Foreign corporate bond issues and of American sub-sovereign issues? These are the ones truly benefiting of the existence of a pervading bond rating system.

Graph 7a gives the holdings of sub-sovereign American credit market debt. At the beginning of the 1970's starts a dramatic decrease of commercial bank holdings. The share of insurance companies then also starts decreasing. This structural change reaffirms households and non-profit organizations as major holders of municipal debt. Furthermore, over the 1980's, the share of mutual funds rises from negligible to more than 20%. Overall, these changes portray a shift from traditional institutional investors to the investing public. While ratings may have some coordinating values for institutional investors, households and individuals may be more eager to check these specialized third party opinions.



Graph 7b gives the holdings of corporate and foreign bonds. A major feature is the long term decrease in the share of life insurance companies. This decrease is first compensated by a rising share of pension and government retirement funds. But this share stagnates from the mid-1960's to the early 1980's. The structural decrease in life insurance holdings is then eventually compensated by two structural changes. First, there is a recovery in household holdings starting in the mid 1960's. Brought to a halt in the late 1970's, it bounces back over the 1980's as pension and government retirement fund holdings start dropping. Secondly, there is an impressive growth in foreign holdings. The growth starts

in the late 1960's yet the share of foreign holdings remains under 8% until 1981. This share then increased at a fast pace and dominates since 2006. Again, these remarks point to a shift from traditional institutional investors to holders that greatly benefit from publicly available third-party rating on bond quality.

Concluding Remarks: Two Businesses and One Issue for Regulatory Policy

Ratings were for long an American bond market feature. Thanks to the financial globalization starting in the 1970's, they have now become a key institution of the global bond market. Over recent years, the role of major rating firms in the structured finance episode has been discussed in news editorials and political circles. On the wake of heavy market disruptions, this heated debate reached an unprecedented scale when basic knowledge on the rating business is still missing.

This is a concern when regulators are bound to act against such a background. There was little detailed discussion on competition in the rating business when the 2006 Credit Rating Agency Reform Act was passed as a "duopoly relief" regulation. Opening public registration to new entrants was certainly a good thing; yet it was bound to do little about market shares since market leaders enjoy strong reputational advantages (see Hill (2004, 4-6 p. 85)). The policy move did little more than bringing major rating firms under the Securities and Exchange Commission (SEC) authority and requiring a number of key disclosures (information on interest conflicts management, performance statistics, methodologies, etc.).

In December 2008, the SEC adopted new rules of this kind as a policy response to the role of ratings in structured finance. The agency had proposed to force full disclosure of rating histories to allow better performance assessments. This was hardly manageable for investor-paid rating firms and the final rule settled for a limited and random disclosure (see SEC (2009) on rule 17g-2). This episode clearly shows that dealing with two businesses in one remains an issue for current regulatory initiatives. Furthermore, sketching a competition policy remains a challenge for regulators. A former insider of the rating industry links troubles with structured finance ratings to competitive pressures allowing arrangers to take advantage of "rating shopping" (Fons (2008, p. 7)). After a year-long inquiry and campaign by the New York State Attorney, the "Cuomo agreement" precisely targeted related bad practices (see Cuomo (2008)). Moody's (2009) publicly acknowledged that the credit rating industry needed third-party help in order to properly deal with competition and information disclosure. In December 2008, an ambitious move was set aside by the SEC. Re-proposed in February 2009, this proposal would force information sharing between an issuer-paid rating firm and its NRSRO competitors (both issuer-paid and investor-paid, see SIFMA (2009) commenting rule 17g-5). This would certainly fundamentally change the shape of competition in the rating business.

This initiative aside, an open question is whether competition policy should discriminate between the two existing rating business models. Drawing on *Moody's* history, this paper provided an unprecedented discussion on this issue. While this company has always been one of the few leaders of the rating industry, it was paid by investors until the early 1970's and has then been paid by issuers. Looking at a number of financial ratios, the modern issuer paid rating firm indeed appears to be something else. A number of arguments have been put forward to explain this profitability:

- (i) the pervasive use of ratings in financial regulations,
- (ii) the little success of legal cases brought against rating firms
- (iii) the involvement in the structured finance issuance boom.

This paper provided a new perspective on these arguments. First, the business record of the early *Moody's* corporation shows no particular windfall in the coming of the first American regulations using ratings as a straightforward input (i). Note, by the way, that *Moody's* has for long publicly supported the withdrawal of ratings from financial regulations (see, for example, MIS (1995)). Secondly, *Moody's* recent profitability is in line with profitability trends that started in the 1970's and this suggests paying more attention to the coming of a modern business model (iii).

Whence comes "modern" ratings success? Musing on the factors listed above provides little insight if the state of fixed income markets is missing. Ratings are nothing but an institution of capital markets and the discussion must somehow turn to macroeconomics (Sylla (2002, 3 p. 33)). Reviewing the structure of the American credit market since 1945, two points may help to understand the success of modern ratings. On the one hand, American issuer-paid ratings were particularly interesting for a rising star of credit market borrowing over the last quarter of the twentieth century: foreign corporate bond issuers. On the other hand, the holdings of non-Treasury bonds show a decrease in the share of major institutional investors compensated by an increase in the one of households and foreign holdings. These holders are great beneficiaries of the public good feature of issuer-paid ratings (commented by Schwarcz (2002, 3 p.8)). These two points are first steps in building a better picture of the interplay between credit market and rating business development.

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Appendix A – A view of Moody's Business Peers

Comparative Valuation – Publishing Companies

	Magazines		Publishers / Financial Info.				Directories/ Internet		Average (excl. MSO)
	Martha Stewart Living	FactSet	IHS Inc.	McGraw- Hill	Moody's	Thomson	R.H. Donnelley	Monster Worldwide	
Rating	Equal-weight	Equal-weight	Equal-weight	Overweight	Overweight	++	Equal-weight	Overweight	--
Recent Stock Price	17.15	68.16	46.25	68.20	62.57	40.73	73.79	41.66	--
52-week High	23.21	70.86	48.03	72.50	76.09	44.93	84.49	54.79	--
52-week Low	14.76	42.30	25.90	47.80	49.76	37.66	48.03	34.81	--
Year-to-Date Stock Price Return	-21.7%	54.6%	24.8%	0.3%	-9.4%	-1.7%	17.6%	-10.7%	10.8%
% Off 52-Week High	-26.1%	-3.8%	-3.7%	-5.9%	-17.8%	-9.3%	-12.7%	-24.0%	-11.0%
12-month Price Target	--	--	--	86.00	85.00	++	--	55.00	--
Upside to Target	--	--	--	26.1%	35.8%	--	--	32.0%	--
Dividend per Share	--	0.48	--	0.82	0.32	0.98	--	--	--
Yield (%)	--	0.7%	--	1.2%	0.5%	2.4%	--	--	1.2%
Earnings per Share									
2006(A)	-0.03	1.56	1.15	2.50	2.25	1.33	2.26	1.28	--
2007(E)	0.43	2.04	1.41	3.02	2.64	++	1.41	1.44	--
2008(E)	0.45	2.48	1.75	3.52	3.17	++	2.09	1.88	--
% Change 2007(E) vs. 2006(A)	--	30.7	22.2	20.8	17.0	--	-37.8	12.6	10.9
% Change 2008(E) vs. 2007(E)	4.4	21.5	24.4	16.5	20.4	--	48.2	30.6	26.9
Valuation Ratios									
P/E - 2006(A)	--	28.3	32.2	27.2	30.7	31.1	27.7	36.6	30.5
P/E - 2007(E)	39.9	33.4	32.9	22.6	23.7	--	52.4	29.0	32.3
P/E - 2008(E)	38.2	27.5	26.4	19.4	19.7	--	35.3	22.2	25.1
P/E Relative - 2006(A)	--	1.62	1.84	1.56	1.76	1.78	1.59	2.09	1.75
P/E Relative - 2007(E)	--	2.11	2.07	1.42	1.50	--	3.30	1.83	2.04
P/E Relative - 2008(E)	--	1.83	1.76	1.29	1.32	--	2.36	1.48	1.67
Enterprise Value/EBITDA									
2006(A)	--	14.54	--	14.91	17.23	13.70	10.19	18.84	14.90
2007(E)	30.26	17.96	19.45	12.33	13.18	--	10.61	14.34	14.64
2008(E)	19.10	14.72	15.66	10.63	11.08	--	9.93	10.84	12.14
Free Cash Flow per Share									
2006(A)	-0.54	1.72	1.67	2.67	2.85	1.88	7.74	1.11	--
2007(E)	0.38	1.99	1.95	2.33	2.69	++	7.83	1.86	--
2008(E)	0.27	2.26	2.15	3.56	3.19	++	8.66	2.13	--
Adjusted Price/Free Cash Flow									
2006(A)	--	39.6	27.7	25.5	21.9	21.7	9.5	37.5	26.2
2007(E)	45.1	34.2	23.7	29.3	23.2	--	9.4	22.4	23.7
2008(E)	63.7	30.1	21.5	19.1	19.6	--	8.5	19.5	19.7
Financial Data (\$ mil)									
Revenue - 2007(E)	335	476	628	6,818	2,412	++	2,676	1,351	--
EBITDA - 2007(E)	27	184	123	1,904	1,300	++	1,418	323	--
EBITDA Margin (%)	8.1%	38.6%	19.6%	27.9%	53.9%	++	53.0%	23.9%	36.1%
Revenue - 2008(E)	372	567	684	7,336	2,779	++	2,711	1,569	--
EBITDA - 2008(E)	41	219	146	2,109	1,498	++	1,448	406	--
EBITDA Margin (%)	11.1%	38.6%	21.4%	28.7%	53.9%	++	53.4%	25.9%	37.0%
Shares Outstanding (2007E)	54	51	57	349	273	++	73	134	--
Equity Market Cap (2007E)	928	3,491	2,646	23,815	17,056	++	5,375	5,583	--
Total Debt (2007E)	NA	0	1	0	300	++	9,734	0	--
Preferred (2007E)	0	NA	NA	0	0	++	0	0	--
Cash and Equivalents (2007E)	103	193	217	247	221	++	66	875	--
Other (2007E)	0	0	-40	-99	0	++	0	0	--
Net Debt	-103	-193	-256	-346	79	++	9,668	-875	--
Unconsolidated Assets (2007E)	0	0	NA	0	0	++	NA	70	--
Minority Interests (2007E)	0	0	0	0	0	++	NA	0	--
2007E Enterprise Value	824	3,298	2,391	23,470	17,135	++	15,043	4,638	--
Debt-to-Capital (2007E)	NM	NM	NM	NM	NM	--	82.6%	NM	82.6%
Total Debt/EBITDA (2007E)	0.0	0.0	0.0	0.0	0.2	--	6.9	0.0	1.2
Net Debt/EBITDA (2007E)	-3.8	-1.1	-2.1	-0.2	0.1	--	6.8	-2.7	0.1
EPS CAGR (2006-08E)	--	26.0%	23.3%	18.6%	18.7%	--	-4.0%	21.3%	17.3%
EBITDA CAGR (2006-08E)	--	22.5%	21.2%	13.5%	14.8%	--	0.0%	18.8%	15.2%
PEG (2007E)	--	1.1	1.5	1.1	1.4	--	-1.4	2.3	1.0

Source: Morgan Stanley Research

E = Morgan Stanley Research Estimates A = Actual V = More Volatile P = Pro Forma

Free cash flow = Free Cash Flow from Operations - Debt Service - Tax Adjustment for Cash Flow - Net Cash Used (From) One-time Items.

Adjusted Price / FCF = Price - Unconsolidated Assets per Share / FCF per share

Enterprise value = Adjusted Mkt. Cap. + Debt - Cash - Unconsolidated Assets + Minority Interest + Other Non-operating Assets or Liabilities.

Pro forma 2006 revenue, EBITDA, and free cash flow numbers are not available for those companies which have made acquisitions or divestitures

during 2006 due to the constraints of ModelWare. Dashes are shown for these companies.

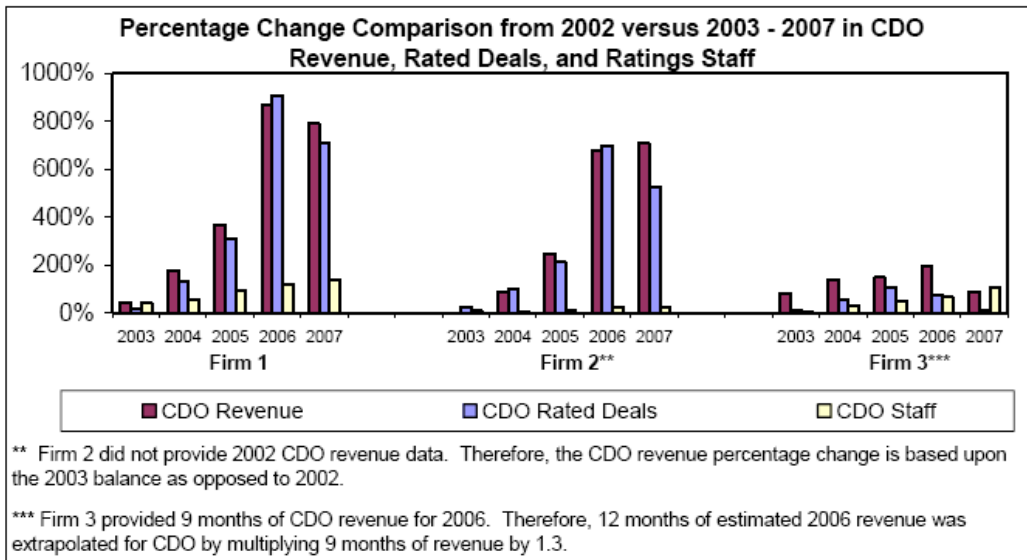
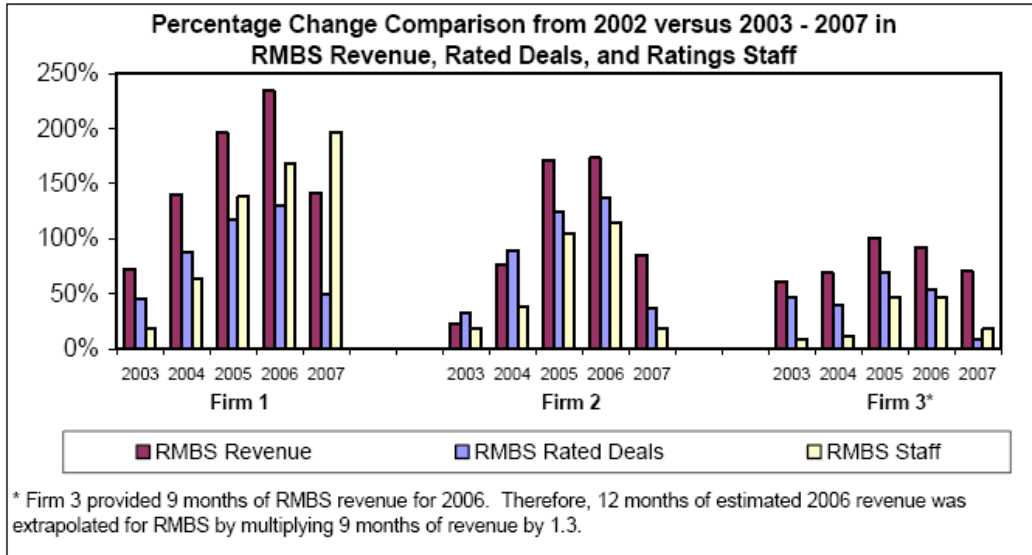
Publishing industry view - In-Line - In the absence of a meaningful pick-up in traditional media ad trends or additional restructurings, the Publishing group is likely to mark time with the S&P.

Source: Morgan Stanley (2007, exhibit 15 p. 11)

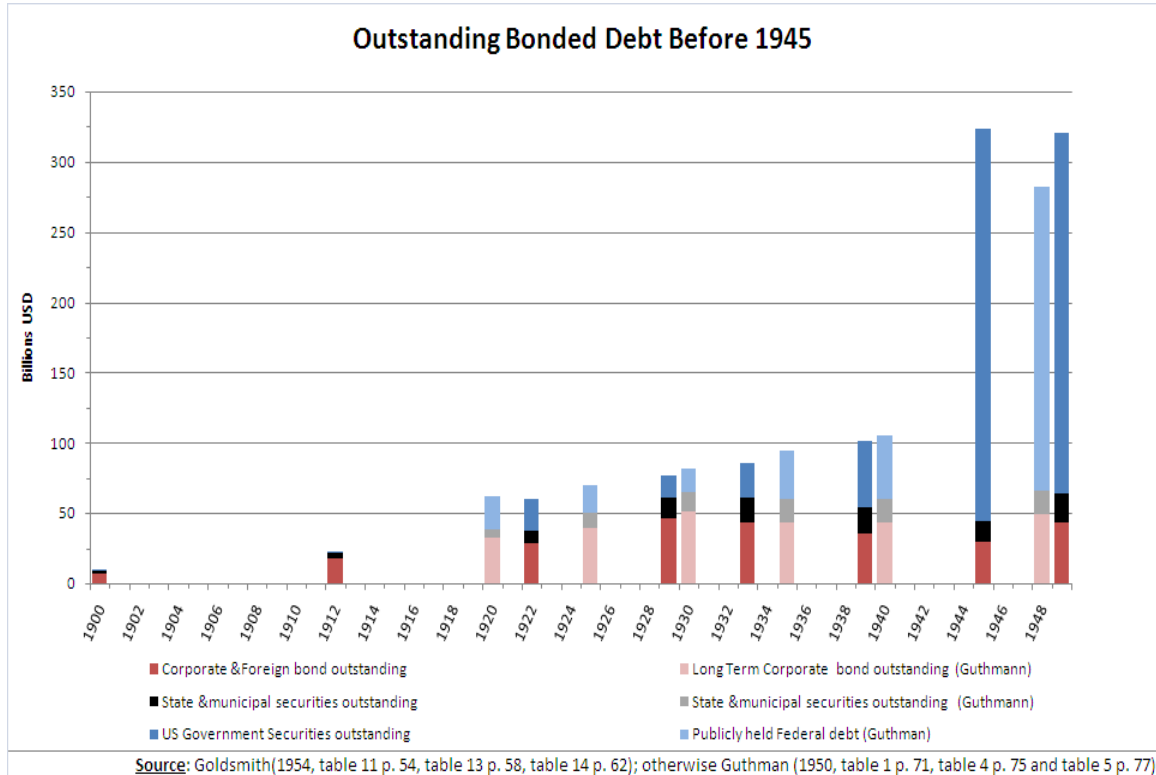
Appendix B – The SEC’s View on Structured Finance Business Management

Source: SEC (2008c, p. 10-11)

(Note: refers to the leaders of the rating industry)

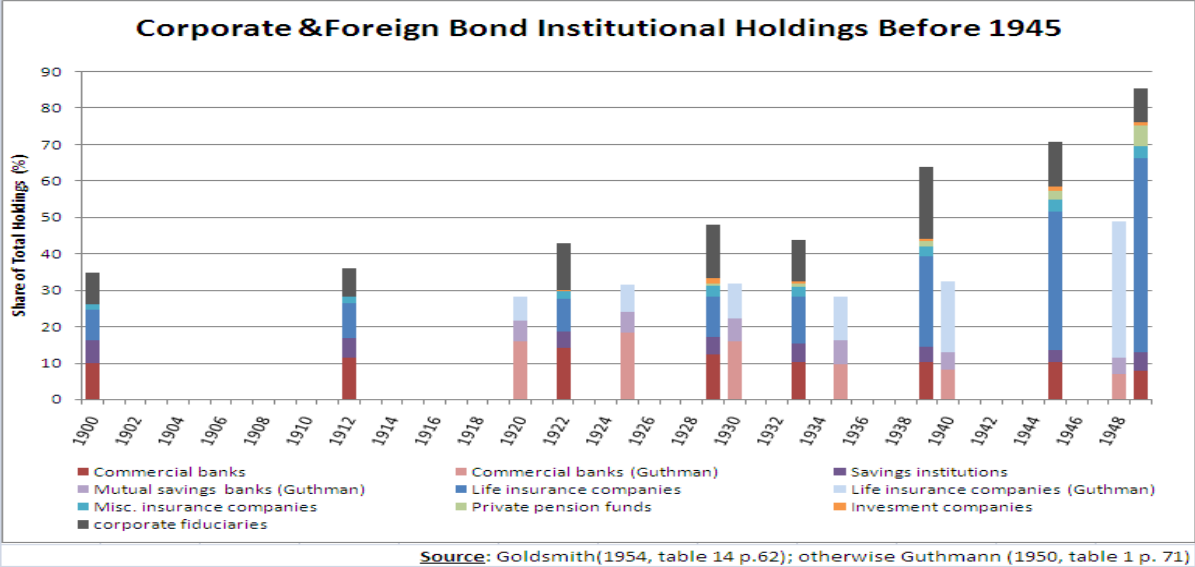


Appendix C - The American Bond Market before 1945



The graph above gives a view of the supply side. Note that publicly held Federal debt comes on the wake of World War I and from then on it seems to negatively correlate with the amount of corporate bond outstanding. When the share of municipals remains quite stable, a rise in the share of treasuries seems to answer a decrease in the one of corporate (and inversely). Pay attention to the fact that, from 1929 to the end of the 1940's, municipals stagnate and corporates decrease. Non-Treasury credit market borrowing is levelling-off for years and in 1934 the Security and Exchange Act changes the need for financial information of corporate investors. Here are two structural factors that may explain the difficulties of the early investor-paid *Moody's* (see, *supra*, graph 1):

Turning to the demand side, the most impressive figures are the total share of financial intermediaries, which, at the turn of the 1940's, rises above 60% on both graphs. This intermediation of credit market borrowing is a key feature that will last for decades after World War II (see, *supra*, section 1, p. 7). Linking the fate of the early rating business to this structural change is an avenue for future work.



For corporate and foreign holdings, the share of all financial intermediaries rises steadily. As for the 1920's, the main channel is the traditional banking system something that can more easily be seen in the figures reported by Guthmann (1950). On the wake of the 1929 market crash, the decrease in these holdings leaves the field open for a complete predominance of life insurers' holdings. For sub-sovereign holdings, savings institutions were the major intermediary at the beginning of the century. Their share has then decreased dramatically. Note also the increasing share of commercial banks starting at the end of the 1920's, which correspond to the decrease in their corporate and foreign holdings documented corporate and foreign holdings.

