



# Corporate credit ratings: Selection on size or productivity?



Sasan Bakhtiari<sup>1</sup>

Australian Department of Industry, Innovation, and Science and Crawford School of Public Policy, Australian National University, Australia

## ARTICLE INFO

### JEL classification:

D24  
G24  
L25  
L6

### Keywords:

Productivity  
Size  
Credit rating  
Rating agencies  
Resource reallocation

## ABSTRACT

Productivity growth is largely driven by the reallocation of resources from less productive firms to more productive ones. Whether corporate credit ratings function in a supportive role is, however, unknown. I use a panel of US manufacturing firms matched to their S & P ratings over the years 1980 to 2009 to investigate. Overall, I find that a typical investment-grade firm is either medium sized and very productive or very large and relatively unproductive. As per evidence, the role of the credit rating system can be best described as disruptive to the reallocation process. These findings are robust to various specification tests and do not seem to be specific to the recent history; the practice only came under spotlight in the recent decade.

## 1. Introduction

It is now salient that aggregate productivity growth is partly driven by a constant reallocation of resources from less productive to more productive establishments (Baily et al., 1992; Olley & Pakes, 1996; Foster, Haltiwanger, & Krizan, 1998, 2006; Foster, Haltiwanger, & Syverson, 2008). The financial system can contribute to productivity growth by facilitating the allocation of resources to the most productive units. However, the events following the global financial crisis have cast doubts over the aptitude of the financial system to sustain economic growth. Major concerns are also raised about the quality of credit ratings in identifying investment-worthy firms and assets.

This paper focuses on the Standard and Poor's (S & P) credit rating of firms and explores whether it has been amicable to productive firms, hence, is in support of the reallocation process. In case the S & P decision process is such that it leads to a positive correlation between the credit rating and productivity, the system is in support of the reallocation process. Conversely, if the rating decisions result in a negative correlation with productivity but positive correlation with some other firm characteristic such as size, the rating system tends to slow down the reallocation process and the productivity growth. The forgone opportunities in the latter economy in terms of productivity growth, employment, and innovation can weigh heavily on the long-term welfare of consumers and investors alike.

To investigate, I use a matched dataset of publicly traded firms and their S & P ratings. I construct key performance indicators for return on assets (ROA) and total factor productivity (TFP) to address both the *financial productivity* and *operational productivity* of firms. Return on assets directly enters into the S & P rating decisions while the role of productivity is at best implicit. Through a series of econometric exercises, I assess the impact of ROA and TFP alongside size and financial leverage on the probability that a firm is issued an investment-grade credit rating, which in turn opens the door for the firm to easily attract investments and to do so at lower

E-mail address: [sasanb@gmx.com](mailto:sasanb@gmx.com).

<sup>1</sup> Disclaimer: Views expressed in this paper are those of the author and not necessarily those of the Department of Industry, Innovation, and Science or the Australian government. Use of any results from this paper should clearly attribute the work to the author and not to the department or the government. Author Contacts – Address: Department of Industry, Innovation, and Science, GPO Box 9839, Canberra ACT 2601, Australia

<http://dx.doi.org/10.1016/j.iref.2017.01.023>

Received 13 October 2016; Received in revised form 15 January 2017; Accepted 18 January 2017

Available online 25 January 2017

1059-0560/ Crown Copyright © 2017 Published by Elsevier Inc. All rights reserved.

costs.

Overall, more productive and larger firms are well poised to be issued investment ratings. Replacing total factor productivity with return on assets generates similar results, pointing to a partial alignment between the financial and economic forces. However, a closer investigation reveals an important point of difference: size and ROA are complements, that is, larger firms might not be rated investment-grade unless they generate enough returns. On the contrary, size mostly acts as a substitute for TFP, especially among larger firms. Very large firms with investment-grade ratings lack a productivity advantage over their speculative grade counterparts and are certainly much less productive than smaller firms with investment-grade ratings.

Counter-factual tests indeed reveal that about 60% of large manufacturing firms in the data have to be downgraded from investment to speculative grade if the same standards were to apply equally to firms of all sizes. In an alternative system where these firms are treated as speculative grade, one would expect a substantially higher rate of productivity growth and increased dynamism in the manufacturing sector.

I further my investigation by noting that the period 1996 to 2000 appears to be a turning point during which the number of firms issuing credit ratings by S & P rose sharply. The coincidence of this sudden rise with the rising doubts about the quality of credit ratings hints at a structural change in the rating agency's strategy. I test the hypothesis and find that a structural break indeed took place in 1996, but the break has mostly been about laying more emphasis on size and less sensitivity on leverage. The productivity-size dilemma is not affected by this change and seems to date back at least to the 1980s.

In a final exercise, I condition my sample on investment-grade firms and study whether it is size or productivity that most influences the awarding of AA or AAA ratings among these firms. The hopeful outcome is that large but uncompetitive firms with investment ratings are being rated the lowest among the investment grades. The results, however, echo the uncanny alternative that AA and AAA rated firms are either more productive or very large, but not necessarily both.

The rest of the paper is composed as follows: The next section presents some background and literature review on the subject. [Section 3](#) describes the data sources and the composition of the matched data followed by the measurement of TFP. [Section 4](#) presents the empirical findings. Paper is then concluded in [Section 5](#).

## 2. Background

In the lead-up to the 2001 recession in the US and again in the aftermath of the 2008 recession signs emerged that credit ratings might have less to do with competitiveness and be more about size; during each episode seemingly credit-worthy large companies collapsed without warning. Enron was consistently receiving investment-grade ratings of BBB+ or higher by Standard and Poor's (S & P) and was only downgraded to junk status four days before its demise.<sup>2</sup> Worldcom enjoyed the same BBB+ status until shortly before its collapse. Lehman Brothers and AIG were rated at least as good as A in the run up to their insolvencies. The failure has been blamed on malfunctioning rating agencies as well as on lax regulatory oversight.

A related literature has already highlighted several shortcomings of the current credit rating system. [Benmelech and Dlugosz \(2009\)](#) find major downgrading of companies and assets post 2007, which squarely points to an over-rated market. In addition, they find that assets rated solely by S & P were more likely to be downgraded. More recently, [Fracassi et al. \(2015\)](#) show that credit ratings in corporations tend to be quite persistent regardless of the corporation's realities.

Another strand points out that an *issuer pays* arrangement for credit ratings – where the issuer of bond or debt and not the investor pays for the rating to be issued – in general culminates into selected and inflated ratings as issuers shop around for the best rating while rating agencies up their ratings to attract businesses and also to prevent clients from leaving (see, for instance, [Skreta & Veldkamp, 2009](#); [White, 2010](#); [Becker & Milbourn, 2011](#)).

In terms of the correlation between productivity and credit rating, the evidence is scant. [Ederington et al. \(1987\)](#) have been able to establish a positive relationship between credit ratings of corporate bonds and their market yields. [Chun et al. \(2013\)](#) show that a firm's productivity growth is positively correlated with its market yield. The most relevant work is probably that of [Gopinath et al. \(2015\)](#), where they show that the development of the financial system in the south European countries has actually shifted capital investment towards firms with higher current net worth rather than towards more productive ones. They find a falling productivity in those countries as a result of this misallocation.

It has recently come into attention that productivity growth has slowed down among OECD countries in the run-up to the global financial crisis and especially in its aftermath (see [Foster, Grim, & Haltiwanger, 2014](#); [Eichengreen et al., 2015](#); [Gordon, 2016](#), for instance). There is some evidence that rising financial frictions during this period have been one impediment to the reallocation of resources leading to productivity growth slow-down ([Besley et al., 2016](#)).

## 3. Data and measurements

### 3.1. Data

The main source of firm-level information for this study is Compustat, which is an unbalanced panel of all publicly traded firms in the US and contains a rich set of operational and financial information on each firm. Each observation is then matched to its long-

<sup>2</sup> Rating the Raters: Enron and the Credit Rating Agencies, *Hearing Before the Senate Governmental Affairs Committee*, 107th Congress, S.Hrg. 107–471, March 20, 2002.

Download English Version:

<https://daneshyari.com/en/article/5083079>

Download Persian Version:

<https://daneshyari.com/article/5083079>

[Daneshyari.com](https://daneshyari.com)