# Monopoly Capital and Capitalist Management: Too Many Managers?

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By

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**Abstract:**

The mainstream or neoclassical economics view that labor is rewarded according to its productivity has been extended to managers and management teams as justification for the levels of compensation that they receive.  Additionally, the management concept of "span of management" has been used to explain the total number of and per employee number of managers in any organization along with the economics assumption that the appropriate span of management is where the marginal productivity of the last manager employed equals his/her marginal cost, or wage.  On the other hand, Marxists and institutionalists hold different views of the roles and purposes of managers within organizations and attempt to explain these through either the view of managers exploiting workers on behalf of owners or the view of managers exploiting both workers and owners in order to advance their own agenda.  This research note examines managerial compensation and intensity from both traditional/mainstream and alternative views by focusing on measures of managerial salaries, employee productivity, return on owners' equity, return on assets, and rates of workers exploitation.

**Keywords:** bureaucracy, economic systems, managers, and productivity.

**JEL codes:**  B51, D24

**Introduction**

In most standard microeconomics courses, students are often taught the basics of marginal productivity theory which states that factors of production are compensated according to their levels of productivity, or in other words, to their level of contribution to an organization's profits. Profit maximization is stated as an organizational goal (see the textbook by Mankiw (2013) among many others). Some mainstream economists and most heterodox economists note that productivity is difficult to measure and almost impossible to link to compensation.[1] In general, Marxists and neo-Marxists see managers as means for the capitalist class to exploit workers in a way to extract as much surplus value from them as possible (Baran and Sweezy 1966, Braverman 1974, Marglin 1974a, Marglin 1974b, Gordon 1996). Baran and Sweezy (1966, pp. 46-48) view managers as basically part of the capitalist class, and because their personal savings and financial interests align with firm owners, they pursue maximum labor exploitation and at the same time mostly serve the interests of owners, which are also congruent with their interests. Braverman (1974) and Marglin (1974a) question whether specialization, assembly lines, and managers actually raise productivity in modern times versus when a lot of work was done by smaller shops and craftsmen. To them, mass production, specialization and the rise of a managerial class originate more under capitalism's need for exploitation and control of labor rather than productivity concerns. Braverman particularly points out that the main goal of scientific management is actually to cheapen labor by employing low skilled to produce items, and the low skill labor in turn presumably needs guidance from managers.

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[1] There are many sources to cite here and beyond the scope of this paper. See Felipe and Crombie (2014) on a summary of the debate on capital and Brown (2005) on labor. Meanwhile, Simon (1957) notes that many management terms, such as span of management, come closer to being vague "proverbs" rather than being concepts that yield solid guidelines.

Gordon (1996) even goes so far as to argue that increasing managerial numbers, even during a time of corporate "downsizing" (Caves and Kreps 1993), is a symptom of the fact that capitalist owners basically do not trust employees, and so owners employ more and more managers in order to minimize employee shirking and to monitor employee performance. This is despite the possibility that more managers may entail what he calls a "bureaucratic burden" for organizations, or in other words, higher salary costs and a greater monitoring of employees to the extent that there is a fall in firm productivity. Gordon's 1996 book builds upon some of earlier works on these topics that he did by himself (1990, 1994) and along with co-authors (Weisskopf, Bowles, and Gordon 1983) which involved some statistical analysis wherein he predicted what he called the intensity of supervision[2] using the independent variables or constructs of the threat/cost of job loss, worker independence (degree of unionization, legal job protection, job stability, etc.), degree of government support for workers' rights and social welfare, etc. These types of variables were successful predictors of the level of supervisory intensity whereas a major mainstream, neoclassical concept such as efficiency wages was not. The mainstream neoclassical theory of efficiency wages as used by him as meaning higher wages in a workforce should mean less economy wide supervisory personnel because, on average and *ceteris paribus*, workers tend to have higher productivity, tend to be more self-motivated, and more likely to stay at a job, and therefore do not need so much supervision. Yet efficiency wages were not found to be statistically significant in any of his econometric models.

In his book, which is probably one of the most recent and thorough explorations of capitalist management from a neo-Marxist point of view, Gordon mostly relies upon charts,

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[2] This is usually defined in his writings as the ratio of administrative and managerial personnel to clerical, service and production workers. Most of the data used in his analyses either preceded or were from the years of the 1980s. The 1990 work included statistical work on US data whereas the 1994 piece performed analysis on data from 16 different nations including the US.

graphs, tables and simple descriptive statistics to make the case that in some nations, especially

the US, the level of managers has grown (despite what other reports contend) while wage

inequality and job instability have risen at the same time.  He argues that in some economies a

"wage squeeze" is in play wherein high unemployment rates, decreasing unionization rates,

smaller unemployment and social welfare benefits, and stagnant minimum wage rates have led to

overall stagnant wages for most workers.  To offset the effect of declining wages, and hence,

declining worker desire to be productive, Gordon argues that managerial levels have increased

simultaneously so that firms can apply what he calls "the stick", or closer monitoring and

watching of employees in order to motivate workers to perform at an acceptable level.  This in

turn, however, can actually lead to lower productivity rates and lead to greater management-

labor strife, and so he notes an upturn in the number of strikes and "lock-outs" that have occurred

in those economies which have seen stagnating wages and increasing managerial ranks.[3]

In the course of doing research for this paper, only a few papers have been found which

do additional empirical analyses of how the intensity of supervision or the bureaucratic burden

can be linked to growing wage and income inequality in either the US or different developed

nations.  A paper by Leicht and Brady (2011) uses the number of jobs classified as managerial

as a portion of a nation's labor force as a successful predictor of various measures of earnings

inequality in different multivariate econometric models.  Their findings also somewhat reinforce

the contention of Braverman (1974) and Marglin (1974a) that specialization and layers of

managers used in coordinating labor are really unnecessary since productivity is not enhanced by

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[3] Braverman (Chapter 2, 1974) notes that the central function of any management system is control over the workers.  This is more important than any other management task according to him.

either.[4]  Both Gordon (1996) and Marglin (1974a) argue that managers try to keep as much of the surplus for themselves even though they are supposed to serve the interests of shareholders, and so this has been part of the reason for the rise of a managerial class, something about which institutional economists have written (Veblen 1904, 1923, Galbraith 1973).  This view, therefore, generally disagrees with the one of Baran and Sweezy (1966).  Marglin (1974b) also writes in another paper that contrary to neoclassical theory most national savings is done through business and managerial hierarchies rather than through households.  Nonetheless, whether surplus extraction exists to enrich management, shareholders or both, all of these authors would probably agree that greater intensity of supervision seeks to maximize the extraction of surplus value whether for the bosses or shareholders or both groups.

A paper by Buchele and Christiansen (1999) supports through econometric analysis the Gordon contention that more harmonious working conditions, greater workers' rights, and lesser intensity of supervision result in greater growth of labor productivity.  Meanwhile, there are volumes of mainstream, non-radical, scholarly management pieces which point to greater worker productivity or productivity enhancement in organizations due to participatory management, human relations techniques, and Theory Y principles.  Some of these studies involve empirical work.  These papers and books are far too numerous to list, but a good compilation and overview of these principles and theories are usually contained in any introduction to management book (e.g., Griffin's *Management*, *11th edition* (2013)).

Although not mentioning Gordon or his works, Mohun (2014) takes a radical economics approach and argues that the biggest driver of "unproductive" labor and wage growth in the US

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[4] Landes (1986) took issue with many of Marglin's historical interpretations of how and why hierarchies developed and thought Marglin's analysis flawed.

economy over the last five decades has been the growth of supervisory positions and their wages. Dumenil and Levy (2011) argue that the increase in financial management positions is a symptom of neo-liberal policies implemented over the last 35 years or so, and Jo and Henry (2015) also note this and assert that the presence of so many financial "money" managers are contrary to adequate social provisioning. Perelman (2011) writes that capitalism stunts the development of workers, and one way this is done through the use of heavy handed management practices.

Otherwise, no papers involving econometric work on how the bureaucratic burden or bloat (hereafter BB) or how too many managers may affect productivity or efficiency, managerial compensation, and surplus extraction at the industry level have been found in doing a literature review for this paper. This absence is, in the opinion of this paper, a gap in the literature since one of Gordon's main arguments, and especially since he uses terms such as burden and bloat, is that excessive managerial numbers can cause a drain on efficiency and output. Additionally, showing greater extraction of surplus by a higher or lower presence of managers would bolster the contentions of other radical writers. Gordon contends that much of the decline in real wages by most workers, especially in the US, has been extracted and absorbed by a growing managerial class and that there are no gains to labor and sometimes not much to investors. These thoughts have also been mentioned more or less in more recent scholarly work such as Piketty (2013) among others. Since Gordon did not do any advanced statistical work in his book, and only did statistical work involving topics other than productivity and economic efficiency in the two published papers leading up to his book, this paper does an empirical analysis of how some type of BB or managerial intensity at the industry level impacts efficiency, productivity, surplus generation, managerial compensation, and organizational performance.

This paper proceeds as follows. The next section is the Methods section in which the techniques used to analyze the data surrounding the main issues of interest are discussed. Next, in the Results section the output of different statistical analyses is highlighted and briefly addressed. Finally, a Discussion and Conclusion section looks at the results of the analysis more closely with a focus on policy insights, implications and recommendations.

## Methods

Productivity and efficiency are concepts that can be defined many different ways and according to the inputs and outputs used. Nonetheless, a commonly agreed upon or accepted standard for a nation's overall productivity level is its real GDP per labor hour or worker (Conference Board 2013 data). At the firm level, the value of output, shipments or sales per hour or per employee is commonly used. This paper examines productivity at the US industry level as a way to assess overall managerial pay and organizational performance as opposed to using the international units of analysis (OECD nations) and measurements as used in the Gordon works and other publications cited. At the national and international levels, the overall percentages of managers in different workforces do not give any indication of inter-industry variation in managerial levels or any possible indication of how industrial composition varies across nations (i.e., some nations have greater concentrations of one industry over others), which in turn may cause some nations to have fewer managers employed as a portion of the labor force only because of its unique industry composition. That is, and for example, if standard and common industry practice at the international level is to have a span of management of 1 manager per 10 employees in industry A, yet 1 manager for 20 in industry B, and if country X has a much larger concentration of industry in industry A, then its intensity of supervision could appear greater than that of another nation which has less concentration in industry A and more in industry B, all

else held constant.   For this reason, this paper attempts an analysis at the sub-national level within one nation, the United States (US).  It is hoped that cross-industry comparisons can show possible patterns regarding the variables of interest.

To assess industry level productivity, firm performance, and surplus extraction given the management portions of total industry employment (hereafter Mgrs), this paper used data from the US Bureau of Labor Statistics' (BLS) May 2012 National Industry-Specific Occupational Employment and Wage Estimates (BLS 2012) to estimate Mgrs, their pay, and total employment data for 4-digit NAICS industries.  Next, these values were matched against 4-digit NAICS data from the US Census Bureau's 2012 Economic Census and the 2013 Annual Survey of Manufacturers (US Census Bureau 2012, 2013) which include sales, value of shipments, annual payroll, and number of employees. The four digit level of NAICS classification was chosen because there were enough industries with disclosed amounts of data versus the 5 and 6 digit levels, and yet this level is at a more industry specific level than 3-digit data, and this helps one to explore more microeconomic effects of any type of intensity of supervision.  The number of 4 digit industries used which had data common for all variables and common to the databases used was 259.

One limitation with the data used was that management occupation employment numbers per industry from the BLS were only available for May 2012 whereas for manufacturing all values were for 2013.  There is no survey of manufacturers in years that end in 2 or 7.  However, the two year of 2012 and 2013 are close enough in time that there should not be a problem in the analysis.  In fact, using output values for 2013 would make managerial and employee numbers from 2012 look more productive than what would be the case otherwise if one wants to give mainstream beliefs about productivity the benefit of the doubt.  Data for 2012  was found for the

other major industries for which data was available such as utilities, wholesaling, retailing,

finance/insurance/real estate, transportation, communications, information, professional services,

educational service, health care services, management of companies and enterprises,

administrative and support and waste management and remediation services, amusement, and

entertainment, accommodation and food services). [5] However, the two dates can be considered

close enough to estimate approximate values for Mgrs and other variables used in the analysis

for each 4-digit industry.

The variable Mgrs was used along with several independent variables in double natural

log[6], least squares multiple regression to predict for each industry 1) the average value of sales

and shipments per employee, 2) managers' average pay, 3) total managerial salaries for an

industry as a percent of total sales, 4) rates of labor exploitation, 5) average historical net profit

margin per dollar (in cents), 6) average historical return on equity (ROE) after taxes for industry

firms, and 7) average historical return on assets (ROA) after taxes for industry firms.[7]

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[5] Data from the Census at the 4-digit industry level were not available for mining and construction. Public administration, although important to a capitalist economy, was not considered because productivity levels are problematic to calculate and evaluate. For example, would taxes collected per government employee or government spending per government employee be considered as outputs or inputs?

[6] The exceptions were the dummy variables, which were not, and could not, be transformed into natural log form. Using the double log form also allows each regression coefficient to be interpreted as an elasticity, which is often useful in economic analysis.

[7] Data for sales, shipments, and total receipts, total employees and payroll come from the US Census Bureau's 2012 Economic Census and the 2013 Annual Survey of Manufacturers (US Census Bureau 2012, 2013); managers' salaries and total salaries come from the Bureau of Labor Statistics May 2012 *Occupational Employment and Wage Estimates* (BLS 2012); estimates of net profit margins per dollar of sales come from the Census Bureau's *Quarterly Financial Report for Manufacturing, Mining, Trade and Selected Service Industries, 2012, 4th quarter,* issued March 2013, Table D—Profits Per Dollar of Sales (Income after Income Taxes), page xxviii and Yahoo! Industry Browser, https://biz.yahoo.com/p/sum_conamed.html; for ROE after taxes historical industry averages for all firm sizes were calculated from the Census Bureau's Quarterly Financial Report, Historical QFR Data, https://www.census.gov/econ/qfr/historic.html for the various years (for some industries this dated back to the 1990s and for others only back to 2009); and for ROA after taxes, averages were calculated using *Almanac of Business and Industrial Financial Ratios* (Roy 2013, Roy 2014, Roy and Wilson 2015) for the years 2009 to 2012; and the estimate of economic surplus per industry comes from taking non-management pay from total sales and dividing this by non-management pay. For this last item, and in the tradition of Baran and Sweezy (1966) and Shaikh and Tonak (1994), mangers' pay is deemed to be a way to absorb economic surplus, and so is included in

Scatterplots showed the double log models to yield the best fits between the independent

variables and the dependent variables. The other independent variables used to predict these

dependent variables were the 4 firm concentration ratio for each of the 4 digit industries (US

Census Bureau's 2007 Economic Census)[8]; a dummy variable indicating whether the industry is

in the Marxian sense "productive" (1) or "nonproductive" (0) according to a classification

scheme worked out by Shaikh and Tonak (1994); and the average number of employees per

establishment.[9]  These variables are used to assess whether market power (concentration ratio),

type of industry according to use values, and firm size may have any influence on productivity

levels.  Traditional economic theory indicates that firms with less competition (high

concentration ratios) and larger sizes enjoy market power and economies of scale in production

which should result in higher levels of productivity, returns to shareholders and investors, higher

pay rates for all employees, and higher profit margins.  Those industries classified as

"productive" should be those with the highest use values for their products (e.g., utilities,

manufacturers, transportation services, educational services) as opposed to those with lesser use

values such as, for example, industries in advertising, banking, most forms of retailing and,

wholesaling.  If Marxian theory is correct, then productive industries should have lower

productivity levels and returns than non-productive ones because non-productive industries are

the numerator of the surplus ratio whereas non-management pay is deemed to represent productive labor.  For ROA after taxes, the *Almanac* gave two numbers, ROA after taxes for all firms of all sizes regardless of earning net income and another for firms reporting net income.  The analysis for this paper used ROA after taxes for all firms regardless of earning net income or not when available.  When this was not provided, ROA for those reporting net income was used.  Unfortunately, data for all 4 digit industries were not available for all 259 industries, which limited sample size in some models.   For ROA, if data was not available at the 4 digit level, ROA at the 3 digit level was used when available from the Census Bureaus' Quarterly Financial Report Data

[8] Admittedly concentration ratios developed by the Census Bureau have limitations.  The ratios are based only on US firms (foreign competitors are not considered) and local market concentration (at a city or metro area level) are not considered.  Only national level data is considered.  The Herfindahl-Hirschmann Index (HHI) is an alternative measure, but the Census only publishes this for manufacturing firms (Census Bureau 2007).  Despite its limitations, the ratio is used here to indicate some type of market power that an industry has.

[9] This is the average employment per establishment *location* that all firms within an industry have, not the total employees divided by the number of firms within an industry.

generators of pure economic surplus according to Baran and Sweezy (1966) and Shaikh and Tonak (1994). Because of such large amounts of economic surplus, one would also expect rates of exploitation and managerial salaries to be higher in these industries, all else held constant.

## Results

(Insert Tables 1, 2, and 3 around here)

Table 1 displays the descriptive statistics of the variables (in their regular form) used in the analysis, and Table 2 displays a pairwise Pearson correlation matrix of these variables. Given the results of the Pearson correlation coefficients there does not appear to be any indications of multicollinearity among the independent variables. Table 3 shows the results of several different regression models. Since the Breusch-Pagan/Cook-Weisberg test found heteroscedasticity in some regression models, robust standard errors were used in these, and this is noted in the table. None of the independent variables in any of the models had a variance inflation factor above 2.0, indicating no problems of multicollinearity in any of the models.

Model 1 in Table 3 shows a statistically significant ($\alpha < 0.05$) relation among all four variables and the dependent variable, a productivity measure, the natural log of sales, shipments and receipts per employee, although the explanation of variance for the model is a modest 37%. The intensity of supervision actually has a positive association with productivity. That is, the greater the portion of managers in an industry's labor force, the greater the productivity, which does not support the bureaucratic burden concept put forth by Gordon and the other writers cited so far in this paper. A one percent increase in the percentage of managers in an industry's labor force predicts a 0.616 percent increase in output per worker on average and all else held constant. This is, however, an inelastic relationship indicating an insensitivity to increasing managerial

levels. Meanwhile, nonproductive industries tend to have higher levels of output than productive ones, whereas more concentrated industries and those with larger establishments have higher productivity rates on average. The manufacturing sector performed well with regard to productivity levels yet wholesale industries and finance and insurance industries had the highest productivity levels of all thanks to high sales per employee in pharmaceutical, petroleum, farm product wholesaling and high output per employee in the securities and insurance industries. These nonproductive industries also had high concentration ratios too. Therefore, while intensity of supervision matters with regard to productivity levels, so do industry type, market power, and average establishment size.

Model 2 shows that the level of managers is a statistically significant predictor of the log of the ratio of the total of all managerial salaries for the industry to average industry sales. Somewhat not surprisingly, the greater the number of managers, the greater their total pay is as a portion of average industry sales. For a one percent increase in the number of managers in an industry, this ratio goes up 0.545 percent on average and all else held constant. Additionally, productive industries typically have higher managerial sales as a portion of sales with higher ratios occurring in industries with lower concentration ratios and in industries with fewer employees per establishment. In looking at the data, those industries which had these characteristics were typically in the manufacturing of pharmaceuticals, computer manufacturing and peripheral equipment, and the management of companies and enterprises.

Model 3 has all 4 independent variables showing statistical significance at alpha = 0.05 and indicates that the greater the portion of managers in an industry, the higher their average industry pay. A one percent increase in the portion of managers indicates a an increase in the average salary of 0.161 percent on average, all else held constant. If an industry is productive,

managerial salaries are lower than non-productive ones by -0.057 on average whereas more

concentrated industries have higher industry managerial salaries on average. A one percent

increase in the concentration ration is associated with a 0.047 increase in salaries on average and

all else held constant. Finally, the greater the number of employees per establishment, the

greater the average industry salary is on average. A one percent increase in the number of

employees per establishment is associated with a 0.034 increase in average industry salaries on

average. Supervising more employees per establishment would plausibly necessitate more

managers. However, whether a greater number of managers would require higher managerial

pay is another question. Those industries with the highest average salaries included software

publishing, securities and commodities exchange, other financial activities, and scientific

research and development services. Model 3 has a modest explanation of variance of the

dependent variable of around 34.5%.

In looking at Model 4, the log of the rate of exploitation is explained by the level of

managers in an industry. A 1 percent increase in the portion of managers in an industry is

associated with a 0.48 increase in exploitation on average and all else held constant. This

variable is statistically significant at $\alpha = 0.05$, as are the other variables in the model with the

exception of employees per establishment, which attains statistical significance at only $\alpha = 0.10$.

If the industry is classified as productive, then the rate of exploitation is -0.456 less on average,

all else held constant. This result does not support the notion that productive industries have

greater surplus value generation in terms of sales minus employee salaries divided by employee

salaries. However, this could be because those industries classified as productive have more

union membership on average than others (manufacturing, for example), and so workers are not

as exploited as other industries. Meanwhile, the greater the concentration ratio, the greater the

exploitation rate is. A 1 percent increase in the concentration ratio is associated with a 0.451 percent increase in the exploitation rate on average and holding all else constant. Also, the greater the number of employees per establishment, the greater the exploitation rate with a one percent increase in in establishment size showing an increase in the exploitation rate of 0.094 on average. The model has a moderate explanation of variance in the dependent variable with an adjusted r-squared of 0.321.

In Model 5, a one percent increase in the portion of managers results in a 0.202 increase in the net margin in cents per dollar for each industry on average. Therefore, more managers seem to be associated with greater profit margins. Greater profit margins tend to be associated with more productive industries on average. Productive industries have margins 0.274 greater than those of non-productive industries all else held constant. These variables are statistically significant at alpha = 0.05 whereas the remaining two do not make this threshold nor alpha = 0.10. The model also has a long explanation of variance at 0.072.

Model 6 shows better explanation of variance (adjusted r-squared of 0.296) and hast 3 of the 4 variables attaining statistical significance at $\alpha = 0.05$. In this model, a greater level of managers is associated with a negative historical return on equity (ROE). A one percent increase in the percentage of managers is associated with a -0.037 decrease in ROE. This somewhat supports the arguments of a some type of bureaucratic burden for firms from a financial standpoint. At the same time, more productive industries have higher ROEs than non-productive ones by 0.134 percent on average. Also, a one percent increase in the industry concentration ratio is associated with a 0.068 increase in ROE on average and all else held constant. Only the variable for average establishment size fails to attain statistical significance.

Finally, Model 7 shows weak explanation of variance (adjusted r-squared of 0.064) yet has 3 out of 4 variables attaining statistical significance at $\alpha = 0.05$. A greater portion of managers is associated with a decrease in 2009 to 2012 average return on assets per industry (ROA). A one percent increase in the level of managers shows a -0.185 decrease in ROA. Additionally, productive industries are associated with higher ROA (0.239 percent higher than non-productive industries), and a one percent increase in the number of employees per establishment is correlated with -0.175 decrease in ROA on average and all else held constant. Concentration ratio apparently has no connection with ROA in this model.

## Discussion and Conclusion

Some of the arguments for some type of "bureaucratic burden" are supported by the analysis. A greater level of managers in an industry is associated with lower ROE and ROA averages as well as high average managerial salaries and managerial salaries taking up large shares of industry sales. These results also somewhat support the contention of a managerial "class" pursuing its own agenda at the expense of owners. On the other hand, a greater level of managers is associated with higher net margins and higher productivity rates (contrary to Gordon's thoughts) which support traditional views that managers are needed to coordinate and lead output and profit maximization. Nevertheless, investors do not seem to share in any gains. More importantly for radical scholars, a greater level of managers is connected with greater exploitation rates, and this somewhat supports the Braverman and Marglin arguments. Additionally, instead of greater productivity rates supporting owners' objectives, it is possible that greater productivity is necessary to keep managerial compensation and not investors' returns higher.

Some of the limitations of this study include the fact that none of the models had large explanations of variances. There may be important omitted variables, but there were limitations to the data sets. For example, it would have been beneficial to have capital to labor ratios per industry to predict some variables, but assets data for NAICS industries is only available at the 3 digit level in aggregate amounts. By being published every five years, the Economic Census by the Census Bureau makes the construction of panel data problematic. Such a panel data set could be useful. Finally, to have data for all industries would have made the results more useful. There are more 4 digit NAICS industries than the 259 analyzed in the data set used in this paper, but because of no data on many of them, only 259 could be examined. Finally, and ideally, it would be best to do some type of experiment or quasi-experiment in which the same type and same size of firms making the same type of product or offering the same type services could be staffed with the same number of production workers, staff, etc. but with one group having fewer managers than others. However, these conditions were not uncovered while doing research for this paper.

Nevertheless, this paper adds to the literature some additional evidence supporting radical views of managerial performance at the industry level. Most research and writings over the years have revolved around whether corporate Chief Executive Officer (CEO) pay is fair and adequate, especially given that some estimates put CEO pay at 300 to 400 times that of the typical US workers (AFL-CIO, n.d.) Some, however, argue that US CEO pay is fair if one compares executive compensation to other professionals and not to typical workers (Sumo 2013) whereas others see no connection between CEO pay and corporate performance (Collins 2001). Piketty (2013) cites studies showing little connection between pay and corporate performance as well. At a broader level, this paper raises questions about managerial performance at the

industry level.  The analysis indicates to some degree and with caveats that industries with large

shares of managers have higher average managerial salaries, higher productivity rates and higher

margins per dollar than other industries yet also show high levels of exploitation and low returns

to investors.  One implication is that the Marglin-Veblen-Gailbraith-Gordon view of

management self-interest may be slightly more appropriate than the one by Baran-Sweezy-

Braverman which holds that managerial and investor interests coincide.

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## Table 1—Descriptive Statistics

| Variable | n | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Mgrs. Employment / Total Employment Pct. | 259 | 5.8212 | 4.2855 | 0.5300 | 47.8300 |
| Productive vs. Nonproductive | 259 | 0.6680 | 0.4719 | 0.0000 | 1.0000 |
| Avg. Managers' Salaries / Avg. Total Sales Pct. | 259 | 2.8208 | 3.5038 | 0.0500 | 44.2200 |
| Avg. Manager's Salary per Industry, 2012 | 259 | $ 109,024.17 | $ 20,665.45 | $ 50,080.00 | $ 171,000.00 |
| Net Margin per Dollar, 2010-12 | 259 | $ 0.07 | $ 0.05 | $ 0.01 | $ 0.25 |
| 4 Firm Concentration Ratio 2012 | 259 | 25.7131 | 18.6913 | 1.4000 | 92.5000 |
| Avg. Employees per Establishment 2012 | 259 | 40.4582 | 80.8466 | 1.8000 | 1008.6300 |
| Rate of Exploitation | 259 | 48196.12 | 107075.60 | 2878.38 | 1442502.00 |
| Avg. ROA after Taxes, 2009-2010 Pct. | 222 | 6.74 | 4.84 | 0.027 | 40.93 |
| Avg. ROE after Taxes, Historical Data. | 182 | 12.7878 | 1.7736 | 10.2000 | 14.0489 |
| Avg. Value of Sales, Shipments, Revenues, 2012 | 259 | $ 516,925.50 | $ 1,125,588.00 | $ 36,611.09 | $ 13,600,000.00 |

## Table 2—Correlation Matrix

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Ln Mgrs. / Emp Pct | 1.00 | | | | | | | | | | |
| 2. Ln Sales per Emp | 0.40 | 1.00 | | | | | | | | | |
| 3. Prod. Vs. Nonprod. | 0.02 | -0.10 | 1.00 | | | | | | | | |
| 4. Ln Mgrs. Avg. Salaries / Avg. Total Sales | 0.34 | -0.71 | 0.12 | 1.00 | | | | | | | |
| 5. Ln Net Margin | 0.19 | 0.04 | 0.22 | 0.15 | 1.00 | | | | | | |
| 6. Ln Concentration Ratio | 0.06 | 0.44 | 0.13 | -0.39 | 0.06 | 1.00 | | | | | |
| 7. Ln Emp. per Estab. | 0.06 | 0.24 | 0.37 | -0.17 | 0.15 | 0.37 | 1.00 | | | | |
| 8. Ln Mgrs. Avg. Annual Salary | 0.52 | 0.59 | -0.03 | -0.08 | 0.31 | 0.27 | 0.23 | 1.00 | | | |
| 9. Ln Rate of Exploitation | 0.34 | 0.99 | -0.13 | -0.75 | 0.00 | 0.43 | 0.19 | 0.50 | 1.00 | | |
| 10. Ln ROA after Taxes | -0.16 | -0.18 | 0.04 | 0.06 | -0.09 | -0.13 | -0.19 | -0.08 | -0.16 | 1.00 | |
| 11. Ln ROE after Taxes | -0.02 | 0.18 | 0.42 | -0.21 | 0.35 | 0.41 | 0.23 | -0.07 | 0.21 | -0.24 | 1.00 |

### Table 3—Regression Models

| Model: | 1 | 2 |
|---|---|---|
| Dependent Variable: | Ln Sales per Emp. | Ln Mgrs. Salaries / Avg. Total Sales |
| | b | b |
| | (SE) | (RSE)[10] |
| **Independent Variables:** | | |
| Ln of Mgrs. | 0.616*** | 0.545*** |
| | (0.081) | (0.091) |
| Prod. Vs. Nonprod. Dummy | -0.449*** | 0.039*** |
| | (0.114) | (0.124) |
| Ln Concentration Ratio | 0.47*** | -0.424*** |
| | (0.146) | (0.068) |
| Ln Employees per Estab. | 0.146** | -0.112** |
| | (0.057) | (0.056) |
| Constant | 10.009 | 1.16 |
| | | |
| n | 259 | 259 |
| Adjusted r-squared: | 0.369 | 0.313 |

*p<0.10
**p<0.05
***p<0.01

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[10] RSE stands for robust standard errors. In some regression analyses, the Breush-Pagan/Cook-Weisberg test for heteroscedasticity test indicated need to use robust standard errors in some models.

| Model: | 3 | 4 |
|---|---|---|
| Dependent Variable: | Ln Mgrs. Avg. Annual Salaries | Ln Rate of Exploitation (S/V) |
| | b<br>(RSE) | b<br>(RSE) |
| Independent Variables: | | |
| Ln of Mgrs. | 0.161***<br>(0.017) | 0.48***<br>(0.09) |
| Prod. Vs. Nonprod. Dummy | -0.057**<br>(0.025) | -0.456***<br>(0.126) |
| Ln Concentration Ratio | 0.047***<br>(0.016) | 0.451***<br>(0.068) |
| Ln Employees per Estab. | 0.034***<br>(0.012) | 0.094*<br>(0.056) |
| Constant | 11.122 | 8.136 |
| n | 259 | 259 |
| Adjusted r-squared: | 0.345 | 0.321 |

*p<0.10
**p<0.05
***p<0.01

| Model: | 5 | 6 |
|---|---|---|
| Dependent Variable: | Ln Net Margin per Dollar | Ln ROE after Taxes Historical Data |
| | b | b |
| | (SE) | (RSE) |
| **Independent Variables:** | | |
| Ln of Mgrs. | 0.202*** | -0.037** |
| | (0.067) | (0.017) |
| Prod. Vs. Nonprod. Dummy | 0.274** | 0.134*** |
| | (0.095) | (0.027) |
| Ln Concentration Ratio | 0.002 | 0.068*** |
| | (0.053) | (0.014) |
| Ln Employees per Estab. | 0.049 | -0.014 |
| | (0.048) | (0.056) |
| Constant | -3.594 | 2.35 |
| n | 259 | 182 |
| Adjusted r-squared: | 0.072 | 0.296 |

*p<0.10
**p<0.05
***p<0.01

| Model: | 7 |
|--------|---|

| Dependent Variable: | Ln ROA after Taxes, 2009-12 |
|---------------------|------------------------------|
| | b<br>(RSE) |

Independent Variables:

| Ln of Mgrs. | -0.185**<br>(0.075) |
|-------------|---------------------|
| Prod. Vs. Nonprod. Dummy | 0.239**<br>(0.094) |
| Ln Concentration Ratio | -0.046<br>(0.071) |
| Ln Employees per Estab. | -0.175**<br>(0.07) |
| Constant | 2.54 |

| n | 222 |
|---|-----|
| Adjusted r-squared: | 0.064 |

*p<0.10
**p<0.05
***p<0.01