

**Exhibit No.:** \_\_\_\_\_

**Issue(s):**

Incentive Compensation/  
OPC Application of the Commission  
Policy on Gains/Losses on  
Disposition of Plant Assets/  
Expense Trackers Do  
Not Belong in Rate Base/  
OPC Inclusion of a Reasonable  
Level of SERP Expense/  
Cost Allocation Manual (“CAM”)

**Witness/Type of Exhibit:**

Hyneman/Surrebuttal

**Sponsoring Party:**

Public Counsel

**Case No.:**

ER-2016-0023

## **SURREBUTTAL TESTIMONY**

**OF**

**CHARLES R. HYNEMAN**

Submitted on Behalf of the Office of the Public Counsel

**EMPIRE DISTRICT ELECTRIC COMPANY**

CASE NO. ER-2016-0023

May 16, 2016

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

In the Matter of The Empire District )  
Electric Company's Request for )  
Authority to Implement a General ) Case No. ER-2016-0023  
Rate Increase for Electric Service )

**AFFIDAVIT OF CHARLES R. HYNEMAN**

STATE OF MISSOURI )  
 ) ss  
COUNTY OF COLE )

Charles R. Hyneman, of lawful age and being first duly sworn, deposes and states:

1. My name is Charles R. Hyneman. I am the Chief Public Utility Accountant for the Office of the Public Counsel.
2. Attached hereto and made a part hereof for all purposes is my surrebuttal testimony.
3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.



Charles R. Hyneman, C.P.A.  
Chief Public Utility Accountant

Subscribed and sworn to me this 16<sup>th</sup> day of May 2016.



JERENE A. BUCKMAN  
My Commission Expires  
August 23, 2017  
Cole County  
Commission #13754037



Jerene A. Buckman  
Notary Public

My Commission expires August 23, 2017.

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**SURREBUTAL TESTIMONY**

**OF**

**CHARLES R. HYNEMAN  
EMPIRE DISTRICT ELECTRIC COMPANY**

**CASE NO. ER-2016-0023**

1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. Charles R. Hyneman, PO Box 2230, Jefferson City, Missouri 65102.

4 **Q. By whom are you employed and in what capacity?**

5 A. I am employed by the Missouri Office of the Public Counsel (“OPC”) as the Chief Public  
6 Utility Accountant.

7 **Q. Are you the same Charles R. Hyneman who filed direct testimony in this case?**

8 A. Yes, I am.

9 **Q. What is the purpose of your surrebuttal testimony?**

10 The purpose of this testimony is to respond to the rebuttal testimonies of Empire District  
11 Electric Company (“Empire”) witnesses on the following issues – Incentive Compensation  
12 and Supplemental Executive Retirement Plan (“SERP”) costs (Bradley P. Beecher),  
13 Inclusion of expense trackers in rate base (Bryan S. Owens), and Empire’s violation of the  
14 Commission’s Affiliate Transaction Rule as well as its Cost Allocation Manual (“CAM”)  
15 (W. Scott Keith).

16 In addition, my surrebuttal testimony responds to the rebuttal testimony of Staff witness  
17 John Robinette on the issue of Empire’s Loss on Retirement of Riverton plant assets.

1 **II. INCENTIVE COMPENSATION**

2 **Q. In his rebuttal testimony on the issue of incentive compensation, Empire witness Mr.**  
3 **Beecher considers it a significant point that Empire targets its executive compensation**  
4 **levels at the 25<sup>th</sup> percentile of a comparable industry-specific group. Mr. Beecher then**  
5 **refers to the 25<sup>th</sup> percentile as “conservative.” Do you agree this is conservative?**

6 **A.** No, it is not conservative at all. Empire selected a group of companies to include in its peer  
7 group that are much larger companies. For example, among this peer group Empire ranked  
8 in the 27<sup>th</sup> percentile in terms of revenues in fiscal year 2013. In Empire’s new peer group of  
9 companies (2016-2018), Empire ranked near the bottom in every size metric such as sales,  
10 and market value.

11 Therefore, Empire’s target at the 25<sup>th</sup> percentile of this peer group is not an attempt at  
12 conservative compensation by Empire as much as it is a reflection of Empire’s small utility  
13 size compared to the utilities in this self-selected peer group.

14 A common measurement of compensation comparisons among companies is size. For  
15 example, a large utility executive is expected to be paid more than a small utility executive.  
16 Among the group Empire selected to be in its peer group, Empire would be considered a  
17 small utility.

18 **Q. What adjustment would Empire need to make to its 25<sup>th</sup> percentile metric to actually**  
19 **set its target compensation at the 25<sup>th</sup> percentile of its selected peer group?**

20 **A.** Empire would have to adjust the compensation of executives at the much larger utility  
21 companies in the peer group to Empire’s size based on revenues, assets, or other financial  
22 measures to make the compensation among the different-sized utilities comparable. Once  
23 this adjustment is made, then Empire could target its fixed compensation at the 25<sup>th</sup>  
24 percentile of comparably-sized utility compensation.

1 **Q. What is OPC's position on incentive compensation in this case?**

2 **A.** OPC supports the Commission's longstanding opposition to including earnings-based (net  
3 income and earnings per share), short-term incentive compensation, and stock-based long-  
4 term incentive compensation in cost of service. Consistent with the Commission's  
5 longstanding position, OPC has not included the amounts proposed by Empire based on its  
6 long-term equity-based incentive plan and the net income or earnings-based factor of its  
7 short term incentive compensation plan.

8 **Q. How does Empire compensate its utility employees?**

9 **A.** Empire compensates its employees through base salaries, short-term incentive  
10 compensation, and long-term incentive compensation ("LTIP"). OPC is not recommending  
11 any adjustments to the base salaries of Empire employees and finds Empire's employees are  
12 well-compensated in this regard. As I noted in my direct testimony, the average salary of  
13 Empire's non-Union full-time employees is \$74,000. My analysis shows that one in five,  
14 or 20 percent of Empire's non-Union employees, have a base salary alone of greater than  
15 \$100,000.

16 **Q. For comparison purposes, how does Empire's average non-union salary of \$74,000**  
17 **compare to the national average wage as reported by the Social Security**  
18 **Administration (SSA)?**

19 **A.** For 2014, the SSA reports the average compensation in the U.S. was \$44,569. Further,  
20 67.2% of wage earners had compensation less than or equal to the \$44,569 average wage.  
21 The SSA analysis shows that 50 percent of wage earners had net compensation less than or  
22 equal to the median wage, estimated to be \$28,851 in 2014. Compared to this national  
23 compensation data, Empire's employees are extremely well compensated.

1 **Q. Do Empire's employees also receive very generous defined-benefit pension plan**  
2 **benefits, 401-K matching contributions and retiree medical benefits as part of their**  
3 **annual compensation?**

4 A. Yes, they do. Empire has a very generous employee compensation package that is 100%  
5 funded by its captive utility ratepayers.

6 **Q. Even during the extreme economic downturns since 2007, has Empire's employees**  
7 **been consistently awarded annual pay increases?**

8 A Yes. In OPC data request No. 1011 (NP), Empire was asked to provide a listing of each and  
9 every Union and non-Union base salary increase for the years 2005 through 2015, by year  
10 and by percent increase. Empire's discretionary management pay increases from 2005  
11 through 2015 averaged 3.14%.

Year	%
2005	3.25
2006	3.8
2007	4
2008	3
2009	3
Feb-10	3
Dec-10	3
2012	2.5
2013	3
2014	3.5
2015	2.5

12

13 **Q. Have you reviewed Empire's executive pay increases over the past few years?**

14 A. Yes, I have. Empire's executive management base salary increases have exceeded non-  
15 executive base salary increases over the past few years.

1 **Q. Please provide the basis for your understanding of the Commission’s longstanding**  
2 **policy on incentive compensation.**

3 A. In its *Report and Order* in Case No. GR-96-285, a Missouri Gas Energy (“MGE”) case, the  
4 Commission found the costs of MGE’s incentive compensation program should not be  
5 included in MGE’s revenue requirement because the incentive compensation program is  
6 driven primarily, if not solely, by the goal of shareholder wealth maximization and not in  
7 the interests of ratepayers. Also in its *Report and Order* in Case No. GR-2004-0209, the  
8 Commission found the financial incentive portions of the incentive compensation plan  
9 should not be recovered in rates.

- 10 1. Those financial incentives seek to reward the company’s  
11 employees for making their best efforts to improve the company’s  
12 bottom line.
- 13 2. Improvements to the company’s bottom line chiefly benefit the  
14 company’s shareholders not its ratepayers.
- 15 3. Indeed, some actions that might benefit a company’s bottom line,  
16 such as a large rate increase, or the elimination of customer service  
17 personnel, might have an adverse effect on ratepayers.
- 18 4. If the company wants to have an incentive compensation plan  
19 that rewards its employees for achieving financial goals that chiefly  
20 benefit shareholders, it is welcome to do so. However, the  
21 shareholders that benefit from that plan should pay the cost of that  
22 plan.
- 23 5. The portion of the incentive compensation plan relating to the  
24 company’s financial goals will be excluded from the company’s cost  
25 of service revenue requirement.  
26

27 In its *Report and Order* in Case No. ER-2006-0315, another Empire case, the Commission  
28 concluded “incentive compensation for meeting earnings goals, charitable activities,  
29 activities unrelated to the provision of retail electric service, discretionary awards, and stock  
30 options should not be recoverable in rates.” The Commission reiterated this position on  
31 earnings-based incentive compensation in its *Report and Orders* in Case Nos. ER-2006-  
32 0314 and ER-2007-0291 - both Kansas City Power and Light (“KCPL”) rate cases.



1 **Q. At page 2, line 10, of this rebuttal testimony Empire witness Beecher states “Empire’s**  
2 **compensation objective is for the program’s structure to be consistent with our**  
3 **industry peers.” Is Empire consistent with its Missouri electric utility peers when it**  
4 **comes to charging ratepayers instead of shareholders for its long-term incentive**  
5 **compensation?**

6 A. No. Empire stands alone among Missouri electric utility companies in its efforts to charge  
7 customers for long-term incentives and stock compensation. KCPL, KCP&L Greater  
8 Missouri Operations Company (“GMO”), and Ameren Missouri do not seek rate recovery  
9 of long-term incentive compensation and have agreed to accept the Commission’s policy of  
10 not allowing direct rate recovery of long-term incentive compensation. Only Empire refuses  
11 to accept this Commission policy.

12 **Q. Has GMO recently filed direct testimony in its rate case describing how it does not**  
13 **pass earnings-based short-term incentive compensation based on earnings per share as**  
14 **well as long-term equity-based compensation to its customers in its cost of service?**

15 A. Yes. GMO witness Ron Klote included the following in his direct testimony in Case No.  
16 ER-2016-0156:

17 Q: Please explain adjustment CS-51.

18 A: GMO annualized incentive compensation based on target payout  
19 percentages multiplied by June 2015 base salary for all non-  
20 bargaining employees. Adjustments were made to the annual amount  
21 to remove all short-term incentive compensation for officers that was  
22 associated with metrics tied to earnings per share. (emphasis added)  
23

24 Q: Please explain adjustment CS-11.

25 A: We adjusted certain expense transactions recorded during the test  
26 year from the cost of service filing in this rate case. The following is  
27 a listing of the various components: Remove charges from test year-  
28 The Company has identified certain costs recorded during the test  
29 year for which it is not seeking recovery in this rate proceeding or  
30 which were adjustments to transactions recorded prior to the test  
31 period, netting to approximately \$1.65 million (a GMO total

1                    company amount). These costs for which the Company is not  
2                    seeking recovery primarily include director and officer equity  
3                    compensation, prior period transactions, and certain non-recoverable  
4                    officer expense report items. (emphasis added)  
5  
6

7                    **Q.    Even prior to being acquired by KCPL, did GMO seek direct rate recovery of long-**  
8                    **term executive compensation?**

9                    A.    No, it did not. At page 19 of his direct testimony in Case No. ER-2007-0004, Aquila (the  
10                    former owner of GMO) witness Ron Klote described his Long-Term Incentive Plan  
11                    adjustment CS-17. Mr. Klote described Aquila’s Long-Term Incentive Plan as “the variable  
12                    compensation portion of executive salaries and wages where awards are based on multi-year  
13                    Company performance.” In describing CS-17 Mr., Klote stated:

14                    The purpose of Adjustment CS-17 was to eliminate from the test  
15                    year all amounts recorded to the LTIP incentive resource 1799.  
16                    Thus, the Company is not asking for recovery of any LTIP-related  
17                    cost in this rate case. The as recorded amount for the test year-end  
18                    December, 31, 2005, was eliminated from the cost of service filing in  
19                    this rate case proceeding.  
20

21                    **Q.    Have other non-Missouri utilities decided it would be more appropriate to charge its**  
22                    **shareholders as opposed to its ratepayers for long-term incentive compensation?**

23                    A.    Yes. I have reviewed testimony and exhibits filed by Puget Sound Energy in its 2007  
24                    general rate case (Washington Utilities and Transportation Commission Docket No. UE-  
25                    072300/UG-072301). In its testimony, Puget Sound Energy makes it clear compensation  
26                    costs for its LTIP incentive plan for executives are not included in revenue requirements. In  
27                    his “Prefiled Direct Testimony”, Mr. Thomas Hunt in his capacity as Puget Sound Energy’s  
28                    then-Director of Compensation, Benefits and Payroll stated:

29                    Q.    What components of the executive compensation are paid by  
30                    the shareholders?

1           A.     The largest component of executive compensation is paid  
2           from the Company's equity incentive plan. This plan, entitled the  
3           "Long Term Incentive Plan" (LTIP), is a market-competitive pay  
4           program that is fully funded by the Company's shareholders."  
5  
6

7     **Q.     At page 3 line 14 of Mr. Beecher's rebuttal testimony he refers to Empire's long-term**  
8     **incentive compensation package as a "best practice". Do you agree?**

9     A.     No, not for a natural monopoly like Empire. For a monopoly, equity compensation  
10     practices should be considered a "bad practice" and not a "best practice."

11     If equity compensation or earnings-based compensation were a best practice for a regulated  
12     monopoly, there would be little controversy over this issue and all, or significantly all, state  
13     utility commissions would certainly allow rate recovery of such a "best practice." If such  
14     compensation was really a utility "best practice", the Missouri Public Service Commission  
15     would not have a policy over many years prohibiting rate recognition of such a utility "best  
16     practice."

17     A company operating in the competitive market that includes its equity-based compensation  
18     in the price of goods and services bears all the risks of the impact of that decision. If the  
19     incentives created by equity compensation, such as raising prices higher than necessary,  
20     result in the company not being competitive, customers can just walk away to a firm selling  
21     goods and services for less.

22     Empire's customers cannot just walk away. They are captive to Empire's management  
23     decisions and price increases and their only protection is the Commission's imposition of  
24     price increase limits and other disciplines of competition. With Empire's type of executive  
25     incentive compensation, its executives are incentivized to maximize profits. The main way  
26     for a utility to do this is to seek a maximum rate increase. Empire, as a sophisticated party

1 in these rate cases, has requested the highest rate increases they can reasonably, or even  
2 unreasonably, justify and there is no indication this will not be the case in the future.

3 **Q. Is there evidence that Empire's long-term equity based compensation and other**  
4 **earnings based compensation have incentivized Empire's management to seek higher**  
5 **levels of profits than even Empire considered reasonable?**

6 A. Yes. There is significant evidence to this effect. I performed an analysis of the dollar  
7 amount of price (or rate) increases Empire has sought in its last five general rate cases and  
8 compared this amount to the dollar amount of the rate increase Empire found reasonable and  
9 agreed upon in the rate case settlement. I should note the parties settled the dollar amount of  
10 the rate increase in all of these rate cases.

11 In these five rate cases, Empire sought price increases of \$194.4 million. Compared to this  
12 amount, Empire found it only needed to increase rates by \$122.1 million to recover all of its  
13 costs and earn a reasonable profit. In effect, during this period, Empire sought to charge it  
14 customers \$72.3 million over and above what even Empire concluded was fair and  
15 reasonable to charge its ratepayers.

16 The profit-based incentive compensation for Empire's management potentially plays a  
17 factor in Empire's attempt to raise prices for its utility services over and above a reasonable  
18 level. The higher Empire can raise its rates the higher its profits the higher its executive  
19 compensation. The Commission has expressed a concern about this very issue and was  
20 correct to do so.

21 The incentive to overcharge customers is exactly the type of imprudent management  
22 incentive the Commission addressed in its Reports and Orders on earnings-based utility  
23 incentive compensation. In its *Report and Order* in Case No. GR-2004-0209 the  
24 Commission specifically described a large rate increase as one of the incentives caused by  
25 earnings-based incentive compensation:

1           The Commission agrees with Staff and Public Counsel that the  
2           financial incentive portions of the incentive compensation plan  
3           should not be recovered in rates. Those financial incentives seek to  
4           reward the company's employees for making their best efforts to  
5           improve the company's bottom line. Improvements to the  
6           company's bottom line chiefly benefit the company's shareholders  
7           not its ratepayers. Indeed, some actions that might benefit a  
8           company's bottom line, such as a large rate increase, or the  
9           elimination of customer service personnel, might have an adverse  
10          effect on ratepayers. (Emphasis added)  
11

12 **Q. Will excluding the costs of the imprudent management incentives from direct rate**  
13 **recovery in a rate case eliminate the imprudent utility management incentives?**

14 A. No, not if Empire decides to keep the plans in place. But excluding these costs from direct  
15 rate recovery at least keeps Empire's customers from paying for the imprudent management  
16 incentives created by its incentive compensation plans.

17 **Q. At page 2, lines 20-23, of his rebuttal testimony Mr. Beecher describes Empire's**  
18 **executive compensation program with three basic compensation elements (1) base**  
19 **salary; (2) annual (short-term) cash incentives, and (3) long-term incentives. Is OPC**  
20 **proposing any adjustments to Empire's executive's base salaries?**

21 A. No.

22 **Q. Is OPC proposing any adjustments to Empire's short-term cash incentives?**

23 A. Yes. OPC's adjustments are consistent with Commission policy. To the extent Empire's  
24 short-term compensation includes cash payments based on earnings-based metrics, it is  
25 recommending only these dollars be excluded from Empire's employee compensation costs.

26 **Q. Does the Staff and OPC have the exact same position on both short-term and long-**  
27 **term incentive compensation in this rate case?**

1 A. Yes. Both the Staff and OPC support the Commission's longstanding policy on direct rate  
2 recovery of various types of incentive compensation costs.

3 **Q. Briefly, why does OPC not support direct rate recovery of incentive compensation**  
4 **based on components or criteria that are earnings based?**

5 A. The primary reason why OPC does not support the inclusion of the dollars associated with  
6 earnings-based incentive compensation in a utility's cost of service is the same as the  
7 primary reason stated by the Commission. OPC believes earnings-based incentives based  
8 on net income, return on equity, and increases in stock price actually work as intended by  
9 focusing utility management on maximizing income in order to maximize their  
10 compensation.

11 As the Commission has noted, the incentives created by compensating employees through  
12 an earnings-based incentive may lead to utilities seeking rate increase cases significantly  
13 higher than justified and significantly higher than needed to earn a reasonable return on  
14 equity. In addition, with utilities that have affiliates, earnings-based incentive compensation  
15 incentivizes utility management to take actions causing utility operations to improperly  
16 subsidize affiliate transactions and nonregulated operations.

17 **Q. Earlier you quoted from the Commission's *Report and Order* in Case No. GR-2004-**  
18 **0209 where the Commission expressed concern that earning-based incentive**  
19 **compensation creates incentives for utility management to act imprudently. Is this**  
20 **concern supported up by research?**

21 A. Yes it is. I have read several academic research studies on earnings-based and equity-based  
22 incentive compensation and find, consistent Commission's concerns that this type of  
23 compensation incentive causes company management to act in ways to maximize their  
24 compensation through decisions on financial accounting adjustments that affect current  
25 reported earnings. This action is referred to as "earnings management".

1 **Q. What is earnings management?**

2 The issue of “earnings management” is addressed in the attached article *Maynard*  
3 *Manufacturing An Analysis of GAAP-Based and Operational Earnings Management*  
4 *Techniques, Strategic Finance, July 2003*. Strategic Finance is a monthly publication of the  
5 Institute of Management Accountants and this article was written by William Ortega, Ph.D.,  
6 CMA and Gerry Grant, MPA, CPA.

7 **Q. Please summarize the findings on earnings-based incentive compensation in the article**  
8 **“Maynard Manufacturing An Analysis of GAAP-Based and Operational Earnings**  
9 **Management Techniques.”**

10 The article describes “earnings management” as the “active manipulation of earnings toward  
11 a predetermined target.” Earnings management occurs when managers use judgment in  
12 financial reporting and in structuring transactions to alter financial reports to either mislead  
13 some stakeholders about the underlying economic performance of the company or to  
14 influence contractual outcomes that depend on reported accounting numbers.

15 The article provides five situations that provide executives incentives to manage earnings.  
16 Situation number four is “To Maximize Earnings-Based Incentive Compensation  
17 Agreements.” The article states several studies with evidence that earnings are managed in  
18 the direction consistent with maximizing executives’ earnings-based incentive  
19 compensation.

20 This article also references a 1985 study performed by Paul M. Healy, a widely-published  
21 dean with the Harvard Business School, titled “The Effect of Bonus Schemes on  
22 Accounting Decisions”. This article was published in *Journal of Accounting and*  
23 *Economics*, April 1985. This article is also attached to my testimony.

24 **Q. What conclusions does Mr. Healy reach in this article based on his research of**  
25 **incentive compensation?**

1     **A.**     Part of Mr. Healy's conclusions were:

2             Bonus schemes create incentives for managers to select accounting  
3             procedures and accruals to maximize the value of their bonus  
4             awards. These schemes appear to be an effective means of  
5             influencing managerial accrual and accounting procedure decisions.  
6             There is a strong association between accruals and managers'  
7             income-reporting incentives under their bonus contracts.  
8  
9

10    **Q.**     **Can a utility create an overall incentive compensation plan that is consistent with the**  
11    **interests of ratepayers and shareholders and meets Commission criteria?**

12    **A.**     Yes, it can, but it must be either created by its board of directors or it is approved by the  
13    board of directors based on management recommendations.

14             A utility's board of directors has a primary responsibility to the utility's shareholders. Due  
15             to the nature of this relationship, and without utility management working to convince its  
16             board of directors otherwise, I do not see any change to earnings-based criteria being the  
17             cornerstone of the utility's incentive compensation plan.

18    **Q.**     **Describe Empire's Compensation Committee of its Board of Directors.**

19    **A.**     Empire describes them in its 2016 Proxy:

20             We have a Compensation Committee of the Board of Directors. The  
21             Compensation Committee assists the Board in establishing and  
22             overseeing Director and executive officer compensation policies and  
23             practices of Empire on behalf of the Board. The Compensation  
24             Committee determines the compensation of each of our executive  
25             officers as more fully described under "Executive Compensation—  
26             Compensation Discussion and Analysis." Also, as more fully  
27             described under "Executive Compensation—Compensation  
28             Discussion and Analysis," our CEO makes recommendations to the  
29             Compensation Committee with respect to certain aspects of  
30             executive compensation. The charter for the Compensation  
31             Committee is available on our website at [www.empiredistrict.com](http://www.empiredistrict.com).  
32             The Compensation Committee held three meetings during 2015. The



1 members of our Compensation Committee are Messrs. Laney,  
2 Mueller, Ohlmacher and Portney. The Board has determined that  
3 each member of the Compensation Committee is "independent" as  
4 defined by the NYSE Listing Standards. The report of the  
5 Compensation Committee can be found below under the heading  
6 "Executive Compensation—Compensation Committee Report."  
7

8 **Q. Why does Empire compensate its executives in part based on stock, or equity,**  
9 **compensation?**

10 A. As stated at page 13 of Empire's April 28, 2016 Proxy Statement, SEC Schedule 14A  
11 ("DEF 14A"), Empire's Compensation Committee authorizes this form of compensation to  
12 align executive compensation with stockholder interests:

13 In order to align the Company's executive compensation program  
14 with the interests of our stockholders, a substantial portion of each  
15 executive's total compensation opportunity is presented in the form  
16 of equity compensation. In addition, equity and other at-risk elements  
17 of compensation are tied to both short-term and long-term  
18 performance measures. In essence, at-risk compensation must be "re-  
19 earned" annually.  
20

21 **Q. At page 9 of his rebuttal testimony, Mr. Beecher states "OPC's recommendation in**  
22 **this area appears to be even more extreme than Staff's. OPC witness Hyneman, at**  
23 **pages 18-25 of his direct testimony indicates the OPC's opposition to including any**  
24 **incentive or variable compensation in Empire's Missouri revenue requirement." Is**  
25 **Mr. Beecher's testimony accurate?**

26 A. No, but I can understand why Mr. Beecher misreads my direct testimony on this issue. At  
27 page 21, line 11, I state "OPC believes a properly-designed incentive compensation plan  
28 should be based on factors that will incent utility management to improve the provision of  
29 safe and reliable service at reasonable rates." At page 22 at line 1, I describe the types of

1 incentive compensation components that should be included in a utility's incentive  
2 compensation plan.

3 However, Mr. Beecher may have read my comments at page 22 lines 11-13 that were  
4 critical of how Empire manages its short-term incentive compensation plan as an indication  
5 OPC recommends excluding all of Empire's short-term incentive compensation. OPC  
6 recommends none of the long-term incentive compensation requested by Empire but  
7 recommends including all of its short-term incentive compensation with the exception of the  
8 earnings-based portion.

9 OPC's position on Empire's incentive compensation is the same as Staff's position in this  
10 case and has the same revenue requirement impact as Staff's position.

11 **Q. At page 9, line 19, Mr. Beecher states that OPC "makes no allegations of imprudence**  
12 **and provides no evidence to support its position that Empire's compensation is not a**  
13 **proper expense." Based on this conclusion, Mr. Beecher states OPC's position is**  
14 **unreasonable. Is OPC's position unreasonable?**

15 A. No. For Mr. Beecher's rebuttal testimony to have credibility, he should address the source  
16 of this position. OPC is only following the precedent of the Commission. He needs to  
17 address the rationale expressed by the Commission over and over again, some of which I  
18 quoted in my direct testimony. If Empire believes Commission precedent is unreasonable, it  
19 should say so.

20 **Q. Do you agree with his characterization of your testimony on this point?**

21 A. No. For example, taking a position of including long-term incentive compensation in cost  
22 of service despite a longstanding Commission policy is not by itself imprudent. However,  
23 seeking direct rate recovery of long-term incentive compensation given this Commission's  
24 policy without any new evidence or support for its inclusion is *de facto* imprudent. While I

1           may not have used the term imprudent in my direct testimony, Empire’s inclusion of its  
2           long-term incentive compensation plan in this rate case is imprudent.

3           Empire is being unreasonable to insist the Commission abandon its longstanding policy  
4           against incentive compensation scheme that is detrimental to ratepayers without any new  
5           evidence or basis to support the Commission doing so.

6   **III.    OPC APPLICATION OF THE COMMISSION POLICY ON GAINS/LOSSES ON**  
7   **DISPOSITION OF PLANT ASSETS**

8   **Q.    Did Staff file rebuttal testimony in opposition to OPC’s position on the ratemaking**  
9   **treatment of Empire’s loss on retirement of plant assets?**

10   A.    Yes. Staff witness John Robinette filed rebuttal testimony on OPC’s proposed  
11       ratemaking treatment. Staff, however, incorrectly classifies this issue as a “reserve  
12       deficiency.” As I explained in my direct testimony, it is simply not possible to have a  
13       reserve deficiency for a depreciation reserve no longer in existence. Depreciation  
14       reserves for plant assets that are retired are also “retired” (removed from regulated books  
15       of account) and therefore nonexistent. While Empire may still own the retired assets,  
16       they are no longer used to provide utility service and are awaiting disposition. So both  
17       Staff and Empire are wrong when they refer to this issue as a “reserve deficiency.” This  
18       is nothing more than Empire’s attempt to seek rate recovery of a loss on the retirement of  
19       certain plant assets.

20   **Q.    Did Empire file rebuttal testimony expressing any concerns about OPC’s position**  
21   **on this issue?**

22   A.    I reviewed Empire’s rebuttal filing and did not see any testimony where Empire  
23       expressed any concerns with OPC’s position on this issue.

1 **Q. At page 2, lines 12-19, Mr. Robinette explains how Empire itself created a “reserve**  
2 **deficiency” by changing its method of accounting for depreciation reserves. Do you**  
3 **agree with Mr. Robinette that this issue was created by Empire’s change in**  
4 **accounting?**

5 A. Yes, I do. As explained by Mr. Robinette, there was no reserve deficiency when the  
6 reserves were viewed on a total steam production as opposed to an individual plant basis.

7 **Q. Did Empire have the authority to change its method of accounting for the**  
8 **depreciation reserves associated with its plant assets?**

9 A. No. In my review of this issue, I have not found where the Commission authorized a  
10 change in accounting for Empire’s depreciation reserve.

11 **Q. At page 3, lines 19-20, Mr. Robinette states the reserve deficiency issue is related to**  
12 **Riverton Units 7, 8 and 9 and not Empire’s Asbury Unit 2. Do you agree?**

13 A. Yes.

14 **Q. At page 4, Mr. Robinette states Staff believes a reserve deficiency can exist for plant**  
15 **that has been retired. Do you agree?**

16 A. No. The accounting journal entries made when a plant is retired removes all plant costs  
17 and depreciation reserve balances from Empire’s books and records. If there are no costs  
18 or reserve balances in the books and records, it is simply not possible to have a reserve  
19 deficiency. Any reserve excess or deficiency is reflected in the accounting journal entry  
20 removing the plant and reserves from the books and records. Mr. Robinette did not  
21 explain how it is possible to have a reserve deficiency on Empire’s books for the retired  
22 Riverton units if there is no depreciation reserve on Empire’s books for these units. It is  
23 incumbent on Mr. Robinette to explain why he believes a deficiency in a reserve can exist  
24 when the associated depreciation reserve does not exist. .

1 **Q. Does it appear Mr. Robinette may be confusing the terms “reserve deficiency” and**  
2 **“loss on retirement of plant assets”?**

3 A. Yes. While there are no dollars in the depreciation reserve for the retired Riverton units,  
4 there should be dollars charged to the income statement account “Loss on Retirement of  
5 Plant Assets”, the account that will be charged if the Commission does not allow Empire  
6 to treat this loss as a regulatory asset and charge the loss to ratepayers.

7 **Q. Please describe the accounting journal entries made to record a retirement of a**  
8 **plant asset.**

9 A. When a plant asset is retired from service, a loss is recorded equal to the asset’s book  
10 value less accumulated depreciation. When the plant is retired prior to selling all or part  
11 of the asset, the proceeds are zero. When the asset is sold, if the proceeds exceed the  
12 book value, a gain on disposal occurs. If proceeds are less than the book value, a loss on  
13 disposal occurs.

14 In the following example, assume the plant asset with an original cost of \$1,000 is retired  
15 from utility service when the book value of the asset was \$100. The reserve deficiency at  
16 the day prior to the date of retirement was \$100. However, at the date of retirement and  
17 after the journal entry is made to remove the plant and the depreciation reserve from the  
18 Company’s financial books and records, the reserve deficiency no longer exists but is  
19 transferred to a “loss on retirement” account as reflected in the journal entry below:

20	Loss on Retirement of Plant Asset	100	
21	Depreciation Reserve	900	
22			
23		Plant Asset	1000
24			
25			

1 **Q. Did Empire obtain any accounting authority from the Commission to deviate from**  
2 **the FERC Uniform System of Accounts (“USOA”) and not record a loss on the**  
3 **retirement of plant assets when it retired the Riverton plant units?**

4 A. No, it did not. Under the Commission’s current policy on Accounting Authority Orders  
5 (“AAOs”), Empire would be required by the Commission to seek accounting authority to  
6 deviate from the USOA and record its loss on retirement of the Riverton plant in a  
7 regulatory asset account for potential future ratemaking treatment.

8 **Q. If the Commission would have granted Empire the authority to defer the loss on**  
9 **retirement of plant assets in a FERC Regulatory Asset account, FERC Account No.**  
10 **182.3, would the Commission be making a determination that Empire loss on**  
11 **retirement of plant assets are “probable” of rate recovery?**

12 A. Yes. That is FERC’s USOA requirement for any dollars deferred to Regulatory Asset  
13 account 182.3. Since the Commission has adopted the FERC’s USOA , it is bound by  
14 these requirements for accounting purposes.

15 **Q. Is it possible that Empire will receive proceeds from the sale of the Riverton plant**  
16 **assets that were retired?**

17 A. Yes and those proceeds will reduce the loss on retirement that would be reflected on  
18 Empire’s books and records. Mr. Robinette states on page 4, line 19, that there has not  
19 been a sale of these plant assets “at this point.”

20 **Q. Does Staff believe that Empire’s shareholders should absorb any of the loss on**  
21 **disposal of the Riverton plant assets?**

22 A. No. Staff’s position is that the loss should be charged to Empire’s ratepayers by  
23 decreasing Empire’s current depreciation reserves for accounts unrelated to the Riverton  
24 units that have been retired.

1 **Q. What is Mr. Robinette's basis for disagreeing with OPC?**

2 A. Mr. Robinette believes there should be a difference in the accounting and ratemaking  
3 treatment for plant assets that are sold as opposed to plant assets that are retired. At page  
4 4 of his rebuttal testimony, Mr. Robinette states:

5 Q. Does Staff agree with OPC's position that Empire's shareholders should bear  
6 the burden of the loss on retirement of assets?

7 A. No. OPC discussed the burden of loss based on the sale of utility assets, but  
8 there has not been a sale of assets at this point.....  
9

10 **Q. If Mr. Robinette believes there should be different accounting and ratemaking**  
11 **treatment for asset sales as opposed to asset retirements, has he reflected that belief**  
12 **in his testimony before the Commission?**

13 A. No. In a prior Empire rate case, Mr. Robinette took the position that the gain on the sale  
14 of an Empire plant asset should be charged to the depreciation reserve. Here, he takes the  
15 position that the loss on retirement of Riverton plant units should be charged to the  
16 depreciation reserve. Mr. Robinette correctly supports the same accounting and  
17 ratemaking treatment for plant that is sold as he does for plant that is retired as they are  
18 the same transaction. Yet he is critical of OPC for taking the same position on Empire's  
19 gain on the sale of a plant asset as OPC takes on Empire's loss on retirement of plant  
20 assets.

21 **Q. Should there be any distinction at all between assets that are retired and assets that**  
22 **are sold?**

23 A. No. They are the exact same accounting transaction and should have the exact same  
24 treatment. The essence of the transaction is that the plant has been removed from  
25 providing utility service. There is little relevance whether the plant was sold, retired, or  
26 disposed of in any other manner.

1 **Q. What is OPC seeking from the Commission on this issue?**

2 A. The OPC is only seeking consistent, reasonable ratemaking treatment of plant asset sales  
3 or retirements. OPC would not be in opposition to the Staff position if this position was  
4 adopted by the Commission and applied consistently to utilities for both gains and losses  
5 on the disposition of plant assets. OPC cannot support the Staff position because it is  
6 contrary to previous holdings by the Commission.

7 Currently, the Commission allows utilities to transfer the gains on disposition of plant  
8 assets to shareholders in the form of increased profits. If either Empire or the Staff's  
9 position prevailed, then the Commission would be taking a completely inconsistent  
10 position by giving asset gains to shareholders and charging asset losses to ratepayers.  
11 That is not only an inconsistent position, but it would be unfair and unjust to the public.

12 **Q. Has the Staff been consistent in its approach to recording the effects of dispositions**  
13 **of plant assets?**

14 A. Yes. Mr. Robinette has taken the position that both gains on the sale of plant assets and  
15 loss on the retirement of plant assets should be charged to the utility's depreciation  
16 reserve under its method of mass asset accounting.

17 **Q. Do you believe that this approach is reasonable?**

18 A. Yes, it is reasonable if the approach is applied consistently by Staff, the Commission, and  
19 utilities.

20 **Q. Has this Staff approach been applied consistently by the Commission and utilities?**

21 A. No, it has not. The Commission has a long tradition of allowing gains on the sale of plant  
22 assets to accrue to the benefit of utility shareholders. In its 1977 *Report and Order* in a  
23 KCPL rate case, No. ER-77-198, the Commission stated:



1           It is the Commission's position that ratepayers do not acquire any  
2           right, title and interest to the Company's property simply by paying  
3           their electric bills. It should be pointed out that Company investors  
4           finance Company while Company's ratepayers pay the cost of  
5           financing and do not thereby acquire an ownership position.  
6           Therefore, the Commission finds that the disposal of Company  
7           property at a gain does not entitle its ratepayers to benefit from that  
8           gain nor does the disposal of Company property at a loss require  
9           that Company's ratepayers absorb that loss.  
10

11           In addition, utility companies have also not accepted this Staff approach.

12 **Q.   Please explain how Missouri utility companies have not accepted the Staff's**  
13 **approach to treating gains or losses on the sale or retirement of plant assets to the**  
14 **depreciation reserve remaining on the utility's books and records.**

15           As I noted in my direct testimony, Empire sold a unit train plant asset for a gain in 2007.  
16           Instead of booking that profit from the plant asset sale to the depreciation reserve, Empire  
17           kept this profit for its shareholders. In addition, OPC has recently been made aware that  
18           Laclede Gas Company ("Laclede") recorded a gain on the sale of its land and buildings at  
19           Laclede's Forest Park facility and recorded that gain on sale below the line as profit to its  
20           shareholders. In its 2015 Annual Report to the Securities and Exchange Commission -  
21           Form 10-K, Laclede disclosed that it recorded a \$7.6 million gain on the sale of property.

22           Between Empire's booking of the gain on the sale of its unit train below the line to the  
23           benefit of its shareholders, Empire's attempt to charge its ratepayers for a loss on  
24           retirement on Riverton plant assets in this rate case, and Laclede's allocation of a \$7.6  
25           million gain on the sale of a utility plant asset, it is clear Missouri utilities have no  
26           concern with Staff's accounting and ratemaking policies on dispositions of plant assets.  
27           Until the Commission forces utilities to record both gains and losses on disposition of  
28           plant assets to the depreciation reserve, Missouri utilities will continue to keep the gains

1 for its shareholders and charge the losses to its ratepayers as illustrated by Empire on this  
2 issue in this rate case.

3 OPC urges the Commission to continue with its general policy of accruing the gain or  
4 loss on dispositions of plant assets to the owners of the assets – utility shareholders.  
5 Consistent with this policy it should reject both Empire’s rate recovery proposal and  
6 Staff’s depreciation reserve adjustment proposal on this issue in this rate case.

7 **Q. Please describe the position taken by Empire as it relates to its sale of the unit train**  
8 **plant asset in 2007.**

9 A. Empire’s Principal Accounting Officer Robert Sager made the determination that,  
10 because the unit train was classified as a property operating unit, Empire was allowed to  
11 keep the profit from the sale of the unit train. In his January 2013 rebuttal testimony in  
12 Case No. ER-2012-0345 on page 2, line 14, he stated “Staff’s general premise that net  
13 proceeds from a sale should be recorded against the depreciation reserve holds true unless  
14 the item is considered an operating unit.”

15 **Q. Have you reviewed FERC’s USOA for natural gas utilities to determine if FERC**  
16 **makes a distinction between units of property that are considered an operating unit**  
17 **and those that are not considered and operating unit?**

18 A. Yes and I was unable to find any distinction in the FERC USOA.

19 **Q. Even if there was clear accounting guidance in the FERC USOA that Empire could**  
20 **keep the gain on sales of operating unit plant, would this guidance be relevant to**  
21 **how Empire should treat the gain on the sale of plant assets in Missouri?**

22 A. No. Empire admits it was aware of Staff’s policy whereby gains on sale of plant assets  
23 should be charged to the depreciation reserve. Given this recognition, Empire should

1 have deferred the gain in a regulatory liability account until it sought Commission  
2 guidance on the accounting treatment of the gain.

3 **Q. Earlier, you stated that the Staff’s approach to treating gains and losses on the sale**  
4 **or retirement of plant assets is reasonable. Does that mean OPC supports the**  
5 **Staff’s position in this rate case?**

6 A. No. As I indicated earlier, OPC is concerned about how utility ratepayers are treated in  
7 transactions involving the financial effects of dispositions of plant assets. As is clear in  
8 this case, Empire’s management is attempting to manipulate these transactions to the  
9 detriment of its customers by keeping gains for shareholders and passing on losses to  
10 ratepayers. This utility management behavior cannot be allowed to continue and the  
11 Commission must set a fair and consistent policy for the dispositions of all utility plant  
12 assets.

13 Until this policy is set forth, utility management will record plant disposition transactions  
14 to the benefit of its shareholders at each opportunity as long as there is ambiguity in how  
15 the utility is required to record gains and losses on utility plant dispositions. Unless the  
16 Commission adopts the Staff’s position in this case and includes precedential policy  
17 language in its Report and Order to such effect, OPC will continue to support the  
18 Commission’s longstanding policy that ratepayers are not owners of utility plant and thus  
19 are not entitled to gains on dispositions and should not be charged losses on disposition.

20 **Q. Beginning at page 9 and continuing through page 16 of his rebuttal testimony, Mr.**  
21 **Robinette provides evidence Empire has engaged in unauthorized and**  
22 **inappropriate accounting transaction related to stopping the accrual of depreciation**  
23 **expense on plant assets. What is OPC’s opinion of these allegations**

24 A. These allegations are serious and suggest inappropriate conduct on the part of Empire’s  
25 management. Charging customers for depreciation expense on plant assets and not

1 charging those depreciation expenses recovered in rates to the plant's deprecation reserve  
2 is an inappropriate action by utility management. If the allegations made by Staff are  
3 true, Empire may be in violation of Commission Rule 4 CSR 240-20.030 (the Uniform  
4 System of Accounts-Electrical Corporations) and potentially other regulations. The rule  
5 violations could lead to penalties as well as the restoration of the dollars recovered in  
6 rates from ratepayers that were purported to be utility expenses but were not actual utility  
7 expenses.

8 **Q. Did Staff file a complaint against Empire for engaging in these accounting**  
9 **irregularities?**

10 A. No. It is not clear why Staff did not file a complaint and OPC believes it should have  
11 when evidence of these accounting irregularities first surfaced.

12 **Q. Did OPC attempt to discover information from Empire on this issue during this rate**  
13 **case's prehearing (technical) conference?**

14 A. Yes, it did. OPC inquired as to the reasons why Empire stopped recording depreciation  
15 expense on certain plant assets while recovering the depreciation expense in rates.  
16 Apparently Staff did not feel this line of questioning by OPC was appropriate at this  
17 prehearing conference and shut down this line of question by OPC to Empire's  
18 depreciation consultant, Mr. Thomas Sullivan.

19 **Q. How does Staff propose to address this issue in this rate case?**

20 A. Staff is asking the Commission to increase Empire's depreciation reserve based on  
21 estimates of the dollar amount of depreciation expense Empire recovered in rates but did  
22 not charge to the depreciation reserve. This dollar amount of \$3,082,367 is reflected at  
23 page 16, line 1, of Mr. Robinette's rebuttal testimony.

1 **Q. Does OPC believe this solution proposed by Staff is in any way acceptable?**

2 A. No. There must be a full-fledged audit of these transactions to determine the exact dollar  
3 amount Empire's customers were inappropriately charged. Once those dollar amount are  
4 determined, then the revenue requirement impact of these inappropriate accounting  
5 transactions can be calculated and charged to a regulatory liability account. The creation  
6 of a regulatory liability account will allow for Empire customers to be refunded, either  
7 through a special surcharge or through other appropriate rate mechanisms. Depending on  
8 the results of the audit, OPC may urge the Commission to seek penalties against Empire.

9 **Q. Does OPC believe the Commission Staff should be ordered to perform the audit on**  
10 **these purported accounting irregularities?**

11 A. No. Based on past acquiescence, OPC recommends the Commission select an  
12 independent auditing firm. If Empire is determined to be at fault, the cost of this audit  
13 should be borne by Empire's shareholders. If the audit report finds that Empire acted in a  
14 legal and appropriate manner, Empire should be allowed to recover the cost of the audit  
15 in future utility rates.

16 **Q. If the Commission does not pursue an independent audit of the purported**  
17 **accounting and ratemaking irregularities by Empire, what is the likely action that**  
18 **will be taken by OPC?**

19 A. OPC will consider conducting its own investigation by creating a separate docket or by  
20 including this issue in its scope in Empire's current acquisition application, EM-2016-  
21 0213.

22 **IV. EXPENSE TRACKERS DO NOT BELONG IN RATE BASE**

23 **Q. What is OPC's position on expense trackers in rate base in this case?**

1 A. OPC's position is that no expense trackers, with the exception of Empire's prepaid  
2 pension asset, should be included in rate base. Expense trackers are simply mechanisms  
3 to track the payment and recovery of expenses. With the exception of the prepaid pension  
4 asset they do not represent prepayments, working capital, or capital investments. Empire  
5 has not provided any evidence to support rate base inclusion of its expense trackers.

6 **Q. Has Staff described the sole purpose of expense trackers in previous testimony?**

7 A. Yes. At page 4, line 9, of Staff witness Kimberly K Bolin's rebuttal testimony in Case  
8 No. WR-2010-0131 she stated, "The only purpose of the tracker is to provide the  
9 Company with an opportunity for dollar for dollar recovery of the expense." While Ms.  
10 Bolin was referring to a specific tank painting tracker in that rate case, her statement is  
11 absolutely true and demonstrates the purpose of all trackers. Recently, Staff has allowed  
12 several expense trackers in rate base in order to settle rate cases. The significant number  
13 of expense trackers in utility rate bases is a concern to OPC.

14 OPC does not see any logical, reasonable basis for including expense trackers in rate base  
15 and finds including such trackers in rate base is a direct violation of an expressed  
16 Commission policy.

17 **Q. In a previous *Report and Order*, did the Commission express its position on the types  
18 of financial components eligible to be included in rate base and those components  
19 that should not be included in rate case?**

20 A. Yes, it did. In its *Report and Order* in Case No. ER-2006-0314, the Commission  
21 described that additions to rate base must be an "asset". The Commission described an  
22 "asset" as "some sort of possession or belonging worth something that is owned or  
23 controlled by the utility."

1 **Q. Did the Commission, in its ER-2006-0314 Report and Order, include language**  
2 **relevant to Empire’s proposal to include expense trackers in its rate base in this**  
3 **case?**

4 A. Yes. The Commission described KCPL’s attempt to include expense projects in its rate  
5 base as KCPL making a “mockery” out of what constitutes a rate base asset. The  
6 Commission stated:

7 As explained by Staff witness Hyneman, "In order for an item to  
8 be added to rate base, it must be an asset. Assets are defined by the  
9 Financial Accounting Standards Board (FASB) as 'probable future  
10 economic benefits obtained or controlled by a particular entity as a  
11 result of past transactions or events' (FASB Concept Statement  
12 No. 6, Elements of Financial Statements). Once an item meets the  
13 test of being an asset, it must also meet the ratemaking principle of  
14 being 'used and useful' in the provision of utility service. Used and  
15 useful means that the asset is actually being used to provide service  
16 and that it is actually needed to provide utility service. This is the  
17 standard adopted by many regulatory jurisdictions, including the  
18 Missouri Public Service Commission."  
19

20 The Commission finds that the competent and substantial evidence  
21 supports the position of Staff, and finds this issue in Staffs favor.  
22

23 While KCPL's projects appear to be prudent, KCPL produced  
24 insufficient evidence for the Commission to find that these projects  
25 rise to the level of an asset, on which the company could earn a  
26 rate of return. What is at issue is not whether a project is a  
27 "probable future economic benefit", as KCPL asserts in its brief;  
28 what is at issue is the remainder of the FASB definition Mr.  
29 Hyneman quoted, which is "obtained or controlled by an particular  
30 entity as a result of past transactions or events." In other words, an  
31 asset is some sort of possession or belonging worth something.  
32 KCPL obtains or controls assets, such as generation facilities and  
33 transmission lines.  
34

35 **To attempt to turn an otherwise legitimate management**  
36 **expense, such as a training expense, into an asset by dubbing it**  
37 **a "project" makes a mockery of what an asset really is, which**

1                   **is some type of property.** Using KCPL's argument, any expense  
2                   is potentially an asset by simply calling it a "project", and thus  
3                   could be included in rate base. KCPL's projects do not rise to the  
4                   level of rate base. (emphasis added)  
5

6   **Q.     Has Empire met its burden of proof that the expense trackers it seeks to include in**  
7           **rate base meet any of the standards for rate base inclusions set by the Commission**  
8           **in its ER-2006-0314 Report and Order?**

9   A.     No. The issue of rate base treatment of ordinary O&M expenses "tracked" for one reason  
10          or another is addressed by Empire witness Owens who opposes OPC's positions of not  
11          including any O&M expenses being tracked for ratemaking purposes in Empire's rate  
12          base. Mr. Owens also opposes the Staff's position of not including the deferred O&M  
13          expenses related to the Joplin tornado in rate base.

14          In his rebuttal testimony, Mr. Owens did not address the Commission standards for rate  
15          base inclusion and provided no substantive justification for rate base inclusion of these  
16          normal O&M expenses. The only argument Mr. Owens provided is these trackers were  
17          included in rate base in previous cases as a result of stipulations and agreements.

18   **Q.     Is the fact that an ordinary O&M expense tracker was included in a past rate case**  
19           **negotiated settlement any reasonable justification for continued rate base treatment**  
20           **of ordinary O&M expenses?**

21   A.     No.

22   **Q.     At page 14, lines 1-6, Mr. Owens complains OPC and Staff's position of allowing**  
23           **Empire full recovery of the deferred expenses of the Joplin tornado is unfair and at**  
24           **odds with the Commission's order originally authorizing the deferral. Are either of**  
25           **these two assertions correct?**



1 A. No. Allowing Empire and its shareholders full recovery of 100% of the deferred  
2 expenses incurred as a result of the tornado is not only not unfair but an inequitable  
3 response by the Commission to Empire and its shareholders.

4 **Q. Why did the Commission issue an Accounting Authority Order (“AAO”)**  
5 **authorizing deferral of Empire’s tornado-related expenses?**

6 A Under traditional ratemaking, since the expenses were incurred outside of a rate case test  
7 year, a utility is expected to assume the full risk of recovery of these expenses. The  
8 Commission recognized this was a significant cost to Empire so it allowed Empire to  
9 defer these costs under an AAO for potential future direct rate recovery.

10 **Q. Was the Commission under any obligation to allow Empire to defer these expenses?**

11 A. No.

12 **Q. Have you been involved with many past Commission AAO cases?**

13 A. Yes, I have.

14 **Q. Have you ever seen a Commission AAO case where the Commission ordered any**  
15 **ratemaking treatment for the costs deferred under an AAO?**

16 A. No, I have not.

17 **Q. Did the AAO issued by the Commission to Empire include any ratemaking**  
18 **treatment at all, let alone guarantee rate base treatment of the deferred expenses?**

19 A. No. Commission AAO’s only allow a utility the authority to defer expenses that would  
20 otherwise be charged against income in the period incurred. AAO’s have not and do not  
21 grant nor guarantee any type of ratemaking treatment.

1 As explained by the Commission in its press release issued on November 1, 2012, , “(we)  
2 have already taken regulatory action concerning the Joplin tornado by issuing an  
3 accounting authority order to protect Empire’s earnings until completion of its general  
4 rate proceedings. That order permits Empire to defer its tornado-related costs for  
5 potential recovery in rates until the conclusion of this rate case.”

6 **Q. Did the Commission, in its AAO Order issued in Case No. EU-2011-0387, discuss**  
7 **the issue of future ratemaking treatment of the deferred tornado costs?**

8 A. Yes, it did. As with all AAO orders, the Commission made clear there was no finding of  
9 any ratemaking treatment in the deferral order. The Commission notes further:

10 b. Nothing in the Commission’s order shall be considered a  
11 finding by the Commission of the reasonableness of the costs  
12 and/or expenditures deferred, and the Commission reserves the  
13 right to consider the ratemaking treatment to be afforded all  
14 deferred costs and/or expenditures, including the recovery of  
15 carrying costs, if any.

16  
17  
18 **V. OPC INCLUSION OF A REASONABLE LEVEL OF SERP EXPENSE**

19 **Q. Please describe OPC’s Empire SERP adjustment in this rate case.**

20 A. Empire currently employs a very generous all-employee pension plan. Empire also has a  
21 supplemental pension plan designed to pay additional benefits to its highly-compensated  
22 employees.

23 According to my calculations, Empire paid \$367,006 in SERP payments in 2015 for an  
24 average payment to each of the seven participants of \$52,429. Again, this \$52,429 is in  
25 addition to the regular pension annuity paid to these individual as well as other retiree  
26 benefits.

1 Based on my analysis and review, including a review of SERP cash payments made by  
2 other utilities, I recommend a maximum annual supplemental cash payment to members  
3 in Empire's SERP of \$20,000. This is an annual amount above what the employee is  
4 already receiving under Empire's all-employee pension plan. OPC's proposed level of  
5 SERP expenses to include in Empire's cost of service in this case is \$140,000.

6 **Q. Is Empire satisfied with either OPC's or Staff's proposed level of SERP expense in**  
7 **this case?**

8 A. No, it is not. Empire witness Beecher states at page 12 of his rebuttal testimony that  
9 Empire currently makes SERP payments to seven highly-compensated former executives.  
10 Mr. Beecher's calculations show a total annual SERP payment to these individuals is  
11 \$372,000, or an average SERP annuity of over \$53,000.

12 **Q. Are the dollar amounts of Empire's SERP payments imprudent and excessive?**

13 A. Yes. I have audited utility SERP plans and expenses for over 20 years. Empire, as a  
14 relatively small electric utility, currently has, by a significant amount, the highest  
15 individual SERP annuity payment for any Missouri utility I have audited. Based on my  
16 experience with other Missouri utilities, Empire's SERP payments are imprudent and  
17 excessive.

18 **Q. What is one reason why Empire's SERP is imprudent and excessive?**

19 A. Despite the Commission never allowing earnings-based executive compensation and  
20 long-term equity-based executive compensation in Empire's utility rates, its SERP is  
21 calculated on executive compensation that includes compensation the Commission has  
22 not allowed to be charged to Empire ratepayers in rate cases. Based on this alone,  
23 Empire's failure to follow Commission ratemaking policy is sufficient for the  
24 Commission to reject Empire's total proposed SERP expense. It not a prudent action by

1 Empire's management to ignore a longstanding Commission ratemaking precedent by  
2 including prohibited compensation expenses in its SERP.

3 **Q. If Empire's SERP is based to a significant extent on compensation prohibited by the**  
4 **Commission from being included in rates, why is OPC even proposing to include**  
5 **Empire's SERP in rates in this rate case?**

6 A. While employed by the Commission Staff, I helped develop policy on rate recovery of  
7 SERP expenses. That policy was the SERP expense will be allowed in rates if it is small  
8 in amount, reasonable, based on actual cash payments made, and is calculated as a simple  
9 restoration SERP or one that only provides benefits that would have been paid under the  
10 all-employee pension plan excerpt for the IRS income limits on highly-compensated  
11 employees.

12 The level of SERP expense proposed by Empire meets none of those standards.  
13 However, based on my experience with other utilities, I was able to propose a level of  
14 SERP expense meets the requirements of the Staff policy on SERP.

15 **Q. Can you provide further evidence why Empire's SERP payments are imprudent**  
16 **and excessive?**

17 A. Yes. Mr. Beecher is Empire's current Chief Executive Officer ("CEO"). While his total  
18 compensation is much higher, Empire's SEC regulatory filings reveal Mr. Beecher's base  
19 salary for 2015 is \$532,500. Using this CEO base salary for comparison, Empire pays  
20 one former executive approximately \$200,000 annually in SERP benefits. As noted  
21 earlier, this \$200,000 is in addition to this former executive's regular pension benefits  
22 and other retiree benefits. Attempts to charge utility ratepayers for this clearly excessive  
23 and imprudent compensation arrangement with a former Empire executive reflects badly  
24 on the part of Empire and its management.

1 **Q. What is Empire’s average executive SERP payment without including this clearly**  
2 **excessive and imprudent SERP payment?**

3 A. Excluding this one SERP recipient, the total SERP annual payments would be \$175,857  
4 divided by six SERP recipients for an average SERP payment of \$29,309. If the  
5 Commission-prohibited executive incentive compensation was excluded from the  
6 calculation of these SERP payments, I estimate the average SERP payment would be  
7 very close to the \$20,000 individual annual SERP payment and the total \$140,000 SERP  
8 payments proposed by OPC to include in Empire’s cost of service in this rate case.

9 **Q. At page 12 of his rebuttal testimony, Mr. Beecher states Empire asked for**  
10 **information from you related to the SERP but it was not provided. Is this true? If**  
11 **so, why?**

12 A. It is. At the prehearing conference, Empire accused OPC of untimely responding to a  
13 data request on the issue of SERP. At that time, I was not aware Empire submitted a data  
14 request on this issue. It was subsequently determined Empire sent this data request to  
15 Staff and not to OPC. When OPC did receive a copy of this data request it, a timely  
16 response was made.

17 **Q. Would you say OPC responded to other data requests sent by Empire to OPC in an**  
18 **expeditious manner?**

19 A. Yes, I am aware that at least some multi-part data requests from Empire to OPC were  
20 answered and provided back to Empire in less than 48 hours. OPC takes data request  
21 responses very seriously and does its best to respond as quickly as possible.

22 **VI. COST ALLOCATION MANUAL (“CAM”)**

23 **Q. Why is OPC recommending a new CAM for Empire in this rate case?**

1 A. Empire does not currently have a Commission-approved CAM and thus is not in  
2 compliance with 4 CSR 240-20.015 (otherwise known as the “Affiliate Transaction Rule”).  
3 Empire has been without a Commission-approved CAM for years and thus in violation of  
4 this rule for several years. OPC believes a rate case, given its firm procedural schedule  
5 dates, is the best docket in which to address this violation and protect Empire’s ratepayers  
6 from potentially serious future affiliate transaction abuses.

7 **Q. Has Empire and Staff filed motions before the Commission seeking to strike OPC’s**  
8 **testimony on the CAM?**

9 A. Yes. Empire witness W. Scott Keith addresses Empire’s Motion to Strike at page 2 of his  
10 rebuttal testimony. Mr. Keith says that “it would be inappropriate to force a new CAM on  
11 Empire in this rate case...”

12 OPC is not “forcing” anything on Empire. Empire has been provided with an almost exact  
13 copy of the CAM proposed in this case by OPC for several months. It should not take  
14 Empire several months to read and understand the affiliate transaction rule policies and  
15 procedures that are described in this CAM. If Empire has any issues with any of the affiliate  
16 transaction policies and procedures in this OPC-proposed CAM it is free to address them in  
17 this rate case.

18 Just as it is with any issue in this rate case, Empire can review this proposal and determine if  
19 it agrees or disagrees with these new affiliate transaction policies and procedures. If it  
20 disagrees with any part of OPC’s proposal, it is free to make these disagreements known to  
21 the Commission and let the Commission decide on the merits of OPC’s proposal.

22 Given that Empire is in violation of the Commission’s Affiliate Transaction Rule, Empire  
23 and Staff’s attempt to remove evidence from the Commission in this rate case, evidence that  
24 is designed to fix this problem, is far from reasonable.

1 **Q. At page 4 of his rebuttal testimony, Mr. Keith provides a series of questions regarding**  
2 **the six-year old CAM docket where he answers with a one-word reply “no”. What**  
3 **does Mr. Keith’s response indicate to you about Empire’s position on this docket?**

4 A. OPC admits no parties have made any progress in that now six-year old CAM docket,  
5 numbered AO-2012-0062. Mr. Keith’s testimony highlights the exact reason why it is so  
6 important to address Empire’s CAM in this rate case.

7 OPC admits it let Staff take the lead in the AO-2012-0062 docket and doing so was in error.  
8 As one can see from a review of the filings in that case, Staff merely filed status reports  
9 month after month noting no activity has taken place.

10 **Q. Is it reasonable to believe timely progress will be made in docket AO-2012-0062 if the**  
11 **CAM issue is not addressed now?**

12 A. No. For example, in its February 2012 Status Report in AO-2012-0062, the Staff  
13 reported to the Commission that “(t)he parties continue to engage in productive  
14 discussions concerning the contents of Empire’s Cost Allocation Manual.” Five years of  
15 these “productive discussions” have led to no substantive action. Empire’s ratepayers  
16 deserve better.

17 **Q. Has the Staff recognized its “torpid” pace in Case No. AO-2012-0062?**

18 A. Yes, at page 2 of its “Staff’s Reply to OPC’s Response to Empire’s Motion to Strike” filed in  
19 this rate case. However, Staff goes on to say that the Affiliate Transaction Rule contemplates  
20 and requires a separate CAM-focused docket. It does no such thing. Staff cannot point to  
21 any language in the Affiliate Transaction Rule requiring a “separate CAM-focused docket” or  
22 any language in the Affiliate Transaction Rule prohibiting CAM issues from being addressed  
23 in a rate case.

1 **Q. At page 3 of its “Reply to OPC’s Response to Empire’s Motion to Strike”, Staff states**  
2 **the purpose of a rate case is to make rates and not to make a CAM. Do you agree?**

3 A. Yes, but there is a fundamental relationship between affiliate transactions, Empire’s  
4 allocation transactions, and the rates being sought to increase on its ratepayers in this case.  
5 What is most concerning about this is Staff auditors have found several violations of the  
6 affiliate transaction rule that have a direct impact on Empire’s rate increase in this current  
7 rate case.

8 Empire witness Keith even recognizes and admits to some of these violations found by Staff  
9 auditors. But it does not appear Staff auditors have communicated with the Staff’s Counsel’s  
10 Office on this issue. If they had, Staff Counsel’s Office would understand the direct  
11 relationship between Empire’s utility rates in this rate case and its CAM.

12 Staff Counsel’s Office jokes in its filing that OPC’s representation of the public by seeking to  
13 stop Empire’s continued violation of the Affiliate Transaction Rule is taking this rate case  
14 into “La-La Land”. OPC believes this issue is a serious matter that has been ignored by both  
15 the Staff and Empire for way too many years. Instead of dismissing this issue in such a joking  
16 manner, maybe Staff should focus on getting this issue resolved.

17 **Q. Does this conclude your surrebuttal testimony?**

18 A. Yes, it does.  
19



# Maynard Manufacturing:

## An Analysis of GAAP-Based and



BY WILLIAM R. ORTEGA, CMA, AND GERRY H. GRANT, CPA

*The Student Case Competition is sponsored annually by IMA to promote sound financial/accounting analysis and presentation skills.*

# Operational Earnings Management Techniques

**J**ohn Robbins, CFO of Maynard Manufacturing Company, sat back in his chair and reflected on the negative publicity that accountants have received over the past year. It appeared that an increased number of companies had been engaging in questionable earnings-management activities recently. As the CFO of a publicly held corporation, John understood the pressures to increase shareholder value and knew the importance of meeting analysts' quarterly earnings expectations. Indeed, three years earlier Maynard missed its third-quarter earnings expectation by one cent, and the market punished the stock—the price fell 15% the day earnings were announced. John vowed never to let that happen again.

He believed that the flexibility inherent in generally accepted accounting principles (GAAP) allowed him the discretion to close a one- or two-cent deficit needed in order to meet analysts' earnings expectations. He was certain that stockholders would approve of such actions and that they would view them as the right thing to do.

John never believed that he was doing anything unethical, but he was bothered by what he saw happening at Enron, WorldCom, and other companies. Clearly, management at these companies had crossed the line and had committed fraud. John wondered whether they started out making the same types of GAAP-based decisions that had become a regular part of his job. Although he still felt pressure to achieve earnings targets, he wanted to make sure that he fully understood what types of earnings-management activities were appropriate and what types were inappropriate. He wanted to make sure he was not on a slippery slope that would lead to fraudulent financial reporting.

In order to understand the issues surrounding earnings management and fraudulent financial reporting more fully, John read as much as he could on the subjects. Essentially, he was looking for answers to three questions:

1. What is earnings management?
2. What are the incentives for firms to engage in earnings management?

3. What specific techniques do firms use to manage earnings?

## WHAT IS EARNINGS MANAGEMENT?

GAAP offers some flexibility because financial transactions and the economic conditions surrounding them are not identical. Preparing financial statements involves selecting among GAAP alternatives and using estimates and judgments in the application of these principles (Mulford and Comiskey, 2002, p. 50). Earnings management uses the flexibility in financial reporting to alter the financial results of a firm. The following definitions illustrate this.

Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers (Healy and Whalen, 1999, p. 368).

Earnings management is the active manipulation of earnings toward a predetermined target. That target may be one set by management, a forecast made by analysts, or an amount that is consistent with a smoother, more sustainable earnings stream. Often, earnings management entails taking steps to reduce and "store" profits during good years for use during slower years. This more limited

form of earnings management is known as *income smoothing* (Mulford and Comiskey, 2002, p. 51).

Firms that attempt to alter their financial results take actions that range from decisions within GAAP to outright fraud. Decisions made within GAAP are often viewed as aggressive if the tactics push the envelope and stretch the flexibility of GAAP beyond its intended limits (Mulford and Comiskey, 2002, p. 26). If pushed too far, these actions may become *financial fraud*, which the National Association of Certified Fraud Examiners has defined as:

The intentional misstatement or omission of material facts, or accounting data, which is misleading and, when considered with all the information made available, would cause the reader to change or alter his or her judgment or decision (www.cfenet.com).

Thus, for financial reporting to be considered fraudulent, there must be a *preconceived intent to deceive* financial statement users in a material way. Technically, accounting practices are not said to be fraudulent until the intent to deceive has been alleged in an administrative, civil, or criminal proceeding (Mulford and Comiskey, 2002, p. 49). Clearly, fraudulent financial reporting is outside the bounds of GAAP. In contrast, the intent of choices made within the discretion afforded by GAAP is harder to distinguish. Without objective evidence, it's difficult to distinguish between legitimate choices made within GAAP and earnings management (Dechow and Skinner, 2000, p. 239).

## EARNINGS MANAGEMENT INCENTIVES

Earnings management is undertaken in order to increase or decrease current-period earnings relative to their "unmanaged" level. Increasing earnings involves *overstating* revenues and gains and/or *understating* expenses and losses. The reverse is true if the goal is to reduce current-period earnings. That is, revenues and gains are *understated* and/or expenses and losses are *overstated* (Schilit, 2002, p. 26). Following are five situations that provide executives incentives to manage earnings. They are adapted from Mulford and Comiskey, pp. 60-81.

### 1. To Avoid a Significant Decrease in Stock Price Due to Missing an Earnings Expectation.

Because of the significant adverse market reaction resulting from missed earnings expectations, managers have the incentive to make sure expectations are met. Thus, managers have an incentive to take earnings-increasing measures if it appears that the market's expectation will

be missed, especially if it will be missed by a small amount.

Although this benefits all stockholders, some would argue that it benefits top management even more as most executives are receiving a growing proportion of their compensation from stock options. Arthur Levitt, the former Chairman of the Securities & Exchange Commission (SEC), defined the problem when he said, "Companies try to meet or beat Wall Street earnings projections in order to grow market capitalization and increase the value of stock options" (Levitt, 1998, p. 5).

Ironically, it's often the companies themselves that create this pressure to meet the market's earnings expectations. It's common practice for companies to provide earnings estimates to analysts and investors. Management is then faced with the task of ensuring their targeted estimates are met. Several companies, including Coca-Cola Co., Intel Corp., and Gillette Co., have taken a contrary stance and no longer provide quarterly and annual earnings estimates to analysts. In doing so, these companies claim they have shifted their focus from meeting short-term earnings estimates to achieving their long-term strategies (McKay, 2002).

Recent academic studies indicate that earnings management in order to meet the market's earnings expectations may be widespread. Several studies (Degeorge, 1999) find an unusually high proportion of consensus quarterly earnings forecasts are exactly met or barely exceeded. Conversely, a very low number of earnings expectations are missed by a small amount. The theory behind these studies is that if earnings were not being managed, we would expect to see more symmetry in the earnings numbers around the market's expectation. That is, the percentage of firms just barely making their earnings expectation should be roughly the same as the percentage just barely missing their expectation. The fact that the results are very lopsided is generally interpreted as evidence of earnings management. Other studies have documented the same asymmetry with respect to *avoiding losses* (a high proportion of small profits and a small proportion of small losses) and *avoiding decreases in profits* (a high proportion of small increases in profits and a small proportion of small decreases in profits). This is additional evidence that firms manage earnings to avoid these undesirable outcomes.

### 2. To Smooth Earnings Toward a Long-Term Sustainable Trend.

For many years it has been believed that a firm should

attempt to reduce the volatility in its earnings stream in order to maximize share price. Because a highly volatile earnings pattern indicates risk, the stock will lose value compared to others with more stable earnings patterns. Consequently, firms have incentives to manage earnings to help achieve a smooth and growing earnings stream.

This form of earnings management (income smoothing) is also related to meeting analysts' earnings expectations in future periods. Management may be concerned that beating the current-period expectation by a wide margin will cause analysts to increase next-period's earnings expectation to this higher earnings number. If management does not believe that the current level of earnings can be sustained, then they have an incentive to manage earnings downward in the current period. Thus, income smoothing is sometimes viewed as a way for management to convey inside information to analysts regarding future earnings (Scott, 1997, p. 206). In turn, this can help guide analysts' future earnings forecasts.

### 3. To Maximize Proceeds from Initial and Seasoned Public Offerings (IPOs and SPOs).

When issuing shares, management has an incentive to manage earnings upward in order to increase the selling price of shares. Empirical evidence shows that firms do engage in earnings management activities to present themselves in the best possible light. But evidence of whether this results in higher share prices is mixed. Some studies have shown that the market does not see through the earnings management, resulting in overpriced shares (Rangan, 1998), while other studies have shown that the market is not misled by the earnings management (Shivakumar, 2000).

### 4. To Maximize Earnings-Based Incentive Compensation Agreements.

Several studies (Healy, 1985) have provided evidence that earnings are managed in the direction that is consistent with maximizing executives' earnings-based incentive compensation (bonuses). When earnings will be below the minimum level needed to earn a bonus, then earnings are managed *upward* so that the minimum is achieved and a bonus is paid. Conversely, when earnings will be above the maximum level at which no additional bonus is paid, then earnings are managed *downward*. In essence, the "extra" earnings that generated no additional compensation in the current period are stored and used to earn a bonus next period. When earnings are between the minimum and maximum levels, then earnings are man-

aged *upward* because this will increase the current-period bonus.

### 5. To Avoid Debt-Covenant Violations and Minimize Political Costs.

Rather than focus on the adverse effects of not meeting earnings expectations, early academic research often assumed that the market would be efficient and would not be fooled by such earnings management techniques. Academic researchers used *positive accounting theory*, developed by Watts and Zimmerman (1986), to examine situations where the market would not see through the earnings management techniques. Positive accounting theory hypothesizes that contractual arrangements a firm enters into present incentives for managers to manipulate earnings (Dechow and Skinner, 2000, p. 236). For example, firms have the incentive to avoid violating earnings-based debt covenants. If violated, the lender may be able to raise the interest rate on the debt or demand immediate repayment. Consequently, some firms may use earnings-management techniques to increase earnings to avoid such covenant violations.

Positive accounting theory also hypothesizes that some firms have incentives to lower earnings in order to minimize political costs associated with being seen as too profitable. For example, if gasoline prices have been increasing significantly and oil companies are achieving record profit levels, then there may be incentives for the government to intervene and enact an excess-profits tax or attempt to introduce price controls (Mulford and Comiskey, 2002, p. 80).

Overall, the results of the research using positive accounting theory to develop hypotheses for earnings management have been generally supportive. But only a small percentage of firms are exposed to the situations hypothesized by positive accounting theory. In contrast, the incentives provided by the stock market to manage earnings affect all companies with stock that is publicly traded. Managers of all these firms have a strong incentive to avoid the significant decline in stock price associated with missing market expectations.

## EARNINGS-MANAGEMENT TECHNIQUES

As mentioned previously, the techniques used to manage earnings range from decisions that fall completely within the flexibility of GAAP to practices that are well beyond GAAP. These latter activities may be referred to as *abusive earnings management* and may become the basis for fraud charges by the SEC (Mulford and Comiskey, 2002, p. 86).

In between these extremes are judgments that push the limits of GAAP and often result in misleading financial results. Such judgments may be referred to as *aggressive accounting*. Mulford and Comiskey (2002, p. 15) define aggressive accounting as “a forceful and intentional choice and application of accounting principles done in an effort to achieve desired results, typically higher current earnings, whether the practices followed are in accordance with generally accepted accounting principles or not.” The aggressive application of GAAP has been the focus of significant attention since a 1998 speech titled “The Numbers Game” was given by Arthur Levitt. In the speech, Levitt accused companies of “exploiting the pliancy” of GAAP in order to create illusions in their financial reporting (Levitt, 1998, p. 3). Because managerial intent is not observable, however, it’s difficult to determine the difference between legitimate choices allowed within the discretion of GAAP and aggressive accounting (Dechow and Skinner, 2000, p. 239).

Most earnings-management techniques used by firms can be grouped into four categories.

**1. Revenue recognition**—The focus of these activities is usually to recognize revenues prematurely in order to boost current-period earnings. In order to clarify current GAAP in this area, the SEC issued Staff Accounting Bulletin No. 101 (SEC, 1999). For example, the SEC determined that annual membership fees paid to discount clubs should be recorded as revenue on an accrued basis as earned, not when membership dues are paid.

**2. Operating expense timing**—These techniques generally shift expenses from one period to another to help manage earnings. For example, some discretionary expenses may be postponed to the next year if the firm is experiencing lower-than-expected earnings.

**3. Unrealistic assumptions to estimate liabilities**—Companies may use aggressive assumptions when accruing liabilities in order to manage earnings. For example, if earnings are low, managers may use an unrealistically low estimate for bad debt expense in order to boost earnings. Conversely, an unrealistically high estimate may be used if earnings are above the market’s expectation in order to reduce current-period earnings. In the latter case, the over-accrued liability may be reversed in a future period to increase earnings. This technique has been called establishing a *cookie jar reserve* (Levitt, 1998, p. 4). The cookies (excess earnings) are stashed in a cookie jar (a reserve account) during good years and then are reversed when they are needed to boost earnings in a bad year.

**4. Real (operating) actions**—The main focus of GAAP-based earnings-management activities is the timing and recognition of revenues and expenses. In contrast, *operational or real activities* deal with voluntary business decisions that are made in the ordinary course of running a business. For example, if sales are lagging, a company may slash prices in order to stimulate sales and help achieve earnings goals.

Parfet (2000, p. 485) makes a strong distinction between GAAP-based and operational earnings management. With respect to GAAP-based earnings management, he says:

“Bad’ earnings management, that is, *improper earnings management*, is intervening to hide real operating performance by creating artificial entries or stretching estimates beyond the point of reasonableness... This is the realm of the hidden reserves, improper revenue recognition, and overly aggressive or overly conservative accounting judgments. At a minimum, such actions are unproductive and create no real value. At their worst, they constitute fraud.”

In contrast, Parfet views operational earnings management in a completely different light:

“However, there is also a ‘good’ kind of earnings management—reasonable and proper practices that are part of operating a well-managed business and delivering value to shareholders... Sometimes this ‘good’ earnings management is called ‘operational’ earnings management, where management takes actions to try to create stable financial performance by acceptable, voluntary business decisions.”

## SPECIFIC EXAMPLES OF EARNINGS MANAGEMENT

There are many techniques that can be used to manage earnings. Some techniques fit neatly within one of the four categories of earnings management, but others do not. For instance, postponing factory maintenance in order to reduce current-period expenses involves the timing of operating expenses (category 2) and is also an operating activity (category 4). Some examples of possible earnings-management techniques are (developed from Mulford and Comiskey, 2002, and Schilit, 2002):

1. Revenue from a multi-year service contract is totally recognized in the year of sale.
2. Operating expenses that have been previously expensed are now being capitalized.
3. Maintenance expenditures are postponed until next year in order to reduce expenses.
4. Revenue is recognized when goods are shipped to a consignee.
5. The write-off of obsolete inventory is deferred until a

- more appropriate time.
6. The books are kept open for the first week of the next quarter in order to record additional revenue in the current quarter.
  7. More lenient credit terms are extended in order to increase sales. No adjustment is made to increase the allowance for bad debts.
  8. Optimistic estimate of useful life is used to depreciate plant and equipment.
  9. Costs associated with restructuring are significantly overestimated.
  10. The allowance for warranty expenses (expressed as a percent of sales) is increased from the previous year.
  11. Next year's price increases are leaked to customers in order to increase current-year sales.
  12. Production of goods is increased so that more fixed manufacturing overhead is deferred in ending finished goods inventory.

### FUTURE EARNINGS-MANAGEMENT ACTIVITIES AT MAYNARD MANUFACTURING COMPANY

After reviewing the material on earnings management, John Robbins felt uncomfortable with some of the GAAP-based earnings-management decisions he had made in the past. He now believed that the line between realistic judgments made within GAAP and aggressive accounting was too fuzzy. More troubling was the recent trend to label some forms of aggressive accounting as fraud. Consequently, John thought the best thing to do was avoid any form of aggressive GAAP-based earnings management.

John knew that he would still be under pressure to meet earnings expectations. Fortunately, he agreed with the characterization of operational earnings management as good and proper. Therefore, he believed that the best way to manage earnings at Maynard was to engage in such activities. Of particular interest to John was the ability to overproduce inventory in order to defer fixed manufacturing overhead costs in ending finished goods inventory. John wondered about the ability to increase earnings by overproducing. He looked at some recent operating information to help shed some light on his possibilities.

### COMPANY INFORMATION

Maynard Manufacturing Company produces machine parts for manufacturing equipment used by various industries. Approximately 3,000 different parts are produced in Maynard's single manufacturing facility. Two

**TABLE 1**

**SECTION A: INCOME STATEMENT FOR THE YEAR ENDING 12/31/2002**

	DOLLARS	PERCENT OF SALES
Sales	\$ 851,217,896	100.00
Cost of Goods Sold	<u>– 713,405,719</u>	<u>– 83.81</u>
Gross Margin	137,812,177	16.19
Selling, General and Administrative Expenses	<u>– 80,865,700</u>	<u>– 9.50</u>
Operating Income	56,946,477	6.69
Other Income (principally interest)	+ 4,681,698	+ 0.55
Interest and Debt Expenses	– 9,533,640	– 1.12
Income Taxes	<u>– 10,810,467</u>	<u>– 1.27</u>
Net Income	<u>\$41,284,068</u>	<u>4.85</u>
Number of Outstanding Shares	\$11,932,000	
Earnings Per Share	\$3.46	

**SECTION B: BREAKDOWN OF COST OF GOODS SOLD (COGS) BY COST ELEMENT**

	DOLLARS	PERCENT OF COGS
Direct materials	\$324,162,284	45.44
Direct labor	141,702,684	19.86
Variable overhead	53,738,698	7.53
Fixed overhead	<u>193,802,052</u>	<u>27.17</u>
Total Cost of Goods Sold	<u>\$713,405,718</u>	<u>100.00</u>

**SECTION C: SIMPLIFIED DATA TO ILLUSTRATE THE EFFECT OF OVERPRODUCTION ON EARNINGS**

- ◆ One product is produced. Each unit uses 5 machine hours and sells for \$425.
- ◆ Normal capacity utilization is 2 million units (10 million machine hours).
- ◆ Budgeted fixed manufacturing overhead is \$200 million.
- ◆ Actual fixed manufacturing overhead is \$200 million.

years ago, Maynard replaced much of its machinery with state-of-the-art equipment. This equipment allowed Maynard to reduce its direct labor cost by over 25%. This changed Maynard's cost structure by shifting costs that were previously variable (direct labor) to fixed overhead (depreciation on the new equipment). The new equipment also decreased the setup times associated with producing many of its products. Consequently, Maynard now produces many products only after an order is received. Because 60% of Maynard's sales are generated from the sale of 200 parts, they are produced in large batches and are carried in inventory. The other 2,800 parts are pro-

duced only upon the receipt of an order. In contrast, with the old equipment all 3,000 parts were produced for inventory. Because of unpredictable demand for many parts, Maynard used to carry high levels of inventory.

Table 1 provides financial information about Maynard Manufacturing. Section A of Table 1 shows an income statement and earnings per share (EPS) for 2002. Section B shows the breakdown of production costs by cost element. Section C provides a simplified example developed by John Robbins to help him evaluate the effect of overproduction on earnings.

## REQUIRED QUESTIONS

1. The case presents 12 examples of possible earnings management techniques. Assume that each technique will have a material effect on the financial statements of a company. Identify which techniques are GAAP-based and which involve operational or real actions. For the GAAP-based techniques, determine whether you believe the action is within the latitude afforded by GAAP (in the white area), pushing the limits of GAAP (in the gray area), or beyond the limits of GAAP (in the black area).

2. Do the techniques you identified as beyond the limits of GAAP (i.e., in the black area) constitute financial fraud?

3. The case characterizes GAAP-based earnings-management techniques as bad and operational techniques as good. Do you agree with this characterization? Do you think operational techniques are always good business decisions? Do you think operational techniques are more ethical than GAAP-based techniques?

4. Use the information presented in Section C of Table 1 and the following four scenarios to illustrate the effect of overproducing inventory on earnings. Specifically, identify how much fixed manufacturing overhead will be expensed (via Cost of Goods Sold) and how much will be held back on the balance sheet (in Finished Goods Inventory). Use the *normal capacity utilization* to determine the fixed manufacturing overhead rate. Ignore income taxes.

- A. Produce and sell 2 million units.
- B. Produce 2.2 million units and sell 2 million units.
- C. Produce 2.3 million units and sell 2 million units.
- D. Produce 2.4 million units and sell 2 million units.

How many units would have to be overproduced in order for John Robbins to increase EPS by \$.01? What about \$.05? Do you believe it's feasible for John Robbins to close a small gap in earnings in order to meet the market's expectation by overproducing? ■

*William R. Ortega, Ph.D., CMA, is an associate professor of accounting at the College of Business, Winona State University, Winona, Minn. You can reach him at (507) 457-5180 or [wortega@winona.edu](mailto:wortega@winona.edu).*

*Gerry H. Grant, MPA, CPA, is a doctoral student at the School of Business, University of Mississippi, in Oxford. She can be reached at (662) 513-5463 or [ggrant@bus.olemiss.edu](mailto:ggrant@bus.olemiss.edu).*

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## THE EFFECT OF BONUS SCHEMES ON ACCOUNTING DECISIONS\*

Paul M. HEALY

*Massachusetts Institute of Technology, Cambridge, MA 02139, USA*

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Studies examining managerial accounting decisions postulate that executives rewarded by earnings-based bonuses select accounting procedures that increase their compensation. The empirical results of these studies are conflicting. This paper analyzes the format of typical bonus contracts, providing a more complete characterization of their accounting incentive effects than earlier studies. The test results suggest that (1) accrual policies of managers are related to income-reporting incentives of their bonus contracts, and (2) changes in accounting procedures by managers are associated with adoption or modification of their bonus plan.

### 1. Introduction

Earnings-based bonus schemes are a popular means of rewarding corporate executives. Fox (1980) reports that in 1980 ninety percent of the one thousand largest U.S. manufacturing corporations used a bonus plan based on accounting earnings to remunerate managers. This paper tests the association between managers' accrual and accounting procedure decisions and their income-reporting incentives under these plans. Earlier studies testing this relation postulate that executives rewarded by bonus schemes select income-increasing accounting procedures to maximize their bonus compensation.<sup>1</sup> Their empirical results are conflicting. These tests, however, have several problems. First, they ignore the earnings' definitions of the plans; earnings are often defined so that certain accounting decisions do not affect bonuses. For exam-

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<sup>1</sup>These studies include Watts and Zimmerman (1978), Hagerman and Zmijewski (1979), Holthausen (1981), Zmijewski and Hagerman (1981), Collins, Rozeff and Dhaliwal (1981), and Bowen, Noreen and Lacey (1981).



ple, more than half of the sample plans collected for my study define bonus awards as a function of income before taxes. It is not surprising, therefore, that Hagerman and Zmijewski (1979) find no significant association between the existence of accounting-based compensation schemes and companies' methods of recording the investment tax credit.

Second, previous tests assume compensation schemes always induce managers to select income increasing accounting procedures. The schemes examined in my study also give managers an incentive to select income-decreasing procedures. For example, they typically permit funds to be set aside for compensation awards when earnings exceed a specified target. If earnings are so low that no matter which accounting procedures are selected target earnings will not be met, managers have incentives to further reduce current earnings by deferring revenues or accelerating write-offs, a strategy known as 'taking a bath'. This strategy does not affect current bonus awards and increases the probability of meeting future earnings' targets.<sup>2</sup> Past studies do not control for such situations and, therefore, understate the association between compensation incentives and accounting procedure decisions.

This study examines typical bonus contracts, providing a more complete analysis of their accounting incentive effects than earlier studies. The theory is tested using actual parameters and definitions of bonus contracts for a sample of 94 companies. Two classes of tests are presented: accrual tests and tests of changes in accounting procedures. I define accruals as the difference between reported earnings and cash flows from operations. The accrual tests compare the actual sign of accruals for a particular company and year with the predicted sign given the managers' bonus incentives. The results are consistent with the theory. I also test whether accruals differ for companies with different bonus plan formats. The accrual differences provide further evidence of a relation between managers' accrual decisions and their income-reporting incentives under the bonus plan. Tests using changes in accounting procedures suggest that managers' decisions to change procedures are not associated with bonus plan incentives. However, additional tests find that changes in accounting procedures are related to the adoption or modification of a bonus plan.

Section 2 outlines the provisions of bonus agreements. The accounting incentive effects generated by bonus plans are discussed in section 3. Section 4 describes the sample design and data collection, and section 5 reports the results of accrual tests. Tests of changes in accounting procedures are described in section 6. The conclusions are presented in section 7.

## **2. Description of accounting bonus schemes**

Deferred salary payment, insurance plans, non-qualified stock options, restricted stock, stock appreciation rights, performance plans and bonus plans

<sup>2</sup>See Holthausen (1981) and Watts and Zimmerman (1983).

are popular forms of compensation.<sup>3</sup> Two of these explicitly depend on accounting earnings: bonus schemes and performance plans. Performance plans award managers the value of performance units or shares in cash or stock if certain long-term (three or five years) earnings' targets are attained. The earnings' targets are typically written in terms of earnings per share, return on total assets, or return on equity. Bonus contracts have a similar format to performance contracts except that they specify annual rather than long-term earnings goals.

A number of companies operate bonus and performance plans simultaneously. Differences in earnings definitions and target horizons of these two plans make it difficult to identify their combined effect on managers' accounting decisions. I therefore limit the study to firms whose only remuneration explicitly related to earnings is bonuses. Fox (1980) finds that in 1980 ninety percent of the one thousand largest U.S. manufacturing corporations used a bonus plan to remunerate managers, whereas only twenty-five percent used a performance plan. Bonus awards also tend to constitute a higher proportion of top executives' compensation than performance payments. In 1978, for example, Fox reports that for his sample the median ratio of accounting bonus to base salary was fifty-two percent. The median ratio for performance awards was thirty-four percent.

The formulae and variable definitions used in bonus schemes vary considerably between firms, and even within a single firm across time. Nonetheless, there are common features of these contracts. They typically define a variant of reported earnings ( $E_t$ ) and an earnings target or lower bound ( $L_t$ ) for use in bonus computations. If reported earnings exceed their target, the contract defines the maximum percentage ( $p_t$ ) of the difference that can be allocated to a bonus pool. If earnings are less than their target, no funds are allocated to the pool. The formula for the maximum transfer to the bonus pool ( $B_t$ ) is

$$B_t = p_t \max\{(E_t - L_t), 0\}.$$

Standard Oil Company of California, for example, defines its 1980 bonus formula as follows:

... the annual fund from which awards may be made is two percent of the amount by which the company's annual income for the award year exceeds six percent of its annual capital investment for such year.

Standard Oil defines 'annual income' as audited net income before the bonus expense and interest, and 'capital investment' as the average of opening and closing book values of long-term liabilities plus equity. Variations on these definitions are found in other companies' plans. Earnings are defined before or after a number of factors including interest, the bonus expense, taxes, extraor-

<sup>3</sup> For a discussion of these types of compensation, see Smith and Watts (1982).

dinary and non-recurring items, and/or preferred dividends. Capital is a function of the book value of equity when incentive income is earnings after interest and a function of the sum of long-term debt and equity when incentive income is earnings before interest. Bonus plans for ninety-four companies are examined in this study and only seven do not use these definitions of earnings and capital.

Some schemes specify an upper limit ( $U_t'$ ) on the excess of earnings over target earnings. When the difference between actual and target earnings is greater than the upper limit, the transfer to the bonus pool is limited, implying the formula for allocation to the bonus pool ( $B_t'$ ) is

$$B_t' = p_t \{ \min \{ U_t', \max \{ (E_t - L_t), 0 \} \} \}.$$

The upper limit is commonly related to cash dividend payments on common stock.<sup>4</sup> The 1980 bonus contract for Gulf Oil Corporation, for example, limits the transfer to the bonus reserve to six percent of the excess of earnings over six percent of capital 'provided that the amount credited to the Incentive Compensation Account shall not exceed ten percent of the total amount of the dividends paid on the corporation's stock'.

Administration of the bonus pool and awards to executives are made by a committee of directors who are ineligible to participate in the scheme. Awards are made in cash, stock, stock options or dividend equivalents.<sup>5</sup> The bonus contract usually permits unallocated funds to be available for future bonus awards. Plans also provide for award deferrals over as many as five years, either at the discretion of the compensation committee or the manager.

### 3. Bonus plans and accounting choice decisions

Watts (1977) and Watts and Zimmerman (1978) postulate that bonus schemes create an incentive for managers to select accounting procedures and accruals to increase the present value of their awards. This paper proposes a more complete theory of the accounting incentive effects of bonus schemes.<sup>6</sup> The firm is assumed to comprise a single risk-averse manager and one or more

<sup>4</sup>Contracts taking this form create an incentive for the manager to increase dividend payments when the upper limit is binding, thereby counteracting the over-retention problem noted in Smith and Watts (1983).

<sup>5</sup>Dividend equivalents are claims which vary with the dividend payments on common stock.

<sup>6</sup>The theory does not explain the form of bonus contracts or why executives are awarded earnings-based bonuses. For a discussion of these issues, see Jensen and Meckling (1976), Holmstrom (1979), Miller and Scholes (1980), Fama (1980), Hite and Long (1980), Holmstrom (1982), Smith and Watts (1983), Larcker (1983), and Demski, Patell and Wolfson (1984).

owners. The manager is rewarded by the following bonus formula:

$$B_t = p \left\{ \min \left\{ U', \max \left\{ (E_t - L), 0 \right\} \right\} \right\},$$

where  $L$  is the lower bound on earnings ( $E_t$ ),  $U'$  is the limit on the excess of earnings over the lower bound ( $E_t - L$ ), and  $p$  is the payout percentage defined in the bonus contract. The manager receives  $p(E_t - L)$  in bonus if earnings exceed the lower bound and are less than the bonus plan limit (the upper bound) on earnings,  $U$ , given by the sum ( $U' + L$ ). The bonus is fixed at  $pU'$  when earnings exceed this upper bound.

Accounting earnings are decomposed into cash flows from operations ( $C_t$ ), non-discretionary accruals ( $NA_t$ ) and discretionary accruals ( $DA_t$ ). Non-discretionary accruals are accounting adjustments to the firm's cash flows mandated by accounting standard-setting bodies (e.g., the Securities Exchange Commission and the Financial Accounting Standards Board). These bodies require, for example, that companies depreciate long-lived assets in some systematic manner, value inventories using the lower of cost or market rule, and value obligations on financing leases at the present value of the lease payments. Discretionary accruals are adjustments to cash flows selected by the manager. The manager chooses discretionary accruals from an opportunity set of generally accepted procedures defined by accounting standard-setting bodies. For example, the manager can choose the method of depreciating long-lived assets; he can accelerate or delay delivery of inventory at the end of the fiscal year; and he can allocate fixed factory overheads between cost of goods sold and inventories.

Accruals modify the timing of reported earnings. Discretionary accruals therefore enable the manager to transfer earnings between periods. I assume that discretionary accruals sum to zero over the manager's employment horizon with the firm. The magnitude of discretionary accruals each year is limited by the available accounting technology to a maximum of  $K$  and a minimum of  $-K$ .

The manager observes cash flows from operations and non-discretionary accruals at the end of each year and selects discretionary accounting procedures and accruals to maximize his expected utility from bonus awards.<sup>7</sup> The choice of discretionary accruals affects his bonus award and the cash flows of the firm. I assume that these cash effects are financed by stock issues or repurchases and, therefore, do not affect the firm's production/investment decisions.

Healy (1983) derives the manager's decision rule for choosing discretionary accruals when his employment horizon is two periods. The choice of discretion-

<sup>7</sup>The manager's accrual decision is motivated by factors other than compensation. Watts and Zimmerman (1978) suggest that the manager also considers the effect of accounting choices on taxes, political costs, and the probability and associated costs of violating lending agreements.

ary accruals in period one fixes his decision in the second period because discretionary accruals are constrained to sum to zero over these two periods. Fig. 1 depicts discretionary accruals in the first period as a function of earnings before discretionary accruals. These results are discussed in three cases.

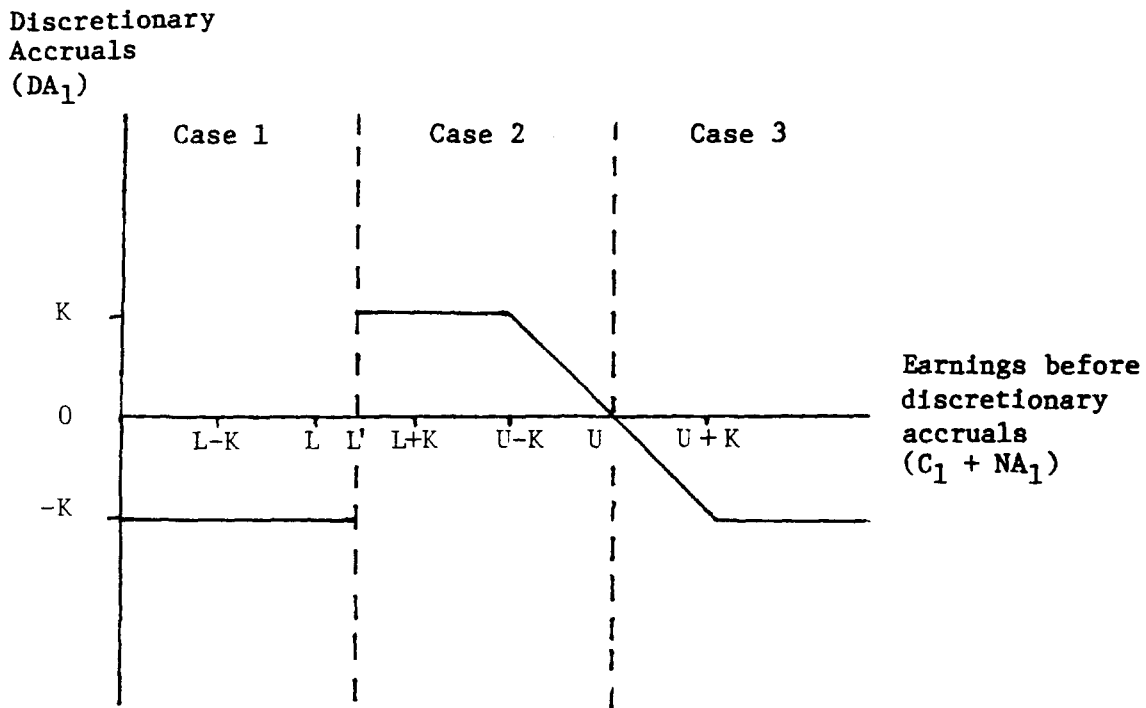


Fig. 1. Managerial discretionary accrual decisions as a function of earnings before discretionary accruals and bonus plan parameters in the first period of a two-period model.  $L$  = the lower bound defined in the bonus plan,  $U$  = the upper bound on earnings,  $L'$  = a cutoff point which is a function of the lower bound, the manager's risk preference, expected earnings in period 2 and the discount rate,  $K$  = the limit on discretionary accruals,  $C$  = cash flows from operations, and  $NA$  = non-discretionary accruals.

*Case 1*

In Case 1, the manager has an incentive to choose income-decreasing discretionary accruals, that is to take a bath. This case has two regions. In the first, earnings before discretionary accruals are more than  $K$  below the lower bound (i.e.,  $C_1 + NA_1 < L - K$ ). The manager selects the minimum discretionary accrual ( $DA_1 = -K$ ) because even if he chooses the maximum, reported income will not exceed the lower bound and no bonus will be awarded. By deferring earnings to period two, he maximizes his expected future award.

In the second region of Case 1, earnings before discretionary accruals in period 1 ( $C_1 + NA_1$ ) are within  $\pm K$  of the lower bound ( $L$ ). The manager either selects the minimum ( $DA_1 = -K$ ) or maximum ( $DA_1 = K$ ) discretion-

ary accrual. If he chooses the maximum accrual, he receives a bonus in period 1 but foregoes some expected bonus in period 2 because he is now constrained to report the minimum accrual in that period ( $DA_2 = -K$ ). If he selects the minimum discretionary accrual in period 1 the manager maximizes his expected bonus in period 2, but receives no bonus in the first period. He trades off present value and certainty advantages of receiving a bonus in period 1 against the foregone expected bonus in period 2. Conditional on the bonus plan parameters, expected earnings before discretionary accruals in period 2, the discount rate, and his risk aversion, the manager estimates a threshold (denoted by  $L'$  in fig. 1) where he is indifferent between reporting the minimum and maximum accrual in period 1. In fig. 1, the threshold ( $L'$ ) exceeds the lower bound in the bonus plan ( $L$ ). However, the threshold can also be less than the lower bound, depending on expected earnings in period 2. The manager selects the minimum discretionary accrual ( $DA_1 = -K$ ) when earnings before discretionary accruals are less than the threshold, i.e.,  $C_1 + NA_1 < L'$ .

### Case 2

In Case 2, the manager has an incentive to choose income-increasing discretionary accruals. If first-period earnings before discretionary accruals exceed the threshold  $L'$ , the present value and certainty advantages of accelerating income and receiving a bonus in period 1 outweigh foregone expected awards in period 2. The manager, therefore, selects positive discretionary accruals. When earnings before accounting choices are less than  $(U - K)$ , he chooses the maximum accrual ( $DA_1 = K$ ). When earnings before accounting choices are within  $K$  of the upper bound, the manager selects less than the maximum discretionary accrual because income beyond the upper bound is lost for bonus calculations. He chooses  $DA_1 = (U - C_1 - NA_1)$ , thereby reporting earnings equal to the upper bound. If the bonus plan does not specify an upper bound, the manager selects the maximum discretionary accrual ( $DA_1 = K$ ) when earnings before accounting choices exceed the threshold  $L'$ .

### Case 3

In Case 3, the manager has an incentive to select income-decreasing discretionary accruals. When the bonus plan upper bound is binding, earnings before discretionary accruals exceeding that bound are lost for bonus purposes. By deferring income that exceeds the upper bound, the manager does not reduce his current bonus and increases his expected future award. When earnings before discretionary accruals are less than  $U + K$ , he selects  $DA_1 = (C_1 + NA_1 - U)$ , reporting earnings equal to the upper bound. When earnings before discretionary accruals exceed  $(U + K)$ , he chooses the minimum accrual ( $DA_1 = -K$ ).

In summary, the sign and magnitude of discretionary accruals are a function of expected earnings before discretionary accruals, the parameters of the bonus plan, the limit on discretionary accruals, the manager's risk preferences and the discount rate. Three implications of this theory are tested:

- (1) If earnings before discretionary accruals are less than the threshold represented by  $L'$ , the manager has an incentive to select income-decreasing discretionary accruals.
- (2) If earnings before discretionary accruals exceed the lower threshold, denoted by  $L'$  in fig. 1, but not the upper limit, the manager has an incentive to select discretionary accruals to increase income.
- (3) If the bonus plan specifies an upper bound and earnings before discretionary accruals exceed that limit, the manager has an incentive to select discretionary accruals to decrease income.

Earlier studies on the smoothing hypothesis postulate that discretionary accruals are a function of earnings before accruals.<sup>8</sup> However, the predictions of the compensation theory outlined here differ from those of the smoothing hypothesis: when earnings before accrual decisions are less than the threshold  $L'$ , the compensation theory predicts that the manager selects income-decreasing discretionary accruals; the smoothing hypothesis implies that he chooses income-increasing accruals.

#### **4. Sample design and collection of financial data**

##### *4.1. Sample design*

The population selected for this study is companies listed on the 1980 Fortune Directory of the 250 largest U.S. industrial corporations.<sup>9</sup> It is common for stockholders of these companies to endorse the implementation of a bonus plan at the annual meeting. Subsequent plan renewals are ratified, usually every three, five or ten years and a summary of the plan is included in the proxy statement on each of these occasions. The first available copy of the bonus plan is collected for each company from proxy statements at one of three sources: Peat Marwick, the Citicorp Library and the Baker Library at Harvard Business School. Plan information is updated whenever changes in the plan are ratified.

<sup>8</sup>See Ronen and Sadan (1981) for an extensive review of the smoothing literature.

<sup>9</sup>Fox (1980) provides evidence that the probability of a corporation employing a bonus plan is not independent of size or industry. The inferences drawn from this study are, therefore, strictly limited to the sample population. Nonetheless, that population is a non-trivial one – the largest 250 industrials account for more than 40 percent of sales of all U.S. industrial corporations.

One hundred and fifty-six companies are excluded from the final sample. The managers of 123 of these firms receive bonus awards but the details of the bonus contracts are not publicly available. Six companies do not appear to reward top management by bonus during any of the years proxy statements are available. A further twenty-seven companies have contracts which limit the transfer to the bonus pool to a percentage of the participating employees' salaries. Since this information is not publicly disclosed, no upper limit can be estimated for these companies.

Some of the sample companies operate earnings-based bonus and performance plans simultaneously. To control for the effect of performance plans on managers' accounting decisions, companies are deleted from the sample in years when both plans are used. This restriction reduces the number of company years by 239.

The useable sample comprises ninety-four companies. Thirty of these have bonus plans which specify both upper and lower bounds on earnings. The contract definitions of earnings, the net upper bound and the lower bound for the sample are summarized in table 1. Earnings are defined as earnings before

Table 1

Summary of useable bonus plan definitions for a sample from the Fortune 250 over the period 1930–1980.

Total number of sample companies	94
Total number of company-years	1527
Number of company-years subject to an upper bound constraint	447
<i>Adjustments to earnings specified in the bonus contract</i>	<i>Percentage of company-year observations</i>
Additions to net income	
Income Tax	52.7%
Extraordinary items	27.5
Interest	33.5
Deductions from net income	
Preferred dividends	12.1
<i>Variables used to define lower bounds in the bonus contract</i>	
Net worth	42.0
Net worth plus long-term liabilities	37.2
Earnings per share	8.3
Other	17.8
<i>Variables used to define upper bounds in the bonus contract</i>	
Cash dividends	22.4
Net worth or net worth plus long-term liabilities	2.5
Other	4.5



taxes for 52.7 percent of the company-years and earnings before interest for 33.5 percent of the observations. Bonus contracts typically define the lower bound as a function of net worth (42.0 percent of the observations) or as a function of net worth plus long-term liabilities (37.2 percent). Some contracts define the lower bound as a function of more than one variable. For example, the 1975 bonus contract of American Home Products Corporation defines the lower bound as 'the greater of (a) an amount equal to 12 percent of Average Net Capital or (b) an amount equal to \$1.00 multiplied by the average number of shares of the Corporation's common stock outstanding at the close of business on each day of the year'. The upper bound is commonly written as a function of cash dividends.

#### 4.2. Collection of financial data

Earnings and upper and lower bounds for each company-year are estimated using actual bonus plan definitions. The definitions are updated whenever the plan is amended. The data to compute these variables is collected from COMPUSTAT for the years 1964–80 and from Moody's Industrial Manual for earlier years.

Two proxies for discretionary accruals and accounting procedures are used: total accruals and the effect of voluntary changes in accounting procedures on earnings. Total accruals ( $ACC_t$ ) include both discretionary and non-discretionary components ( $ACC_t = NA_t + DA_t$ ), and are estimated by the difference between reported accounting earnings and cash flows from operations. Cash flows are working capital from operations (reported in the funds statement) less changes in inventory and receivables, plus changes in payables and income taxes payable:

$$ACC_t = -DEP_t - XI_t \cdot D_1 + \Delta AR_t + \Delta INV_t \\ - \Delta AP_t - \{ \Delta TP_t + D_t \} \cdot D_2,$$

where

$DEP_t$  = depreciation in year  $t$ ;

$XI_t$  = extraordinary items in year  $t$ ;

$\Delta AR_t$  = accounts receivable in year  $t$  less accounts receivable in year  $t - 1$ ;

$\Delta INV_t$  = inventory in year  $t$  less inventory in year  $t - 1$ ;

$\Delta AP_t$  = accounts payable in year  $t$  less accounts payable in year  $t - 1$ ;

$\Delta TP_t$  = income taxes payable in year  $t$  less income taxes payable in year  $t - 1$ ;

$DEF_t$  = deferred income tax expense (credit) for year  $t$ ;

$D_1$  = 1 if bonus plan earnings are defined after extraordinary items,  
= 0 if bonus plan earnings are defined before extraordinary items;

$D_2$  = 1 if bonus plan earnings are defined after income taxes,  
= 0 if bonus plan earnings are defined before income taxes.

The only accrual omitted is the earnings effect of the equity method of accounting for investments in associated companies.

The second proxy for discretionary accruals and accounting procedures is the effect of voluntary changes in accounting procedures on reported earnings. Accounting changes are collected for sample companies from 1968 to 1980 using two sources: the sample of depreciation changes used by Holthausen (1981) and changes documented by Accounting Trends and Techniques. The effect of each change on current and retained earnings is collected from the companies' annual reports. This data is further described in section 6.

## 5. Accrual tests and results

### 5.1. Contingency tests and results

Contingency tables are constructed to test the implications of the theory. Managers have an incentive to select income-decreasing discretionary accruals when their bonus plan's upper and lower bounds are binding. When these bounds are not binding the manager has an incentive to choose income-increasing discretionary accruals. Total accruals proxy for discretionary accruals.

Each company-year is assigned to one of three portfolios: (1) Portfolio UPP, (2) Portfolio LOW, or (3) Portfolio MID. Portfolio UPP comprises observations for which the bonus contract upper limit is binding. Company-years are assigned to this portfolio when cash flows from operations exceed the upper bound defined in the bonus plan. The theory implies that observations should be assigned to portfolio UPP when cash flows from operations plus nondiscretionary accruals exceed the upper bound. Cash flows are a proxy for the sum of cash flows and non-discretionary accruals because nondiscretionary accruals are unobservable. This method of identifying company-years when the upper bound is binding leads to misclassifications which increase the probability of incorrectly rejecting the null hypothesis. Discussion of this problem and tests to control for the bias are presented later in this section.

Portfolio LOW comprises observations for which the bonus plan lower bound is binding. Company-years are assigned to this portfolio if earnings are less than the lower bound specified in the bonus plan. The theory implies that observations should be assigned to portfolio LOW when cash flows from operations plus non-discretionary accruals are less than the lower threshold  $L'$ . This threshold is a function of the bonus plan lower bound, the managers' risk preferences and their expectations of future earnings. Since the threshold is unobservable, the method of assigning company-years to portfolio UPP, using cash flows as a proxy for cash flows plus non-discretionary accruals, cannot be used for portfolio LOW. Instead, company-years are assigned to portfolio LOW when earnings are less than the lower bound since no bonus is awarded

Table 2  
Summary of the association between accruals and bonus plan parameters.

Portfolio <sup>a</sup>	Proportion of accruals with given sign		Number of company-years	Mean accruals <sup>b</sup>	<i>t</i> -test for difference in means
	Positive	Negative			
<i>Sample A: Plans with a lower bound but no upper bound</i>					
Portfolio LOW	0.38	0.62	74	-0.0367	2.5652 <sup>d</sup>
Portfolio MID	0.36	0.64	1006	-0.0155	
$\chi^2$ (d.f. = 1)	0.1618				
<i>Sample B: Plans with both a lower bound and upper bound</i>					
Portfolio LOW	0.09	0.91	22	-0.0671	4.2926 <sup>c</sup>
Portfolio MID	0.46	0.54	281	0.0021	8.3434 <sup>c</sup>
Portfolio UPP	0.10	0.90	144	-0.0536	
$\chi^2$ (d.f. = 2)	61.3930 <sup>c</sup>				
<i>Sample C: Aggregate of samples A and B</i>					
Portfolio LOW	0.31	0.69	96	-0.0437	4.3247 <sup>c</sup>
Portfolio MID	0.38	0.62	1287	-0.0117	7.4593 <sup>c</sup>
Portfolio UPP	0.10	0.90	144	-0.0536	
$\chi^2$ (d.f. = 2)	43.7818 <sup>c</sup>				

<sup>a</sup>Portfolio LOW comprises company-years when the bonus plan lower bound is binding. Portfolio MID contains observations for which the lower and upper bounds are not binding. Portfolio UPP contains company years when the upper bound is binding.

<sup>b</sup>Accruals are deflated by the book value of total assets.

<sup>c</sup>Significant at the 0.005 level.

<sup>d</sup>Significant at the 0.010 level.

in these years, and managers have an incentive to select income-decreasing discretionary accruals. This assignment method induces a selection bias which increases the probability of incorrectly rejecting the null hypothesis. Discussion of this problem is deferred to later in the section.

Portfolio MID contains observations where neither the upper nor lower bounds are binding. Company-years that are not assigned to portfolios UPP or LOW are included in portfolio MID, and are expected to have a higher proportion of positive accruals than the other two portfolios.

The incidence of positive and negative accruals for portfolios LOW, MID and UPP is presented in the form of a contingency table in table 2. The row denotes the portfolio to which each company-year is assigned. The column denotes the sign of the accrual and each cell contains the proportion of observations fulfilling each condition. Mean accruals, deflated by the book value of total assets at the end of each company-year<sup>10</sup> are also displayed for

<sup>10</sup>Accruals are also deflated by sales and the book value of assets at the beginning of the year. The test results are insensitive to alternative size deflators.

each portfolio. If managers select accruals to increase the value of their bonus compensation, there will be a higher incidence of negative accruals and lower mean accruals for portfolios LOW and UPP than for portfolio MID. Chi-square and *t*-statistics, testing these hypotheses, are reported in table 2. The chi-square test is a two-tailed test which compares the number of observations in each contingency table cell with the number expected by chance.<sup>11</sup> The *t*-tests are one-tailed tests of differences in mean deflated accruals for the three portfolios.<sup>12</sup>

Sample A reports results for plans with a lower bound, but no upper bound. There is a lower proportion of negative accruals for portfolio LOW than for portfolio MID, inconsistent with the theory. However, the chi-square statistic is not statistically significant. The mean standardized accruals support the theory: the mean for portfolio LOW is less than the mean for portfolio MID and the *t*-statistic, comparing the difference in means, is statistically significant at the 0.010 level. This result suggests that managers are more likely to take a bath, that is, select income-decreasing accruals, when the lower bound of their bonus plan is binding than when it is not.

Sample B comprises plans which specify both an upper and lower bound. The chi-square statistic is significant at the 0.005 level, indicating that there is a greater incidence of negative accruals when the bonus plan lower and upper limits are binding than otherwise. Tests of mean standardized accruals reinforce the chi-square results: the means for portfolios LOW and UPP are less than the mean for the MID portfolio. The *t*-tests, evaluating differences in means, are statistically significant at the 0.005 level. These results are consistent with the hypothesis that managers are more likely to select income-decreasing accruals when the lower and upper bounds of their bonus plans are binding. Sample C aggregates samples A and B and confirms the results.

There are several differences in the results for samples A and B. First, the results for the MID portfolio are stronger for the sample of plans with upper bounds. One explanation is that bonus plan administrators enforce an informal upper bound when one is not specified in the contract. If this informal bound is binding, some of the companies included in the MID portfolio for sample A are misclassified; they should be included in sample B and assigned to

<sup>11</sup>The chi-square test assumes that the sample is a random one from the population, and the sample size is large. The statistic is drawn from a chi-square distribution with  $(R - 1)(C - 1)$  degrees of freedom, where  $R$  is the number of rows and  $C$  the number of columns in the contingency table.

<sup>12</sup>This statistical test assumes that the populations are normal with equal variances. Each *t*-value is then drawn from a *t*-distribution with  $(N + M - 2)$  degrees of freedom, where  $N$  is the number of observations in one sample and  $M$  the number in the other. Both the *t* and chi-square tests assume that accruals are independent. This assumption is violated if accruals are autocorrelated or sensitive to market-wide and industry factors. Accruals exhibit significant positive first-order autocorrelation. The test statistics reported in table 2 are therefore overstated.

Table 3

Summary of the association between accrual subcomponents and bonus plan parameters.

Portfolio <sup>a</sup>	Proportion of accrual subcomponents with given sign		Mean accruals <sup>b</sup>	<i>t</i> -test for difference in means
	Positive	Negative		
<i>Change in inventory</i>				
Portfolio LOW	0.59	0.41	0.0096	2.6880 <sup>c</sup>
Portfolio MID	0.80	0.20	0.0246	4.0515 <sup>c</sup>
Portfolio UPP	0.69	0.31	0.0078	
$\chi^2$ (d.f. = 2)	26.3171 <sup>c</sup>			
<i>Change in accounts receivable</i>				
Portfolio LOW	0.59	0.41	0.0092	
Portfolio MID	0.83	0.17	0.0218	3.1152 <sup>c</sup>
Portfolio UPP	0.84	0.16	0.0135	2.8119 <sup>c</sup>
$\chi^2$ (d.f. = 2)	35.4581 <sup>c</sup>			

<sup>a</sup>Portfolio LOW comprises company years when the bonus plan lower bound is binding. Portfolio MID contains observations for which the lower and upper bounds are not binding. Portfolio UPP contains company years when the upper bound is binding.

<sup>b</sup>Accruals are deflated by the book value of total assets.

<sup>c</sup>Significant at the 0.005 level.

portfolio UPP. A second difference between the samples is the stronger result for portfolio LOW for sample B than sample A. I have no explanation for this result.

Contingency tables are constructed for the following subcomponents of accruals: changes in inventory, changes in receivables, depreciation, changes in payables and, where relevant to the bonus award, changes in income taxes payable. The changes in inventory and receivable accrual subcomponents are most strongly associated with management compensation incentives. Contingency table results for the aggregate sample are presented for these two subcomponents in table 3.<sup>13</sup> There are more negative inventory accruals when the upper and lower constraints are binding than for the MID portfolio. The results for receivable accruals confirm the theory for portfolios LOW and MID. However, there is no difference in the proportion of negative accruals for portfolios MID and UPP. The chi-square statistics for both inventory and receivable accruals are significant at the 0.005 level. Differences in mean inventory and receivable accruals for portfolios LOW, MID and UPP are consistent with the theory: the means for portfolios UPP and LOW are significantly lower than the mean for portfolio MID at the 0.005 level.

<sup>13</sup> Results for other subcomponents, and for different plan forms – those with and without an upper bound – are reported in Healy (1983). The upper bound results for depreciation, changes in accounts payable and changes in taxes payable are consistent with the theory, but the lower bound results are inconsistent.

In summary, the evidence in tables 2 and 3 is generally inconsistent with the null hypothesis that there is no association between discretionary accruals and managers' income-reporting incentives under the bonus plan. There is a greater incidence of negative accruals when the upper and lower bounds in the bonus contracts are binding. The contingency tables for decomposed accruals identify changes in inventory and accounts receivables as the accrual subcomponents most highly related to managers' bonus plan incentives.

There are several limitations of the contingency test. First, the method of assigning observations to portfolio LOW induces a selection bias. Company-years are assigned to Portfolio LOW when reported earnings are less than the lower bound. A high incidence of negative accruals are observed for this portfolio, consistent with the theory. However, both reported earnings and total accruals include non-discretionary accruals. Company-years with negative non-discretionary accruals are therefore likely to be assigned to portfolio LOW and they will also tend to have negative total accruals. This selection bias increases the probability of incorrectly rejecting the null hypothesis.

A second limitation of the contingency tests arises from errors in measuring discretionary accruals. Total accruals are used as a proxy for discretionary accruals. Measurement errors for this proxy are correlated with the firm's cash flows from operations and earnings, the variables used to assign company-years to portfolio UPP, MID and LOW. This relation could explain the contingency results. For example, inventory accruals reflect physical inventory levels.<sup>14</sup> If there is an unexpected increase in demand, physical inventory levels and non-discretionary accruals will fall and cash flows from operations increase, consistent with the results reported for portfolio UPP in table 3. However, an unexpected decrease in demand will increase physical inventory levels and nondiscretionary accruals and decrease cash flows from operations, opposite to the theory's predictions for portfolio LOW.

A third limitation of the contingency tests arises from errors in measuring earnings before discretionary accruals. Cash flows are a proxy for this variable and are used to assign company-years to portfolios MID and UPP. Errors in measuring earnings before discretionary accruals are perfectly negatively correlated with measurement errors in discretionary accruals since the sum of the actual variables (earnings before discretionary accruals and discretionary accruals) are constrained to equal the sum of the measured variables (cash flows and total accruals) by the accounting earnings identity. This implies that a disproportionate number of company-years with positive measurement error in earnings before discretionary accruals will be assigned to portfolio UPP. These observations have negative measurement errors in discretionary accruals, increasing the probability of incorrectly rejecting the null hypothesis.

<sup>14</sup>Managers therefore have an incentive to manage inventory levels, as well as to select accounting procedures, to maximize the value of their bonus compensation [see Biddle (1980)].

The tests presented in sections 5.2 and 6 are designed to control for the effects on the contingency results of measurement errors in discretionary accruals and in earnings before discretionary accruals.

### 5.2. *Additional tests and results*

Additional tests compare accruals for firms whose bonus plans include an upper bound with accruals for firms whose plans contain no upper limit. The theory predicts that managers whose bonus plans include an upper bound have an incentive to select income-decreasing discretionary accruals when that limit is triggered. *Ceteris paribus*, managers compensated by schemes with no ceilings on earnings are expected to select income-increasing discretionary accruals. This implies that, holding earnings before discretionary accruals constant, discretionary accruals are lower for company plans with a binding upper bound than for firms whose bonus plans exclude an upper bound. This relation reverses when the upper bound is not binding since I assume that discretionary accruals affect only the timing of reported earnings. Discretionary accruals are therefore higher for company plans with a non-binding upper bound than for firms whose plans do not include an upper bound.

Tests of these implications of the theory control for measurement errors in discretionary accruals. They compare measured discretionary accruals (total accruals) for company-years with equivalent cash flows but different bonus plans – plans with and without an upper bound. If the measurement errors are independent of the existence of an upper bound in the bonus plan,<sup>15</sup> the tests isolate discretionary accrual differences between companies with these different types of bonus plans.

The tests also control for errors in measuring earnings before discretionary accruals by comparing accruals for company-years with equivalent measured earnings before discretionary accruals (cash flows) but with bonus plans that include and exclude an upper bound. If measurement errors are independent of the existence of an upper bound in the bonus plan, the estimates of discretionary accrual differences between companies with these two types of bonus plans are unbiased.

The additional predictions of the theory are tested using all company-years for which earnings exceed the lower bound (i.e., portfolios MID and UPP). The observations are divided into two samples: company-years when the bonus plan specifies an upper bound, and company-years when no such limit is defined. The tests are constructed to compare accruals for these two samples holding cash flows constant. The following test design is implemented:

<sup>15</sup>Weak evidence to support this assumption is presented in Healy (1983). He finds that companies whose bonus plans include and exclude an upper limit do not have different means and variances of leverage, firm value, the ratio of gross fixed assets to firm value, and systematic risk. Leverage is defined as the ratio of long-term debt to firm value, and firm value is the sum of the book values of debt and preferred stock and the market value of common stock.

- (1) Company-years with a bonus plan upper bound are assigned to one of two portfolios. The first comprises observations whose cash flows exceed the upper bound. The second contains company-years when the upper bound is not binding.
- (2) Company-years with a binding upper bound are arrayed on the basis of cash flows (deflated by the book value of total assets) and deciles are constructed. Mean accruals and cash flows (both deflated by total assets) are estimated by decile.
- (3) Company-years with no bonus plan upper bound are assigned to one of ten groups. The groups are constructed to have mean deflated cash flows approximately equal to the means of the deciles formed in Step 2. The high and low deflated cash flows for each decile are used as cutoffs to form the ten groups; a company-year with no upper bound is assigned to a group if deflated cash flows are within its cutoffs. Mean deflated accruals and cash flows are estimated for each group.

The mean deflated accruals and cash flows are reported in table 4 by decile for company-years with a binding upper bound and by a group for company-years with no upper bound. The theory predicts that, holding cash flows constant, accruals are lower for companies with a binding bonus plan upper bound, than for companies with no upper bound. The results support the theory: mean accruals are less for company-years with a binding upper bound in nine of the ten pairwise comparisons reported in table 4, panel A. The Sign and Wilcoxon Signed-Ranks tests are used to evaluate whether this result is statistically significant.<sup>16</sup> The Sign test is significant at the 0.0107 level and the Wilcoxon Signed-Ranks test at the 0.0020 level.

The test design is replicated to compare company-years whose upper bound is not binding with company-years whose bonus plan contains no upper bound. The theory predicts that, holding cash flows constant, accruals are higher for companies with a non-binding bonus plan upper bound, than for companies whose plan contains no upper bound. Company-years for which the upper bound is not binding are arrayed on the basis of cash flows and deciles are formed. The high and low cash flows for these deciles are used to form ten groups for company-years with no plan upper bound. Mean deflated accruals and cash flows are reported in table 4, panel B by decile for company-years with a non-binding upper bound, and by group for company-years with no upper bound. The results are consistent with the theory: mean accruals for company-years when the bonus plan upper bound is not binding are greater than mean accruals for company-years with no upper bound in nine of the ten pairwise comparisons. The Sign test is significant at the 0.0107 level and the Wilcoxon Signed-Ranks test at the 0.0068 level.

<sup>16</sup>The Sign test and Wilcoxon Signed-Ranks test assume that assignments to test and control groups are random. For a detailed description of the tests see Siegel (1956, pp. 67–83).



Table 4

Results of tests comparing accruals for companies whose bonus plans include and exclude an upper bound holding cash flows constant.

Decile <sup>a</sup>	Average cash flows <sup>b</sup> by decile for company-years whose bonus plan		Average accruals <sup>b</sup> by decile for company-years whose bonus plan		Difference in average accruals <sup>c</sup>
	Includes an upper bound	Excludes an upper bound	Includes an upper bound	Excludes an upper bound	
<i>Panel A: Accruals for company-years when the bonus plan's upper bound is binding compared with accruals for company-years with no upper limit defined in their bonus plan</i>					
1	0.0681	0.0658	-0.0044	0.0099	-0.0143
2	0.0912	0.0927	-0.0048	-0.0091	0.0043
3	0.1066	0.1066	-0.0341	-0.0191	-0.0150
4	0.1158	0.1163	-0.0585	-0.0280	-0.0305
5	0.1271	0.1277	-0.0611	-0.0320	-0.0291
6	0.1368	0.1382	-0.0611	-0.0349	-0.0262
7	0.1481	0.1485	-0.0660	-0.0399	-0.0330
8	0.1580	0.1574	-0.0729	-0.0399	-0.0330
9	0.1784	0.1775	-0.0908	-0.0456	-0.0452
10	0.2445	0.2183	-0.0870	-0.0694	-0.0176
				Sign test	0.0107
				Wilcoxon Signed-Rank test	0.0020
<i>Panel B: Accruals for company-years when the bonus plan's upper bound is not binding compared with accruals for company-years with no upper limit defined in their bonus plan</i>					
1	-0.0754	-0.0444	0.1235	0.1011	0.0224
2	0.0355	0.0342	0.0277	0.0348	-0.0121
3	0.0612	0.0628	0.0150	0.0099	0.0051
4	0.0857	0.0840	-0.0040	-0.0042	0.0002
5	0.1039	0.1045	0.0055	-0.0161	0.0216
6	0.1257	0.1263	-0.0174	-0.0323	0.0321
7	0.1482	0.1465	-0.0261	-0.0354	0.0093
8	0.1687	0.1675	-0.0314	-0.0449	0.0135
9	0.1953	0.1962	-0.0430	-0.0587	0.0157
10	0.2547	0.2499	-0.0474	-0.0836	0.0362
				Sign test	0.0107
				Wilcoxon Signed-Rank test	0.0068

<sup>a</sup> Company-years for which the bonus plan upper limit is binding (panel A) or not binding (panel B) are arrayed on the basis of cash flows (deflated by total assets) and deciles are formed. The high and low cash flow values for these deciles are used to form ten groups for company-years with no upper bound. Mean cash flows and accruals (both deflated by total assets) are estimated for each group/decile.

<sup>b</sup> Cash flows and accruals are deflated by the book value of total assets.

<sup>c</sup> The compensation theory predicts that the difference is negative (panel A) or positive (panel B).

## 7. Changes in accounting procedure tests and results

The effect of voluntary changes in accounting procedures on earnings is also used to test the implications of the theory. The proxy used in section 6, accruals, reflects both discretionary and non-discretionary accruals and accounting procedures. Voluntary changes in accounting procedures reflect purely discretionary accounting procedure decisions.

Reported changes in accounting procedures are available from two sources: the sample of depreciation switches used by Holthausen (1981) and changes reported by Accounting Trends and Techniques. Accounting changes are collected from these sources for the sample companies from 1968 to 1980. Procedure changes are decomposed according to the type of change and a summary is presented in table 5 for the full sample (342 changes) and for the changes whose effect on earnings is disclosed in the footnotes (242).

The effect of each accounting procedure change on earnings and equity is collected from the financial statement footnotes. In 100 cases the effect of the change is described as immaterial or not disclosed. A further 49 changes report only the sign of the effect on earnings. These are coded to indicate whether the effect is positive or negative.

### 7.1. Contingency tests

The contingency tests are replicated using the effect of changes in accounting procedures on earnings available for bonuses as a proxy for discretionary accounting decisions. Earnings available for bonuses are reported earnings, defined in the bonus plan, less the lower bound. If the effect of the accounting change on this variable is positive (negative), the change is classified as income-increasing (income-decreasing). Company-years are assigned to portfolios LOW, MID and UPP using the method adopted in section 6, and contingency tables are constructed to compare the incidence of income-increasing and income-decreasing accounting procedure changes for each portfolio. The results do not support the theory. However, there are several potential explanations of this finding:

- (1) Casual evidence suggests that it is more costly for managers to transfer earnings between periods by changing accounting procedures than by changing accruals. Companies rarely change accounting procedures annually – for example, changes to straight line depreciation in one year are typically not followed by a change to other depreciation methods in succeeding years. Managers appear to have greater flexibility to change accruals. For example, they can accelerate or defer recognition of sales, and capitalize or expense repair expenditures.
- (2) Changes in accounting procedures affect earnings and the bonus plan lower bound in the current and future years. Managers consider the effect of

alternative accounting methods on the present value of their bonus awards. However, the effect of a procedure change on the accounting numbers is only publicly disclosed for the year of the change. This proxy therefore fails to control for the effect of accounting procedures on bonus awards in future years.

The tests presented in section 7.2 control for these problems.

Table 5

Summary and decomposition of changes in accounting procedures for a sample from the Fortune 250 over the period 1968–1980.

Type of change	Full sample (342 changes)	Subsample with earnings effect disclosed (242 changes)
Miscellaneous	19	12
Inventory		
Miscellaneous	16	9
To LIFO	64	63
To FIFO	3	3
Depreciation		
Miscellaneous	11	6
To accelerated	3	1
To straight-line	27	25
To replacement cost	2	1
Other expenses		
Miscellaneous	20	12
To accrual	12	8
To cash	5	4
Actuarial assumptions for pensions	68	54
Revenue recognition	3	1
Entity accounting		
Miscellaneous	21	8
To inclusion in consolidation	21	1
To equity from unconsolidated	47	34
	<u>342</u>	<u>242</u>
<i>Disclosure of effect on net income</i>		
Effect on earnings disclosed		242
Estimate given in dollars	193	
Directional effect reported	49	
Effect undisclosed or described as immaterial		100
		<u>342</u>

Table 6

Association between voluntary changes in accounting procedures and the adoption or modification of a bonus plan.

Year <sup>a</sup>	Mean number of voluntary accounting changes per firm		Difference in means
	Sample changing bonus plan	Sample not changing bonus plan	
1968	0.6364	0.1161	0.5203
1969	1.0000	0.0932	0.9068
1970	1.3333	0.2250	1.1080
1971	0.2000	0.1780	0.0220
1972	0.2000	0.1102	0.0898
1973	0.2500	0.1739	0.0761
1974	0.5000	0.4132	0.0868
1975	0.4000	0.2458	0.1542
1976	0.5000	0.1818	0.3182
1977	0.0000	0.0250	-0.0250
1978	0.0000	0.0417	-0.0417
1980	0.0000	0.1983	-0.1983
		Sign test	0.0730
		Wilcoxon Signed-Rank test	0.0212

<sup>a</sup>No results are reported for 1979 since none of the sample companies adopted or modified their bonus plan in that year.

## 7.2. Tests of the association between bonus plan changes and changes in accounting procedures

Watts and Zimmerman (1983) postulate that changes in the contracting or political processes are associated with changes in accounting methods. For example, companies are more likely to voluntarily change accounting procedures during years following the adoption or modification of a bonus plan, than when there is no such contracting change. To test this hypothesis, useable sample companies<sup>17</sup> are partitioned into two portfolios for each of the years 1968 to 1980. One portfolio comprises companies that adopt or modify their bonus plan; the other contains companies that have no such contracting change.

Bonus plans are adopted or modified at the annual meeting, which typically occurs three or four months after the fiscal year end. The mean number of voluntary accounting changes per firm reported at the end of the following fiscal year is estimated for companies that modify and adopt bonus plans and for companies with no bonus plan change for each of the years 1968 to 1980. A greater number of voluntary changes are expected for the sample of firms

<sup>17</sup>The sample includes the 94 companies used in earlier tests and the 27 companies formerly excluded because their bonus plan upper limit was a function of participating employees' salaries.

adopting or modifying bonus plans, than for firms with no such change. The Sign and Wilcoxon Ranked-Sign tests are used to evaluate whether the mean number of changes per firm differ for firms with and without a bonus plan change.

The test mitigates one of the limitations of the contingency tests. The proxy for the managers' accounting decisions in those tests, the effect of an accounting procedure change on bonus earnings in the year of the change, ignores the effect on future years' bonus earnings. Tests of the association between bonus plan modifications/adoptions and the incidence of changes in accounting procedures avoid estimating this effect.

Test results are reported in table 6. The mean number of voluntary changes in accounting procedures is greater for firms with bonus plan changes than for firms with no such change in nine of the twelve years. No means are reported for 1979 because no sample companies introduced or modified bonus plans in that year. The Sign and Wilcoxon Signed-Rank tests are statistically significant at the 0.0730 and 0.0212 levels respectively, consistent with the hypothesis that changes in bonus schemes are associated with changes in accounting procedures.

## **8. Conclusions**

Bonus schemes create incentives for managers to select accounting procedures and accruals to maximize the value of their bonus awards. These schemes appear to be an effective means of influencing managerial accrual and accounting procedure decisions. There is a strong association between accruals and managers' income-reporting incentives under their bonus contracts. Managers are more likely to choose income-decreasing accruals when their bonus plan upper or lower bounds are binding, and income-increasing accruals when these bounds are not binding. Results of tests comparing accruals for firms whose bonus plans include and exclude an upper bound further support the theory: holding cash flows constant, accruals are lower for company-years with binding bonus plan upper bounds than for company-years with no upper bound. This difference in the timing or reported earnings is offset when bonus plan upper limits are not binding.

Tests of the theory also use voluntary changes in accounting procedures as a proxy for discretionary accounting decisions. The results suggest that there is a high incidence of voluntary changes in accounting procedures during years following the adoption or modification of a bonus plan. However, managers do not change accounting procedures to decrease earnings when the bonus plan upper or lower bounds are binding.

The paper raises several questions for future investigation. First, why do bonus contracts reward managers on the basis of earnings, rather than stock price? Second, what are the other incentive effects of bonus contracts? Finally,

what are the joint incentive effects of bonus schemes and other forms of compensation, such as performance plans?

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