A SIMULATION STUDY OF INTANGIBLE DRILLING AND DEVELOPMENT COSTS AND DEFERRED TAXES IN THE OIL AND GAS INDUSTRY

By

CHARLES WILLIAM STANLEY

Bachelor of Arts
University of Texas at Austin
Austin, Texas
1972

Master of Business Administration
University of Montana
Missoula, Montana
1976

Master of Professional Accountancy
University of Texas at Arlington
Arlington, Texas
1977

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
In partial fulfillment of the requirements
for the Degree of
DOCTOR OF PHILOSOPHY
July, 1984

A SIMULATION STUDY OF INTANGIBLE DRILLING AND DEVELOPMENT COSTS AND DEFERRED TAXES IN THE OIL AND GAS INDUSTRY

Thesis Approved:

Thesis Adviser

Dean of the Graduate College

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Current guidelines for accounting for income taxes are given in Accounting Principles Board (APB) Opinion No. 11. This Opinion requires comprehensive interperiod tax allocation using the deferred method of tax allocation. Statement of Financial Accounting Standards (SFAS) No. 19 and No. 25 require oil and gas companies to provide for deferred income taxes on the unamortized portion of intangible drilling and development costs and other costs of an enterprise's oil and gas producing activities. This position is a reversal of previous positions (SFAS No. 9 which was superceded by SFAS No. 19) giving the oil and gas companies the option of providing for deferred taxes when there were book/tax interactions caused by companies' build-up of reserves from successful drilling ventures.

The deferred tax requirements of SFAS No. 19 and SFAS No. 25 have not been embraced by the oil and gas industry for some of the same reasons that comprehensive interperiod tax allocation is opposed by many accountants. Many in the industry argued that any potential liability due to reversal of the timing differences caused by producing activities would be offset by the statutory depletion which would be realized in the future from these reserves. Others argued that the deferred tax credit was not a liability as defined in

Statement of Financial Accounting Concepts No. 3 and that the likelihood of it being liquidated was remote. Since the intangible drilling and development costs (IDC) are a material portion of the total assets of most oil and gas companies, the provision for deferred tax credits on a long-term basis may cause a material long-term credit.

Background

Originally, the annual tax provision was calculated by reference to the estimated amount of taxable income. Then the main concern was to provide the proper accrual for the income tax liability. However, when the APB issued Opinion No. 11, the income statement had become the major statement. The APB argued that the use of the estimated taxes payable for the current year as the tax expense could lead to a distortion of net income due to timing differences. A timing difference is defined as a difference between the periods in which transactions affect taxable income and the determination of pretax accounting income. Timing differences originate in one period and reverse or "turn around" in one or more subsequent periods. These timing differences are in contrast to permanent differences. Permanent differences are those items which are allowed as revenue or expense for either tax or financial accounting purposes, but not for both. Because timing differences affect more than the current accounting period, distortions in net income could result. To avoid these distortions, the APB required interperiod tax allocation. Since then, controversy has arisen as to when to apply tax allocation procedures and as to how to show the results of such application on the financial statements.

Authoritative Support for Interperiod Tax Allocation

The accounting profession's authoritative positions with regard to interperiod tax allocation have changed since the subject was first addressed. Accounting Research Bulletin No. 23 recommeneded that income taxes were an expense which should be allocated when necessary and practicable (when material and extraordinary differences between taxable income and pretax accounting income exist) as other expenses are allocated. However, the Bulletin permitted disclosure in lieu of allocation when allocation was not practicable and required neither allocation nor disclosure when the differences between taxable income and pretax accounting income resulted from a transaction that was expected to recur frequently over a long period of time. This procedure continued through subsequent bulletins until 1962.

Beginning in 1954, due to using accelerated methods in lieu of straight-line depreciation, timing differences started to become material since many industries had depreciable assets that were a substantial portion of total assets. Controversies grew until 1962 when the APB issued Opinion No. 2 which required the deferred method for accounting for investment tax credits. The furor from the profession was so great that the APB had to issue Opinion No. 4 which gave approval to the use of the flow-through method as well as the deferred method. In 1965, the APB issued Opinion No. 6 which allowed income taxes to be computed either (1) at the tax rate for the period in which the provision was made (deferred method), or (2) at the tax rate which it was estimated would apply in the future when the original timing difference was expected to reverse (liability method).

Accounting Research Study No. 9 concluded that corporate income taxes should be allocated on a comprehensive basis. The study also concluded that the liability method of allocation was superior and recommended that the long-term tax liabilities that would result be discounted in order to prevent overstatement of liabilities and misstatement of periodic net income.

The APB concluded in Opinion No. 11, however, that the deferred method of allocation should be followed rather than the liability method. After Opinion No. 11 was issued, whenever either the APB or Financial Accounting Standards Board (FASB) were considering a standard in which timing differences would result, the conclusions generally recommended that comprehensive interperiod tax allocation should be followed using the deferred method of allocation. Two such standards relating to the oil and gas industry were SFAS No. 19 and SFAS No. 25.

Intangible drilling and development costs (IDC) represent those costs incurred with the drilling and exploring activities, excluding leasehold costs (property rights) and drilling well equipment. These costs are deductible as expenses in the year incurred according to Internal Revenue Code Section 612. The manner in which the costs are accounted for in the financial statements depends on whether the oil and gas company uses successful efforts or full costing. If the company uses successful efforts, then only those IDC costs pertaining to successful drilling activities are capitalized. They are subsequently amortized on the basis of units of production. IDC costs pertaining to unsuccessful wells are expensed as soon as it is determined that the well is a dry hole. If the company uses full costing, then all

IDC costs are capitalized and amortized on the units of production method, unless an entire field is determined to be dry. In that case, the IDC costs pertaining to that field are expensed. If any part of the field is productive, however, all costs are capitalized and amortized. The timing difference occurs because rarely does a well produce its entire reserve in a year's time. When considering the enormous amount of drilling activities that have taken place in this country during the last thirty years, the question must be asked why no interperiod tax allocation was provided, especially since the timing differences would be material. The reason was that, with the production expected in the future, any potential liability that might result from the IDC timing difference would be offset by the statutory depletion that would be received. This offset was called a book/tax interaction and was disallowed by SFAS No. 19. Prior to the issuance of SFAS No. 19, the FASB had issued SFAS No. 9 which required comprehensive interperiod tax allocation for IDC but allowed oil companies to recognize any book/tax interaction that might occur. Although most of the provisions of SFAS No. 19 have been suspended indefinitely by the FASB through issuance of SFAS No. 25, the requirement for provision of deferred taxes on these IDC costs remained intact.

Literature Review

Most of the empirical studies of interperiod tax allocation addressed whether or not a permanent deferral of taxes, in the aggregate, resulted as a consequence of the timing differences. Although methods and emphasis differed, the results of the studies were usually consistent.

The first such study of importance was a simulation involving both static and steadily growing firms and was performed by Davidson (1958). For a steadily growing firm, depreciating assets were increased at the rate of 5% per year. For the static firm, replacement of fixed assets was done on a periodic basis as these assets were retired. To test the reversal effect of the timing differences caused by accelerated depreciation, Davidson used sum-of-the-years' digits depreciation for tax purposes and straight-line depreciation for financial accounting purposes. Davidson found that, in the static firm, the provision for tax deferral remained on the books in perpetuity unchanged from the original amount. With the steadily growing firm, he concluded that if a firm's rate or growth were maintained, the balances in the deferred tax account would grow each year, and eventually become one of the major balance sheet items. Davidson added that only a moribund firm with declining investment in capital assets would likely be faced with a substantial reversing of the deferred tax credit.

Harwood (1961) ran a simulation under conditions that he felt would cause a reversal of previously established deferrals. These conditions included those of declining profit, declining investments, and increasing tax rates. The results showed that accelerated depreciation would have exceeded straight-line depreciation in every year from 1929 to 1948. Therefore, even in the worst conditions, use of interperiod tax allocation would have led to the continual increase of the deferred tax account.

In a Price Waterhouse and Company (1967) study, 100 companies were examined with respect to accelerated depreciation and installment

sales for the years 1954-1965. The purpose of the study was to determine if any earlier tax reductions were paid back in later years. Of the 100 companies selected, only 57 used the deferred method of tax allocation. For the 57 companies during this 12-year period, it was found that deferred taxes were provided 326 times for a total of $950 million while reductions to the deferred credits occurred only 26 times for a total of $20 million. These dollar amounts correspond to a ratio of 48 to 1. Price Waterhouse and Company argued that deferred taxes should not be provided when there appears to be indefinite reversals.

Bevis (1968) showed through a case study of a retail store over the years 1936-1966 that reversals requiring payment (paybacks) could occur. The company studied had a large number of installment sales, reported taxable income on the collection basis and used the sales basis to compute the pretax accounting income. Bevis wanted to determine a method of reserving out of realized tax reductions enough funds to meet any paybacks. He found that over the period considered, less than half of the tax reduction would be needed to cover any paybacks. Although this company did experience some reversals, it should be noted that installment accounts are considered current and would tend to reverse more often.

Livingstone (1967) examined asset expenditure patterns to determine the conditions under which a deferred tax liability would reverse. He used Davidson's (1958) conclusions as a basis for his study but varied it through the use of cyclical asset expenditure patterns, which he believed, could have an effect on the timing differences. He developed a cyclical asset expenditure model which would

forecast future asset expenditure patterns and, using data from the electric utility industry, projected expenditures as far as 100 years into the future. Livingstone found that the critical factor in determining the existence of the deferred tax liability was the ratio of the trend of the expenditures over time to the cycle amplitude of asset expenditures. Given a sufficiently strong upward trend in asset expenditures, the presence of regular period cycles need not give rise to a liability for deferred taxes. Livingstone (1969) followed up this study, although the model was improved, with large manufacturing companies listed in the Fortune 500. Again, his results showed that tax deferral credit repayments were the exception and not the rule.

Voss (1968) conducted a study in which he tried to determine if small companies would experience quicker or larger reversals of tax deferrals than large companies. Voss hypothesized that the small firms would be more likely to repay deferred taxes than large firms because of the probability of an irregular investment pattern. Firms which owned only a few large assets relative to total assets would be more likely to have the tax deferral reversed quicker. Voss found that there were more reversals or repayments of deferred taxes for small firms than for large firms, but the frequency of repayment and the dollar amounts were both very small.

Adler (1972) performed a simulation of deferred taxes on a macro level for investments, tax life, and book life under various assumptions for the period 1929-1968. He included the effects of real growth and price inflation and felt that no blanket statement could be made that deferred taxes would never be paid. Repayments depended upon the nature of economic conditions and asset life patterns.

Economic conditions since 1929 had not displayed any characteristics sympathetic to the repayment of deferred taxes on a macro level. Adler also concluded that (1) if tax allocation procedures had been followed since 1929, there would have been an almost uninterrupted stream of accumulations in every year leading to an average of 5-year investments in depreciable equipment; (2) high growth and high inflation both work against the repayment of deferred taxes; and (3) the absence of either high growth or high inflation was not strong enough historically to cause repayments.

Herring and Jacobs (1976) examined changes in the deferred tax accounts over a 20-year period for nearly 3,000 Compustat firms. Their results showed that the percentage of firms experiencing decreases ranged from 42% to 58% while increases ranged from 36.9% to 55.1%. Therefore, they concluded that it could be argued that the probability of deferred credit liquidation in any one year approached 50%, thereby causing a reasonable basis for comprehensive interperiod tax allocation. However, these findings were subsequently challenged by Davidson, Skelton, and Weil (1977) who replicated the Herring and Jacobs study. Their replication found a much smaller percentage (21%) of changes in the deferred tax credit account where a decrease occurred. Further analysis found that only a small portion of the decrease could be associated with depreciation timing differences. When the dollar amounts involved were examined, it was found that the dollar amount of increases approximated $39.5 billion while decreases amounted to only $5.9 billion. Thus, they concluded that Herring and Jacobs had erred and therefore the likelihood of payment of the deferred tax credit was minimal.

Statement of the Problem and Hypotheses

Both Davidson (1958) and Livingstone (1967, 1969) demonstrated that the existence of a liability for deferred taxes depended on the trend over time of a firm's expenditures on depreciable assets. Davidson's conclusions were based on the cases where depreciable asset expenditures displayed an unbroken trend whereas Livingstone dealt with the case where asset expenditures were cyclical. The amount and timing of tax deferrals depend on the stream of asset acquisitions, since depreciation in any year is a function of asset expenditures of several preceding years. Livingstone found that in order to determine the extent to which tax deferrals from accelerated depreciation are temporary or permanent, it was necessary to (1) identify classes of asset expenditure patterns by firms over time and (2) derive from those patterns the conditions for tax deferrals to be permanent or temporary. That is, research needs to be done on a case by case basis. This study uses the oil and gas industry where large amounts of investments are required in order to pursue drilling activities on an aggressive basis.

It is not certain that the conclusions of Davidson and Livingstone would hold for expenditures related to intangible drilling and development costs because IDC expenditures that are deducted for tax purposes may be considered to be the extreme case of accelerated depreciation. These expenditures are "depreciated" 100% for tax purposes in the year incurred. However, IDC deducted for tax purposes is different from other accelerated depreciation methods used for tax purposes in that the "depreciation" is a function of current year

expenditures only and not a function of expenditures of several preceding years. The timing difference for depreciable assets can be computed as follows:

$$D_t = (\text{SYD rate} \times P) - (\text{SL rate} \times P)$$

where D_t is the timing difference in year t and P is the pattern of asset expenditures over time, (i.e., the sum of current year and prior years' asset expenditures). Livingstone (1967) showed that by factoring out P, the equation would be (SYD rate-SL rate) x P. SYD rate-SL rate can be expressed as a vector of constants thereby making the timing differences dependent on P alone, i.e., on the pattern of asset expenditures over time. However, this same relationship does not hold for the oil and gas industry with regards to IDC expenditures. Rather, the timing differences computed as a result of IDC expenditures would be as follows:

$$D_t = P_t - u_t/r_t(\ P_{t-1})$$

where P_t is the current year's IDC expenditures for tax purposes, u_t/r_t is the amortization rate (production/estimated reserves), and P_{t-1} is the sum of all prior years' IDC expenditures. Therefore, the timing difference is not dependent on the stream of asset expenditures alone. Rather, it is dependent on three variables, (1) P_t, the current year's IDC expenditures, (2) u_t, the current year's production, and (3) r_t, the estimated reserves for the current year. Since production can be controlled by management, production can fluctuate significantly from year to year. Similarly, procedures for estimating reserves are inexact and the estimates can also fluctuate significantly from year to year. Thus, the amortization rate (u_t/r_t) can be as significant a factor in causing reversals or paybacks as the stream of asset

expenditure patterns. For financial statement purposes, the amortization deducted in any year would be a function of several preceding years' expenditures. Also, the method of amortization is based on the units of production rather than time. Therefore, the situation with IDC differs significantly from that of other depreciable assets. Yet, when considering the materiality of the expenditures, the tax deferral provided as a result of the timing difference can be material not only on the income statement but also on the balance sheet. Since misleading cash flow signals can be received by investors as a result of the long-term deferred credit, it is important to determine if this deferral will reverse or if reversal will be indefinitely postponed. If it can be shown that the tax deferrals are temporary, then it could be concluded that there is a basis for using interperiod tax allocation for IDC expenditures. If it can be shown that the tax deferrals are permanent then it could be concluded that the cash flow signals to be received from this long-term deferral are questionable and that the requirement for the provision of long-term deferred taxes payable for IDC costs should be reassessed. Therefore, this study simulated IDC expenditure patterns, production patterns, and estimated reserve patterns for a 40 year period to determine those conditions under which the aggregate tax deferrals arising from the timing differences would or would not reverse. The simulation assumed that each of the three patterns was (1) increasing (positive growth), (2) decreasing (negative growth), and (3) relatively constant (no real growth or decline). In addition, it was assumed that the patterns would be cyclical because "there is reason to believe that, for many firms and industries, asset expenditures over time are lumpy or cyclical" (Livingstone, 1967). Also, since there are

two different accounting methods allowed, the simulation was done for 25 successful efforts firms and 25 firms using full costing. The hypotheses tested are shown in Table I.

Policy Implications and Contribution of the Study

If both of the null hypotheses are true, then the implication is that there was no basis for the conclusions of the FASB in requiring comprehensive interperiod tax allocation for IDC costs. If both of the alternate hypotheses are true, then the results would indicate that there was a basis for the FASB requiring interperiod allocation. In addition, if it is found that reversals do not occur, then these results would be consistent with the findings of Davidson and Livingstone. If the study shows that reversals do occur, then these results would be the opposite of earlier studies. Also, if some of the conditions do indicate reversals, then the implication would be that blanket application of APB Opinion No. 11 is not warranted for all cases in which timing differences result. Rather, it would indicate that the allocation should be a partial allocation. However, if the results indicate that the null hypothesis is true for the successful efforts while rejected for the full costing firms or vice versa, then the results would indicate that the use of two different accounting methods within the same industry could be producing different information cues to the financial statement users.

TABLE I

HYPOTHESES TESTED IN THIS STUDY

HYPOTHESIS 1

H_0: There are no reversals each year when expenditures on intangible drilling and development costs were cyclical over a period of 40 years for those oil and gas firms using successful efforts accounting under the conditions below.

H_1: There are reversals each year when expenditures on intangible drilling and development costs were cyclical over a period of 40 years for the oil and gas firms using successful efforts accounting under the conditions below.

HYPOTHESIS 2

H_0: There are no reversals each year when expenditures on intangible drilling and developement costs were cyclical over a period of 40 years for those oil and gas firms using full costing accounting under the conditions below.

H_1: There are reversals each year when expenditures on intangible drilling and development costs were cyclical over a period of 40 years for those oil and gas firms using full costing accounting under the conditions below.

Conditions:

1A 1B 1C 1D 1E 1F 1G 1H 1I
2A 2B 2C 2D 2E 2F 2G 2H 2I
3A 3B 3C 3D 3E 3F 3G 3H 3I

The following is a legend of the conditions listed above:

1= Increasing IDC expenditures over time
2= Constant IDC expenditures over time
3= Decreasing IDC expenditures over time

A= Increasing production/Increasing estimated reserves
B= Increasing production/Constant estimated reserves
C= Increasing production/Decreasing estimated reserves
D= Constant production/Increasing estimated reserves
E= Constant production/Constant estimated reserves
F= Constant production/Decreasing estimated reserves
G= Decreasing production/Increasing estimated reserves
H= Decreasing production/Constant estimated reserves
I= Decreasing production/Decreasing estimated reserves

CHAPTER II

METHODOLOGY

Davidson (1958) and Livingstone (1967, 1969) demonstrated that the existence of a liability for deferred taxes depended on the trend over time of a firm's expenditures for depreciable assets. Davidson's conclusions were based on cases where depreciable asset expenditures displayed an unbroken trend whereas Livingstone dealt with cases where asset expenditures were cyclical over time. Both showed that there would not be a long-term deferred tax payback or reversal. Livingstone did his research for the electric power industry by determining cyclical asset patterns and using these patterns to determine the conditions for tax reductions. A similar approach was also done by Livingstone for large manufacturing companies. The purpose of the present study was to determine if such conditions could be found for intangible drilling and development costs (IDC) in the oil and gas industry. Since IDC is deducted 100% for tax purposes and is amortized on the basis of units of production for accounting purposes, IDC could be considered the extreme case of accelerated depreciation.

The first phase of the present study determined, via simulation, the IDC expenditure patterns, production patterns, and estimated reserve patterns. These patterns were then used to determine the timing difference that would arise for individual firms using either (a) successful efforts or (b) full costing accounting. Twenty-five

publicly-traded oil firms using successful efforts accounting and twenty-five firms using full costing accounting were randomly selected. IDC expenditures, production and reserve data for these companies were obtained from the published annual reports and SEC filings for the last ten years. The second phase of the study observed the trends of any reversals or paybacks that occurred for (1) all 50 firms together, (2) for successful efforts firms only, and (3) for full costing firms only under each of 27 possible conditions that could cause timing differences given the possible combinations of patterns of IDC expenditures, production, and estimated reserves. These trends determined the conditions which allowed the tax deferrals to be classified as temporary or indefinitely postponed. It was assumed during this phase that IDC was deducted 100% for tax purposes but amortized on the basis of units of production for accounting purposes.

Simulation as a Research Methodology

The problem posed in this study was to determine the conditions where reversals or paybacks occur given the patterns of increasing, constant, and decreasing IDC, production, and estimated reserves. Three possible methodological approaches are available for studying this problem: empirical analysis, analytical analysis, and computer simulation. The simulation method was chosen for several reasons. First, an empirical study would require the availability of historical patterns that could satisfy each of the 27 possible conditions being examined. While it is probable that many of the conditions have occurred historically, the likelihood of all 27 conditions having

existed in the past is remote. Most oil and gas companies experienced substantial increases in IDC expenditures, production, and reserves during the 1970's and early 1980's. However, during 1982, the oil and gas industry experienced declines in exploration, drillings, production, and new discoveries due to a recession in the U.S. economy and a drop in consumer demands. Thus, any reconstruction of past events to fit the 27 conditions would be difficult since it would not be likely that all 27 conditions had existed for each firm. Regression analysis or some other mathematical technique would present similar problems since the use of historical data required in an empirical analysis might eliminate several of the patterns examined in the study. In addition, much of the data needed for any period longer than 10 years was not disclosed in many financial statements prior to 1972. Finally, the oil and gas industry is so volatile in its reactions both to changes in economic conditions and to the factors of supply and demand, that historical patterns would not be any more reliable a predictor of future patterns than any other source. Computer simulation, on the other hand, provides a vehicle for overcoming the data limitations that would result in an empirical study. Data for each of the alternative patterns can be simulated easily by the computer using the Monte Carlo method. The simulation allows control, in an experimental sense, of the changes in the parameters that could affect the patterns of IDC, production, and estimated reserves, and thus, allows exploration of the impact of a change in one pattern at a time. Precise statements about the properties of the various patterns can then be made. Naylor (1971) stated that simulation of complex systems can yield valuable insight into which

variables are more important than others in the system and how these variables interact.

However, using the simulation approach as a research methodology does have its limitations. Revsine and Thies (1976) argued that because the simulation model incorporates specific characteristics, generalizability of the results beyond the specific configuration may be limited.

Both analytic analysis and computer simulation require the use of either simple or complex mathematical models. Analytical analysis may or may not require numerical data to evaluate a solution while a computer simulation clearly does require such data. When a problem requires numerous random variables or independent functions, as in this case, simulation may be the only feasible method of studying the problem. Simulation is also less costly in terms of time. In addition it is possible to examine all 27 conditions using computer simulation.

The Model for the Timing Difference

In the first phase of this study, a simple algebraic model of IDC expenditures and the amortization of these expenditures was constructed as follows:

Let t= the year in which the IDC expenditures are incurred, i.e., year 1, 2, 3, etc.

p_t= the IDC expenditures incurred in year t and deducted for tax purposes.

d_t= amortization of the sum of prior years' financial accounting capitalized IDC expenditures.

u_t= current year's production.

r_t= estimated reserves in year t.

The timing difference in any year will result from the difference between the IDC expenditures (p_t) and the amortization computed for financial accounting purposes (d_t). Therefore, the timing difference can be expressed as p_{t-d_t}, where $d_{t=u_t/r_t(\ p_{t-1})}$. For the industry as a whole, the production rate for the last twenty years has averaged between 9% and 10% per year. Therefore, it was decided not to carry IDC costs for any period longer than ten years. As long as p_t is greater than d_t, an addition to the long-term deferred tax credit will result. When p_t is less than d_t, a "payback" or reversal of the deferral will occur. Since the amount of reversal or payback can never be more than the amounts that were deferred in prior years, the IDC deferred tax timing difference is dependent on the pattern of IDC expenditures. However, the rate of amortization can affect the reversals as well. The timing difference was chosen as the basis for the simulated testing rather than using the deferred tax credit since the addition to the credit or reduction of the credit (reversal) can be determined by multiplying the positive or negative timing difference by the applicable income tax rate in the year in which the timing difference occurs.

Production and Estimated Reserves

The amortization of costs for financial accounting purposes is based on the units of production. For the oil and gas industry, the units of production rate is computed as u_t/r_t, where u_t is the current year's production and r_t is the estimated reserves. Therefore, the rate of amortization is dependent on both production and estimated reserve amounts. However, unlike depreciable assets, whose estimated

service lives are determined when the asset is acquired and is generally not changed, the rate of amortization in the oil and gas industry can be controlled by management to a reasonable extent through production changes, and the procedures for determining estimated reserves are not exact. To compensate for this potential volatility in the amortization rate, different production and estimated reserve amounts were computed under each of the following assumptions:

1. increasing production and reserves,
2. constant production and reserves,
3. decreasing production and reserves,
4. combinations of the above.

The Simulation Model

Simulating the data offered numerous advantages for observation that the use of empirical data would not allow. The greatest advantage of the simulation was that it allowed observation of data under various assumptions. Also, since the deferred tax requirement for IDC expenditures was recent, the availability of historical data was scarce. Therefore, IDC expenditures, production, and reserve projections were made possible by the simulation. While forecasts of this data are generally available for the industry as a whole, such forecasts are usually not done by individual firms for very many future time periods. If available, these firms consider such forecasts to be confidential firm information and do not release them for public use unless ordered to do so by the Federal government. Therefore, the simulation allowed the generation of data that would otherwise not be available for analysis. This projection was especially beneficial in

that it was necessary to observe the deferred taxes payable account over a long period of time and under various assumptions thereby allowing examinations of conditions that may not have existed historically in all firms.

Since drilling activity within the last 20 years has increased rapidly, it may be valid to assume such increases would continue. However, it is just as valid to assume that the drilling activity will start to decline or remain at constant levels. In addition, production and estimated reserves could exhibit similar movements. Current economic conditions indicate this possibility. Thus, the assumptions of increasing, decreasing, and constant levels were made. Since the patterns would not be necessarily in conjunction with one another, (i.e., increasing IDC with increasing production and reserves, etc.), it was assumed that various combinations of the variables would occur. The simulation was done for increasing IDC with increasing production and constant reserves, increasing IDC with increasing production and decreasing reserves, etc.

Given that this study was concerned with the patterns of IDC, production, and reserves, the problem became how best to simulate the needed data. Davidson (1958) performed a very simple simulation. His firms were either completely static (no change in expenditure patterns from year to year) or experienced a constant 5% growth in expenditures from year to year. Davidson noted that such assumptions caused an artificial simplicity since it was highly unlikely that a completely static firm would be encountered n the real world or that a firm would increase expenditures in the same amount from year to year. Livingstone (1967), realizing the problem with such simplicity,

assumed that firms would experience cyclical or lumpy patterns as opposed to the linearity of Davidson's simulated data. Therefore, he simulated his data via regression analysis. Such an approach would have been ideal for this study if only the increasing patterns were being examined. IDC, production, and reserves have increased for most oil and gas firms over the last 20 years. Thus, equations derived using regression analysis would exhibit increasing patterns. Constant and decreasing patterns could not have been derived from the regression equation since such patterns have not existed historically to any great extent. On the other hand, the simplicity of Davidson's design would not be totally realistic for the oil and gas industry in that it is unlikely that any oil and gas firm would exhibit any type of a strictly linear pattern. Thus, the simulation was performed using the Monte Carlo method. This technique allowed for a sampling of random digits that represented the percentage change in IDC, production, or reserves from one accounting period to the next. This method enabled the assumptions to be examined individually yet still permitted randomness in the data rather than a strict linearity.

Naylor (1971) stated that if one or more of the exogenous variables included in the simulation model is a stochastic variable with a known probability distribution, the researcher is confronted with the problem of devising a process of random selection from the given probability distribution. In the present study, it was possible to know the recent historical probability distributions for the three variables being examined for the firms used in this study. Therefore, a probability distribution of sampled values that corresponds to the probability of the population would be desired. This distribution can take one of two

forms. The random numbers generated could be a distribution in which the numbers are uniformly distributed random variables on the interval (0,1). These numbers are called pseudorandom numbers in that they are generated from a completely deterministic recursive formula. Their statistical properties coincided with the statistical properties of numbers generated by an idealized chance device that selects numbers from the interval (0,1) independently and with all numbers equally likely. The second form of distribution would be to generate a specific uniform variate. For example, the Central Limit Theorem can be used to derive a random number generator for normally distributed random variables (with given means and variances) by simply taking the sum of N uniform variables. The normal distribution was selected as it was believed that a normal distribution would more closely resemble the population being tested. This data was generated separately, for each of the three variables of IDC, production, and reserves, for full costing firms and for successful efforts firms. The means and variances used in the generation of the normally distributed random data were based on the data from the sample firms. The simulated data was constructed as follows:

1. Data were obtained for 25 full costing firms and 25 successful efforts firms for at least the last 10 years in order to have some idea of recent means and variances within the oil and gas industry. This historical data was used to allow boundaries for the range of distribution in the simulation since it would be possible to generate an infinite number of data points. In addition, the use of historical means and variances helped to make the simulated data more realistic.

2. The data for the most recent fiscal year was used as the starting point or base amount for each company. In addition, each company's individual means and variances were used to develop the normal distribution for that company.

3. Data was generated for a 40-year period. There would be 5 cycles, each of 8 years duration. Therefore, for the increasing assumption, the first two years increased, with decreases the next four years, and increases the last two years. In order to maintain the increasing function for the next and all subsequent cycles, the starting point for each new cycle was greater in amount than the previous cycle's starting point. This starting point was generated in the simulation. This procedure was repeated for all subsequent cycles and simulated the IDC, production and reserves. For the decreasing function, a "mirror image" of the increasing function was followed in that the first two years decreased, then the next four years increased, and the last two years decreased. Also, the starting point for the next new cycle was simulated to be less than the starting point of the previous cycle.

4. For the constant assumption, it was decided to allow the randomness of the normal distribution to impose the cycle effect rather than the sine wave cycle effect done with the increasing and decreasing functions. However, a boundary was set for each company in that a mean of zero and a standard deviation of 10% was used.

5. In simulating the data, boundaries were set so that no negative amounts were generated. It would not have been reasonable to have negative IDC, production, or reserves.

6. Once the simulated data had been generated for all 50 companies, the amortization rates (u_t/r_t) for each year for the nine combinations of production and estimated reserves were computed. Thus, there were nine rates for each year or a total of 360 rates for each company (nine rates per year x 40 years). In addition, no amortization rate was allowed to exceed 30% since it was believed that any rate higher than 30% in any one year would not be realistic.

7. The timing differences, p_t-d_t, were computed for each of the 40 years under each assumption. As noted before, no IDC amount was carried for more than a ten year period. However, since no more can reverse than was deferred, a check was made each year in the computer program to determine if a particular year's balance was fully amortized before the end of its respective ten-year period. This step was done to prevent including in the amortization expense used for financial accounting purposes amounts that pertained to fully amortized IDC balances. If by the tenth year, an IDC balance had not been fully amortized, then the remaining unamortized balance was included in the calculation of the amortization expense for that year. Thus, when all computations were completed, for each company, there were 27 different timing differences for each of the 40 years.

When the simulation was completed, there were 25 full costing companies with 27 timing differences each year over a 40 year period and 25 successful efforts companies with 27 timing differences for each of the 40 years. Then, these timing differences were grouped by company type and in total. Means were computed for each year. The use of means allowed the magnitude, as well as the sign, of a reversal or addition to the deferral to flow into the analysis. The use of the

sign only would allow treating immaterial and material changes alike. Since materiality is a factor to be considered in deferring taxes, the consideration of sign only was believed to be misleading. Also, the means over the 40 year period allowed observation of the trend of the timing differences for each condition for successful efforts firms, for full costing firms, and for all 50 firms. Thus, those conditions which caused the tax deferrals to be either temporary or indefinitely postponed could be identified. That is, by observing the trend of the timing differences over the 40 year period, this study was able to determine which of the 27 conditions caused the tax deferrals to reverse or not to reverse. If the trends indicated that the deferrals were temporary, then there would be a basis for interperiod tax allocation. The type of allocation would depend both on the condition that caused the deferral to be temporary and on the time the reversal took place given that particular condition. If the trends indicated that the deferrals were indefinitely postponed, i.e., no reversals occurred during the 40 year period for any of the conditions, then there would be some basis for questioning the blanket use of comprehensive tax allocation regardless of the conditions that gave rise to the tax deferral. If reversals do occur but occur in the end of the 40 year period, then there would be some basis for tax allocation, but the indication would be that it should be done on a case by case basis depending on the conditions that caused the reversal to occur. The recording of the deferral at its present value should also be considered in the above circumstance.

Scope and Limitations

This study examined comprehensive interperiod tax allocation timing differences that arise as a result of IDC expenditures in the oil and gas industry. Other costs, such as geological and geophysical costs, were considered immaterial in relation to the IDC costs. Tax accounting for the oil and gas industry is a highly complex area whose provisions could cause limitations to the results of this study. However, since the FASB specifically excluded any book/tax interaction from consideration in determining the timing differences associated with IDC, this study ignored such book/tax interactions also. Therefore, such items as statutory depletion, selection of loss, etc. were not considered. There are other possible assumptions regarding the patterns of the three variables that were not examined in this study. The three assumptions examined represent the extreme cases. Finally, it should be noted that this study is not trying to predict future IDC expenditures, future production, or future reserves. Rather, it is simply trying to examine what the effect on deferred taxes would be <u>if</u> these simulated patterns were to occur.

CHAPTER III

RESULTS OF THE SIMULATION

This chapter presents the results of the simulation of the intangible drilling and development costs (IDC), production, and estimated reserves. It shows the timing difference means that were computed from the simulated data. The means were computed (1) for all 50 companies together, (2) for the 25 full costing companies only, and (3) for the 25 successful efforts companies only. Then the computed timing difference means for the three classifications were grouped into various combinations of the twenty-seven conditions that were examined in this study. These groupings of the means resulted in four general sets of tables.

The first grouping of tables presents the twenty-seven conditions (see Table II) in a numerical order that corresponds to the order listed in the hypotheses. This grouping allows the reserves to vary while holding IDC and production constant. The second grouping of tables presents combinations of the twenty-seven conditions in which production and reserves were held constant and IDC was allowed to vary under the three assumptions of increasing IDC, constant IDC, and decreasing IDC. The third grouping of tables presents combinations of the twenty-seven conditions in a manner similar to the second grouping except that in this grouping, IDC and reserves were held constant and production was allowed to vary under the three pattern assumptions.

TABLE II

CONDITIONS BY NUMBER AND TYPE

Condition	Type
1	Increasing IDC-Increasing Production-Increasing Reserves
2	Increasing IDC-Increasing Production-Constant Reserves
3	Increasing IDC-Increasing Production-Decreasing Reserves
4	Increasing IDC-Constant Production-Increasing Reserves
5	Increasing IDC-Constant Production-Constant Reserves
6	Increasing IDC-Constant Production-Decreasing Reserves
7	Increasing IDC-Decreasing Production-Increasing Reserves
8	Increasing IDC-Decreasing Production-Constant Reserves
9	Increasing IDC-Decreasing Production-Decreasing Reserves
10	Constant IDC-Increasing Production-Increasing Reserves
11	Constant IDC-Increasing Production-Constant Reserves
12	Constant IDC-Increasing Production-Decreasing Reserves
13	Constant IDC-Constant Production-Increasing Reserves
14	Constant IDC-Constant Production-Constant Reserves
15	Constant IDC-Constant Production-Decreasing Reserves
16	Constant IDC-Decreasing Production-Increasing Reserves
17	Constant IDC-Decreasing Production-Constant Reserves
18	Constant IDC-Decreasing Production-Decreasing Reserves
19	Decreasing IDC-Increasing Production-Increasing Reserves
20	Decreasing IDC-Increasing Production-Constant Reserves
21	Decreasing IDC-Increasing Production-Decreasing Reserves
22	Decreasing IDC-Constant Production-Increasing Reserves
23	Decreasing IDC-Constant Production-Constant Reserves
24	Decreasing IDC-Constant Production-Decreasing Reserves
25	Decreasing IDC-Decreasing Production-Increasing Reserves
26	Decreasing IDC-Decreasing Production-Constant Reserves
27	Decreasing IDC-Decreasing Production-Decreasing Reserves

The last grouping of tables was done to allow examination of the timing difference means for the full costing firms and for the successful efforts firms.

Results of the First Grouping

The tables in this grouping were formatted so that the conditions were in sets of three. The reason for these sets is that it allows for one of the three variables to vary given the three pattern assumptions while the other two variables are held constant. For this grouping of tables, IDC and production are held constant while the estimated reserves vary under the assumptions of increasing, decreasing, and constant. Thus, for all of the first set of three conditions (Condition 1, Condition 2, and Condition 3), IDC and production are assumed to be increasing while the reserves are increasing (Condition 1), constant (Condition 2), and decreasing (Condition 3). Such groupings of three conditions allow for the observation of the effect of changing one of the variables. Table III, Table IV, and Table V present the overall results for the twenty-seven conditions for all 50 oil and gas companies. In addition, a histogram of the reversals for these first sets of tables can be seen in Figure 1.

Table III shows the timing difference means for the first nine conditions. All nine conditions exhibited a reasonably substantial number of reversals (reversals correspond to the means with the negative sign). The number of reversals for these conditions ranged from a high of 24 out of a possible 40 timing differences (60%--Conditions 1, 4, 5, and 6) to a low of 11 reversals (27.5%--Condition 7).

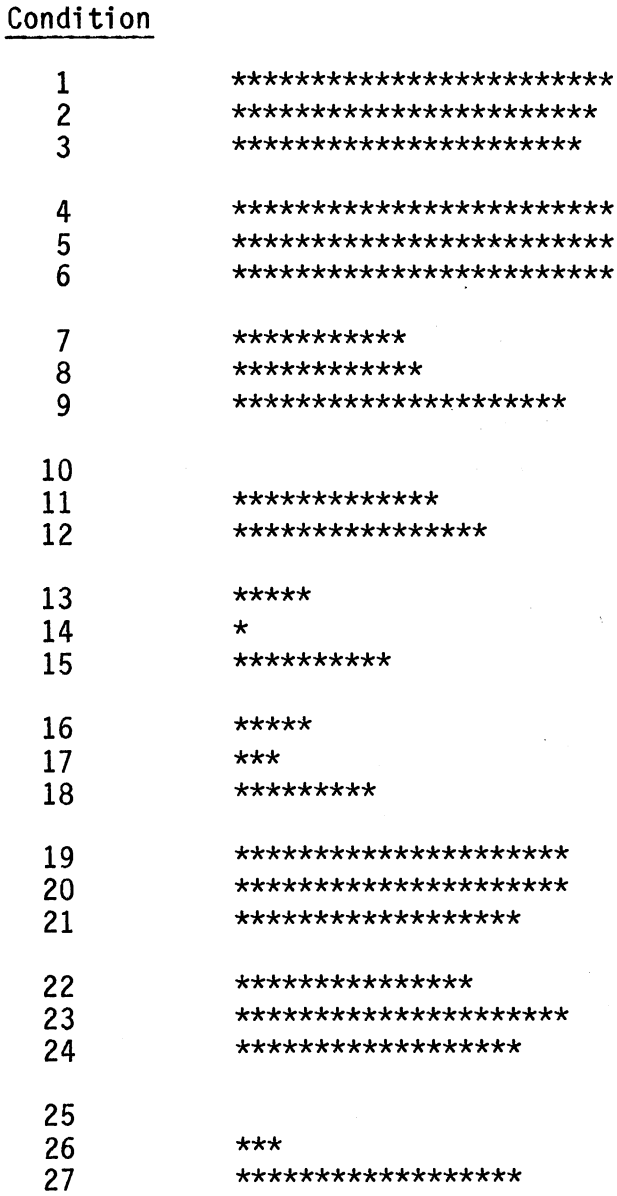

Figure 1. Reversal for All Companies

TABLE III

TIMING DIFFERENCE MEANS - ALL COMPANIES - INCREASING IDC

YEAR	COND 1— INC IDC INC PROD INC RES	COND 2— INC IDC INC PROD CON RES	COND 3— INC IDC INC PROD DEC RES	COND 4— INC IDC CON PROD INC RES	COND 5-- INC IDC CON PROD CON RES	COND 6-- INC IDC CON PROD DEC RES	COND 7— INC IDC DEC PROD INC RES	COND 8-- INC IDC DEC PROD CON RES	COND 9-- INC IDC DEC PROD DEC RES
1	78148.	78089.	78422.	78536.	78477.	78462.	79601.	78547.	78632.
2	90880.	89830.	86719.	91598.	90632.	87134.	94474.	93781.	91270.
3	40291.	40561.	35967.	40838.	41053.	36300.	44595.	44939.	41314.
4	12380.	18770.	14642.	6982.	13661.	9748.	9410.	15918.	12111.
5	-7949.	3375.	4552.	-20645.	-7268.	-5370.	-24363.	-10746.	-9017.
6	-18869.	-5266.	-2411.	-33107.	-18895.	-12734.	-41887.	-28578.	-21305.
7	-9675.	-4957.	-64329.	-16670.	-13571.	-64615.	13259.	15963.	-28976.
8	-4180.	-4077.	-55740.	-4671.	-8579.	-46593.	29093.	29094.	-23197.
9	53069.	41026.	51580.	62667.	52447.	62960.	65485.	59406.	60659.
10	82687.	63856.	80784.	95480.	81112.	88833.	101283.	92229.	87743.
11	16601.	6407.	20405.	32327.	22074.	27062.	37538.	30445.	32005.
12	-7893.	-7182.	1733.	-6455.	-7568.	-2402.	-4253.	-4627.	1428.
13	-23266.	-13166.	-7014.	-29083.	-18201.	-14002.	-38726.	-26683.	-18530.
14	-29888.	-14834.	-10152.	-46862.	-29486.	-21987.	-57805.	-38318.	-28466.
15	-16946.	-11460.	-78850.	-23128.	-19045.	-78170.	14294.	18985.	-40619.
16	-10372.	-10333.	-52972.	-6508.	-9661.	-49803.	33597.	33746.	-32361.
17	52667.	36922.	57109.	64392.	51401.	66820.	69006.	58729.	61599.
18	88606.	66659.	88928.	102933.	86591.	96862.	115138.	103896.	97542.
19	27391.	18564.	24049.	38877.	29373.	30981.	53591.	44837.	39069.
20	-4924.	-5990.	-6497.	-3080.	-6118.	-7050.	3641.	-1740.	-954.
21	-24750.	-16977.	-19381.	-31283.	-23768.	-24477.	-30916.	-24203.	-23820.
22	-34372.	-20537.	-16803.	-50718.	-36494.	-29152.	-56509.	-41678.	-35218.
23	-21650.	-17405.	-75660.	-26893.	-25310.	-79027.	16909.	20976.	-44457.
24	-10838.	-14650.	-43511.	-3236.	-9940.	-42997.	39371.	39461.	-37141.
25	52511.	31408.	60887.	72588.	55900.	73855.	79422.	66663.	67271.
26	98069.	74941.	99628.	115665.	94274.	105754.	130763.	116170.	106271.
27	26042.	17268.	13040.	42648.	30784.	26879.	59825.	46396.	37559.
28	-5576.	-5661.	-12992.	-3189.	-5166.	-7191.	14770.	5943.	4353.
29	-26437.	-21667.	-28831.	-33136.	-28566.	-31623.	-20991.	-20785.	-24173.
30	-40772.	-25724.	-27148.	-51795.	-35957.	-34064.	-50300.	-35227.	-35812.
31	-25384.	-20563.	-67234.	-28619.	-27098.	-79934.	22978.	25701.	-45723.
32	-11277.	-13093.	-32494.	-3853.	-9689.	-42412.	42990.	43170.	-40567.
33	59176.	38627.	72155.	81362.	62152.	81576.	93807.	80037.	72463.
34	106605.	87928.	108520.	131276.	107049.	116164.	147712.	130953.	117322.
35	38160.	25350.	16529.	54865.	35496.	31143.	76511.	60140.	46354.
36	-8052.	-11019.	-28668.	5483.	-1849.	-11375.	26403.	14755.	5327.
37	-31249.	-26270.	-42652.	-31573.	-29795.	-40803.	-9937.	-13553.	-25180.
38	-42512.	-32251.	-32214.	-52811.	-44098.	-42114.	-41631.	-34121.	-38356.
39	-25977.	-24967.	-58739.	-31191.	-30997.	-82861.	29904.	30072.	-53118.
40	-12233.	-20372.	-26318.	-3352.	-20095.	-39321.	48338.	48088.	-47598.

The dollar amounts in each of the nine conditions generally exhibited a pattern that was similar to the sine wave cycle that was imposed on the increasing IDC assumption. That is, the timing difference amounts for each 8-year cycle appear to be going up for two years, down for the next four years, and then up the last two years. While this pattern did not hold strictly in all conditions, it did hold for most of the cycles in each condition.

It should be noted that the reversals seem to begin during the downside of the sine wave cycle. In all nine conditions, the reversals usually began in Year 5 or Year 6 of the first 8-year cycle. Once the reversals began, there were clusterings of four or five years of reversals. Only as the pattern of expenditures began to move on the up side of the cycle were there breaks in the patterns of reversals. These breaks were usually three or four years in length before the reversals would begin again, corresponding to the down side of the cycle.

Within these first 3 sets of conditions each, the only variable that changed in each set was the estimated reserves. In fact, the IDC tax expenditure that was simulated for each year was the same for each of these nine conditions. Yet, a scan of these timing difference means shows substantial differences in the amortization rates across the conditions that were computed each year on the basis of units of production (production divided by estimated reserves). Within each set, the only number that could change the amortization rate would be the estimated reserve number. In examining these three sets of varying reserves, the three conditions of the first two sets have 22-24 reversals and exhibit similar patterns of positive and negative timing difference means. However, the number of reversals do not hold in the third set. The

first two conditions (Condition 7 and Condition 8) have substantially fewer reversals than the first six conditions with 11 reversals and 12 reversals, respectively. Yet, the third condition in that set (Condition 9) jumps up to 21 reversals, and is very similar in its patterns to the first six conditions. Still, only the reserve number has changed in Condition 9 from the numbers used to compute the timing difference means in Conditions 7 and 8.

Table IV shows the timing difference means for the second nine conditions (Conditions 10 through 18). This table reveals several differences from the results shown for the first nine conditions in Table III, and these differences are readily apparent in the histogram seen in Figure 1. First, these conditions have significantly fewer reversals. With the exception of Conditions 11 and 12, which had 13 reversals and 16 reversals, respectively, most of the conditions in this group had 10 or fewer reversals. In fact, Condition 10 had no reversals, Condition 14 had only one reversal occurring in Year 40, and Condition 17 had only three reversals. A further examination of the conditions that had few reversals reveals that the dollar amounts of the reversals were considerably smaller than the dollar amounts for the positive timing differences. Thus, the impact of any reversals would be minimal. Another aspect of these nine conditions that differs from the first nine conditions was the lack of the sine wave pattern that was prevalent in the first nine conditions. However, it should be noted that the lack of a pattern is not unexpected since no sine wave cycle was imposed in the constant IDC assumption. Rather, any cycles that occurred with the constant assumption were due to the randomness of the Monte Carlo simulation method and the normal distribution. The fact

TABLE IV

TIMING DIFFERENCE MEANS - ALL COMPANIES - CONSTANT IDC

YEAR	COND 10- CON IDC INC PROD INC RES	COND 11- CON IDC INC PROD CON RES	COND 12- CON IDC INC PROD DEC RES	COND 13- CON IDC CON PROD INC RES	COND 14- CON IDC CON PROD CON RES	COND 15- CON IDC CON PROD DEC RES	COND 16- CON IDC DEC PROD INC RES	COND 17- CON IDC DEC PROD CON RES	COND 18- CON IDC DEC PROD DEC RES
1	72891.	72745.	73255.	73376.	73262.	73298.	73549.	73481.	73557.
2	65821.	64768.	61970.	66595.	65636.	62420.	69386.	68693.	66327.
3	56707.	57074.	53352.	57159.	57433.	53538.	60178.	60461.	57464.
4	48002.	53377.	50165.	42825.	48930.	45477.	45102.	50960.	47652.
5	36566.	47963.	49104.	22866.	36837.	38727.	18219.	32578.	34452.
6	33350.	48904.	52203.	14811.	32294.	39397.	4362.	20626.	29232.
7	28689.	37280.	-46172.	15481.	24419.	-48340.	60247.	65092.	51.
8	21153.	24804.	-62140.	16830.	15611.	-54672.	74218.	74758.	-13564.
9	12722.	-3514.	-4120.	26442.	11640.	12790.	34623.	25529.	21854.
10	7734.	-18359.	-6095.	26276.	5627.	8220.	38449.	26082.	14303.
11	848.	-11827.	15921.	20061.	8203.	21835.	29857.	21280.	21489.
12	5208.	6169.	28600.	5845.	3839.	23748.	8736.	8728.	18802.
13	3688.	15573.	33512.	-2364.	9278.	24653.	-21451.	-5603.	13838.
14	10191.	28592.	41272.	-10706.	9574.	26461.	-33615.	-8572.	13171.
15	9004.	17037.	-65136.	274.	7600.	-66372.	54338.	59497.	-21026.
16	4385.	7326.	-58165.	9989.	9766.	-56178.	71715.	72060.	-24306.
17	6875.	-13877.	-5524.	23780.	5760.	11441.	32640.	18835.	17710.
18	7574.	-21327.	-3859.	27225.	5203.	8354.	44437.	30949.	17400.
19	2368.	-8405.	10309.	16081.	5062.	15256.	34304.	25333.	16428.
20	7894.	6823.	22368.	9458.	5513.	19168.	18053.	12294.	15176.
21	9429.	16444.	27550.	986.	7548.	21058.	-2233.	4092.	13610.
22	6754.	22319.	33941.	-11965.	3087.	19976.	-25414.	-8855.	8337.
23	9564.	15532.	-47108.	1622.	4509.	-53257.	57135.	60490.	-17190.
24	4575.	5108.	-46049.	12546.	8667.	-45349.	71894.	71993.	-26258.
25	1627.	-22915.	-14936.	26350.	6660.	10605.	38748.	22717.	18120.
26	9166.	-22304.	2132.	29459.	5493.	7716.	49078.	32998.	15825.
27	3472.	-9026.	5538.	22493.	9142.	13691.	40342.	27575.	15443.
28	8575.	10525.	21720.	13031.	8601.	21541.	30101.	21601.	21842.
29	7991.	16674.	22785.	965.	3947.	16237.	10359.	10075.	14596.
30	7596.	26506.	29641.	-5898.	11325.	20840.	-9094.	6577.	14337.
31	9498.	19130.	-34089.	3729.	7735.	-44718.	62583.	65027.	-11884.
32	7996.	10476.	-36371.	14505.	11688.	-42376.	72727.	72855.	-25820.
33	2523.	-24284.	-13990.	27779.	6290.	6545.	45334.	29613.	15367.
34	7121.	-23766.	655.	33513.	7919.	7048.	53389.	36585.	16064.
35	7041.	-6502.	5856.	25316.	6747.	12544.	46184.	31930.	15581.
36	3116.	7341.	12720.	17588.	9218.	17619.	36375.	26265.	19591.
37	12011.	23431.	22466.	8970.	10471.	18698.	27966.	24339.	20704.
38	9519.	22936.	25201.	-3670.	4817.	16819.	3375.	9242.	13688.
39	11031.	17162.	-26921.	5355.	5871.	-41298.	65927.	65780.	-18803.
40	6266.	-249.	-31251.	13842.	-1368.	-40052.	71093.	70759.	-30463.

that so few reversals did occur in most of the conditions where a cycle was not imposed and substantial reversals did occur in many of the conditions where the cycle was imposed is important since Livingstone (1967) had concluded in his study that the cycle pattern had no effect on the timing differences and reversals. Also, as time goes on, the differences in the dollar amounts of the timing differences and reversals become substantially greater much in the same way as the dollar amounts in the first nine conditions did. Finally, in examining the three sets of conditions in which the reserve balances were allowed to vary, some observations are worth noting. For example, in the first set of three (Conditions 10, 11, and 12), Condition 10 had no reversals but Conditions 11 and 12 had 13 reversals and 16 reversals, respectively. Yet, in each case, only the estimated reserve number changed. In the second set, Conditions 13 and 14 had only 5 reversals and 1 reversal, respectively, while Condition 15 shot up to 10 reversals. Again, the only number changed between the conditions was the estimated reserve number. A similar pattern emerges with the last set in that Conditions 16 and 17 had 5 reversals and 3 reversals, respectively, while Condition 18 jumped to 9 reversals.

Table V shows the timing difference means for the last nine conditions in which the IDC expenditures were simulated under the decreasing assumption. As with the first nine conditions, most of these last nine conditions exhibited a substantial number (15 to 21) of reversals. However, unlike the first nine conditions, Condition 25, like Condition 10, had no reversals, while Condition 26 had only 3 reversals.

The dollar amounts of the timing differences exhibit a pattern similar to the sine wave pattern that was imposed on the decreasing IDC

TABLE V

TIMING DIFFERENCE MEANS - ALL COMPANIES - DECREASING IDC

YEAR	COND 19- DEC IDC INC PROD INC RES	COND 20- DEC IDC INC PROD CON RES	COND 21- DEC IDC INC PROD DEC RES	COND 22- DEC IDC CON PROD INC RES	COND 23- DEC IDC CON PROD CON RES	COND 24- DEC IDC CON PROD DEC RES	COND 25- DEC IDC DEC PROD INC RES	COND 26- DEC IDC DEC PROD CON RES	COND 27- DEC IDC DEC PROD DEC RES
1	48192.	48089.	48468.	48474.	48399.	48476.	48604.	48565.	48602.
2	22450.	21712.	19941.	22926.	22262.	20155.	24752.	24271.	22589.
3	31019.	31215.	29237.	31213.	31340.	29242.	32692.	32780.	31180.
4	42194.	45670.	43341.	39612.	43076.	40967.	40672.	44021.	42064.
5	53512.	60888.	61591.	45960.	54576.	55685.	43103.	51927.	53106.
6	70117.	81510.	83788.	57771.	70076.	75019.	50878.	61977.	68040.
7	2998.	11592.	-52998.	-8875.	928.	-55881.	27940.	33416.	-17926.
8	-26788.	-22202.	-88321.	-31913.	-30466.	-85005.	14269.	15266.	-52025.
9	-2712.	-14698.	-19243.	6179.	-4864.	-8509.	11905.	5680.	778.
10	-17939.	-36439.	-28071.	-5205.	-20295.	-18275.	2464.	-5958.	-16124.
11	-15214.	-24176.	2103.	-3311.	-10893.	4156.	2132.	-3590.	-2378.
12	2536.	3186.	22843.	2926.	1188.	21164.	2538.	2563.	11822.
13	21264.	28324.	43606.	18961.	24778.	39201.	2393.	12581.	29705.
14	44175.	55167.	66480.	33405.	44997.	58623.	14266.	29809.	48821.
15	-7227.	-1506.	-49522.	-11977.	-6222.	-49968.	22692.	26494.	-21089.
16	-30744.	-27913.	-70526.	-27373.	-26294.	-70045.	11618.	11921.	-45417.
17	-1563.	-14229.	-14149.	7433.	-3438.	-4543.	12738.	5252.	911.
18	-13965.	-31719.	-21096.	-3145.	-16668.	-14830.	6495.	-1064.	-11455.
19	-7815.	-14028.	4846.	-441.	-6915.	5051.	8303.	3336.	-1224.
20	3367.	3150.	16184.	3730.	1710.	14568.	6487.	3537.	7599.
21	24470.	28255.	38287.	21195.	24265.	35391.	15488.	19746.	29007.
22	38350.	47353.	55691.	29290.	37081.	48902.	18472.	28274.	42439.
23	-7531.	-3081.	-38681.	-12512.	-10043.	-41179.	19952.	22096.	-19268.
24	-26739.	-24331.	-57811.	-23422.	-23341.	-57268.	10831.	10911.	-41237.
25	-2762.	-16416.	-17641.	8885.	-1236.	-2825.	15424.	7998.	2483.
26	-11447.	-28780.	-12286.	-1311.	-14552.	-12798.	8157.	390.	-10998.
27	-5918.	-11905.	4484.	3011.	-3340.	5278.	10939.	4821.	-759.
28	1793.	2682.	13568.	3689.	1631.	12848.	10248.	6253.	8635.
29	19213.	23690.	29001.	16610.	17584.	27327.	17369.	17822.	23888.
30	35196.	46162.	47318.	29338.	37277.	44054.	23866.	32894.	40881.
31	-10328.	-3947.	-32963.	-14061.	-11002.	-36848.	16580.	17966.	-18255.
32	-22611.	-20935.	-48039.	-20630.	-19936.	-49603.	8654.	8749.	-36294.
33	-4387.	-17457.	-16072.	6308.	-3148.	-6167.	13968.	7586.	-1234.
34	-11079.	-25576.	-8924.	177.	-11605.	-10308.	8507.	1704.	-9260.
35	-2801.	-7263.	6529.	4491.	-2559.	7293.	12678.	6803.	738.
36	2281.	4766.	11293.	7048.	4164.	12368.	13706.	9668.	9274.
37	16947.	23183.	23757.	15185.	16580.	23343.	20746.	19701.	21622.
38	30166.	37655.	37436.	25054.	28750.	35246.	24995.	28926.	34249.
39	-6602.	-3098.	-25223.	-9403.	-8470.	-29170.	17262.	17304.	-15669.
40	-18303.	-21475.	-39047.	-16317.	-20792.	-41554.	8093.	7978.	-31164.

assumption with the first 2 years decreasing, the next four years increasing, and the last two years decreasing, within each 8-year cycle. Again, as seen in Table III and in Table V, the cycle is on the down side of the sine wave when the reversals begin to appear while the positive timing differences coincide with the up side of the sine wave. Thus, clusterings of 4 to 5 reversals and 4 to 5 additions can be seen. It is also worth noting that the decreasing IDC had fewer reversals than the increasing IDC. This fact is different from what was expected given the results of the previous studies done on depreciation and the deferred method. Once again, it is interesting to examine the three sets of the conditions where the reserves were allowed to vary. The first two sets exhibited few differences except in the dollar size of the timing differences. However, the third set is similar to the third set in Table III in that Condition 25 and 26 in the set have few reversals (zero reversals and 3 reversals, respectively) while Condition 27 soared to 18 reversals. Again, the only difference in this three conditions was the variation of the reserve amount.

Table VI, Table VII, and Table VIII correspond in format to the first three tables except that the timing difference means are for the 25 full costing companies only instead of all 50 of the oil and gas companies used in this study. A histogram showing the reversals that corresponds to the results of these tables can be seen in Figure 2. Table IX, Table X, and Table XI also correspond to the format of the first three tables except these timing difference means are presented for the 25 successful efforts firms. A histogram showing the reversals for these 25 successful efforts firms can be seen in Figure 3. Since these six tables are simply subsets of the tables presented for

Condition	
1	************************
2	**********************
3	**********************
4	**********************
5	************************
6	************************
7	**********
8	**********
9	**********************
10	*******
11	**********
12	**********
13	**********
14	******
15	**********
16	*******
17	***
18	**********
19	**********
20	**********
21	**********
22	**********
23	**********
24	**********
25	**
26	***
27	**********

Figure 2. Reversals for Full Costing Companies

TABLE VI

TIMING DIFFERENCE MEANS - FULL COST - INCREASING IDC

YEAR	COND 1-- INC IDC INC PROD INC RES	COND 2-- INC IDC INC PROD CON RES	COND 3-- INC IDC INC PROD DEC RES	COND 4-- INC IDC CON PROD INC RES	COND 5-- INC IDC CON PROD CON RES	COND 6-- INC IDC CON PROD DEC RES	COND 7-- INC IDC DEC PROD INC RES	COND 8-- INC IDC DEC PROD CON RES	COND 9-- INC IDC DEC PROD DEC RES
1	82885.	82885.	82885.	82885.	82885.	82885.	82885.	82885.	82885.
2	90599.	89352.	85135.	91586.	90551.	85848.	94718.	93991.	90173.
3	36143.	35406.	30965.	37303.	36487.	31889.	41821.	41563.	38216.
4	5820.	15198.	7913.	1357.	10518.	3854.	3870.	13014.	6386.
5	-12573.	2178.	5187.	-26156.	-10407.	-6166.	-27254.	-11674.	-7331.
6	-27236.	-7232.	-3221.	-40299.	-21154.	-13514.	-49096.	-30760.	-21396.
7	-13233.	-8019.	-63669.	-22485.	-17708.	-65144.	10915.	15622.	-16808.
8	-8772.	-6959.	-49726.	-7022.	-10958.	-41348.	29033.	29162.	-20007.
9	55208.	40336.	52296.	66747.	53571.	66083.	68691.	60820.	55514.
10	78669.	54523.	74313.	94281.	76693.	83870.	97057.	85925.	72883.
11	20591.	4177.	18227.	32438.	17817.	22899.	33760.	23422.	23727.
12	-12496.	-8213.	-3656.	-7506.	-5473.	-6037.	-6963.	-5034.	-4513.
13	-26931.	-13712.	-9008.	-33082.	-19379.	-16070.	-39838.	-25747.	-19094.
14	-35869.	-16047.	-12748.	-53478.	-32426.	-25067.	-61514.	-38665.	-29586.
15	-23547.	-15085.	-74583.	-30814.	-23368.	-74291.	10227.	18833.	-25627.
16	-13393.	-10484.	-43751.	-12266.	-14828.	-41253.	33507.	33825.	-23055.
17	56035.	36459.	59417.	66554.	50237.	68796.	71241.	58928.	53989.
18	87592.	58992.	85924.	103291.	82250.	94688.	115832.	102494.	86135.
19	31139.	18144.	19246.	44275.	32008.	28626.	51251.	39837.	26935.
20	-6447.	-4102.	-8863.	-1015.	-1880.	-7913.	3540.	413.	-3865.
21	-30554.	-16764.	-25324.	-40600.	-25639.	-31098.	-38649.	-22891.	-27758.
22	-41994.	-20956.	-19467.	-59003.	-37646.	-33274.	-65131.	-41561.	-38088.
23	-28857.	-21519.	-69394.	-33957.	-30180.	-74944.	13527.	21674.	-27832.
24	-14696.	-18900.	-35023.	-7497.	-17213.	-35162.	39135.	39433.	-31244.
25	60117.	34403.	66730.	75001.	52827.	77319.	84032.	68696.	60370.
26	100892.	70351.	101744.	122537.	97412.	110444.	138836.	121521.	98508.
27	23404.	11145.	5039.	41705.	28693.	22359.	57386.	39340.	24203.
28	-7710.	-6434.	-22815.	-7120.	-6120.	-14587.	14623.	6410.	-2370.
29	-35410.	-23218.	-37968.	-45226.	-29825.	-39656.	-31064.	-20809.	-31009.
30	-50041.	-29327.	-29845.	-65598.	-40569.	-37934.	-64572.	-37148.	-37039.
31	-31665.	-24886.	-57221.	-32620.	-30833.	-74497.	21281.	27064.	-25220.
32	-15338.	-19067.	-29044.	-7852.	-18374.	-34317.	41911.	42321.	-33142.
33	69534.	48357.	82331.	86736.	63441.	90324.	101254.	86458.	67258.
34	116655.	92434.	115045.	142209.	114238.	123972.	158530.	139219.	111210.
35	36190.	16869.	5621.	51579.	28655.	21313.	74899.	54769.	30852.
36	-11768.	-13473.	-42626.	847.	-3000.	-20605.	28138.	18172.	139.
37	-42741.	-33526.	-56388.	-41680.	-32895.	-51003.	-15729.	-15842.	-34890.
38	-54598.	-36175.	-34475.	-68945.	-48403.	-47522.	-58001.	-34994.	-40916.
39	-34722.	-31013.	-46657.	-44044.	-38932.	-78250.	28843.	30734.	-35498.
40	-16984.	-22150.	-14434.	-4580.	-25105.	-25699.	48331.	48366.	-41057.

TABLE VII

TIMING DIFFERENCE MEANS - FULL COST - CONSTANT IDC

YEAR	COND 10- CON IDC INC PROD INC RES	COND 11- CON IDC INC PROD CON RES	COND 12- CON IDC INC PROD DEC RES	COND 13- CON IDC CON PROD INC RES	COND 14- CON IDC CON PROD CON RES	COND 15- CON IDC CON PROD DEC RES	COND 16- CON IDC DEC PROD INC RES	COND 17- CON IDC DEC PROD CON RES	COND 18- CON IDC DEC PROD DEC RES
1	70720.	70720.	70720.	70720.	70720.	70720.	70720.	70720.	70720.
2	63491.	62332.	58468.	64504.	63559.	59332.	67219.	66547.	63079.
3	50980.	50480.	47111.	51799.	51212.	47659.	55160.	54936.	52295.
4	40626.	48911.	42341.	36559.	44574.	38621.	38950.	46907.	40982.
5	31267.	45115.	48179.	17168.	32648.	37015.	15553.	31042.	35575.
6	20477.	42612.	47094.	4050.	26821.	35325.	-5660.	16101.	26604.
7	23799.	34263.	-39346.	9276.	21379.	-42627.	56564.	64509.	22022.
8	12000.	20618.	-52058.	11659.	13593.	-46719.	70872.	72043.	-3699.
9	12062.	-6401.	-9162.	27102.	10418.	10137.	34460.	25428.	12600.
10	8060.	-22835.	-10989.	29128.	5693.	5552.	38651.	24763.	-32.
11	2160.	-17834.	11246.	15734.	-1999.	14741.	23172.	11205.	6233.
12	-420.	3710.	23816.	5111.	6056.	20722.	6037.	9565.	9640.
13	-1767.	11863.	29661.	-8061.	4504.	21185.	-23135.	-6006.	9037.
14	1299.	24197.	35829.	-19191.	3359.	20738.	-39198.	-11801.	7236.
15	-48.	12462.	-54592.	-9934.	2209.	-57275.	47590.	56975.	-2170.
16	-2141.	6276.	-48332.	-1437.	1892.	-47188.	66453.	67157.	-12664.
17	10896.	-13797.	-6998.	23759.	2793.	8469.	31850.	15878.	7647.
18	4771.	-32223.	-9797.	26127.	-2352.	2769.	43320.	28060.	3085.
19	3024.	-13230.	6139.	19094.	4507.	13399.	29935.	18902.	252.
20	3615.	6066.	21445.	9535.	7650.	18242.	16444.	13852.	9268.
21	3256.	17023.	23399.	-7990.	4568.	16943.	-9192.	6602.	7624.
22	1128.	24306.	33984.	-17396.	4374.	18883.	-32179.	-6733.	5092.
23	2200.	12546.	-35888.	-6559.	170.	-43553.	52154.	59146.	470.
24	1812.	3595.	-36313.	8151.	3897.	-35414.	70296.	70680.	-17510.
25	8257.	-21639.	-16208.	24521.	29.	5043.	38304.	19692.	7681.
26	2427.	-39230.	+5753.	27314.	-813.	2159.	47249.	29156.	-1598.
27	-1047.	-17015.	3479.	22042.	6318.	13189.	37483.	21521.	1814.
28	7813.	13268.	19005.	12093.	10012.	20744.	33129.	26185.	17491.
29	1120.	19009.	19249.	-8402.	4050.	13099.	2397.	12701.	8950.
30	122.	26062.	28394.	-18365.	7318.	19292.	-22269.	5430.	12526.
31	1473.	14017.	-26944.	-4493.	2006.	-38819.	56372.	61549.	5860.
32	2890.	4143.	-31360.	6107.	2464.	-36846.	67478.	67786.	-18982.
33	5140.	-24232.	-17091.	21760.	-1957.	559.	41062.	24743.	970.
34	7601.	-31977.	1281.	34330.	5794.	5931.	52802.	34459.	1341.
35	1524.	-16267.	1775.	21297.	-1296.	7672.	41959.	25584.	-445.
36	-3027.	6328.	6849.	11834.	4199.	13265.	35530.	27784.	13126.
37	-398.	18353.	12702.	-3239.	3701.	10981.	19787.	18715.	8436.
38	2098.	24613.	24656.	-16530.	3232.	16758.	-10960.	9643.	11590.
39	4672.	15394.	-16815.	-6850.	2038.	-31501.	61187.	62710.	-279.
40	4214.	358.	-20974.	11475.	-116.	-27733.	67508.	67480.	-19274.

TABLE VIII

TIMING DIFFERENCE MEANS - FULL COST - DECREASING IDC

YEAR	COND 19- DEC IDC INC PROD INC RES	COND 20- DEC IDC INC PROD CON RES	COND 21- DEC IDC INC PROD DEC RES	COND 22- DEC IDC CON PROD INC RES	COND 23- DEC IDC CON PROD CON RES	COND 24- DEC IDC CON PROD DEC RES	COND 25- DEC IDC DEC PROD INC RES	COND 26- DEC IDC DEC PROD CON RES	COND 27- DEC IDC DEC PROD DEC RES
1	45092.	45092.	45092.	45092.	45092.	45092.	45092.	45092.	45092.
2	24187.	23266.	20733.	24857.	24103.	21232.	26533.	25993.	23491.
3	28093.	27835.	25835.	28388.	28063.	25923.	30031.	29858.	28231.
4	37265.	42306.	38143.	35271.	39935.	36299.	36381.	41086.	37397.
5	46242.	55748.	57647.	38649.	48655.	51276.	37678.	47560.	50285.
6	61743.	78336.	81521.	51150.	67271.	73456.	44814.	59491.	67133.
7	963.	12697.	-43739.	-11332.	2039.	-48201.	26791.	36091.	3290.
8	-31594.	-21965.	-78077.	-33989.	-28803.	-76799.	14052.	16069.	-39423.
9	-1943.	-16615.	-24297.	7378.	-5620.	-12283.	12393.	6028.	-5154.
10	-16230.	-38790.	-31476.	-2308.	-19726.	-20417.	4239.	-5318.	-25943.
11	-11956.	-26530.	185.	-4234.	-16435.	2433.	1072.	-6822.	-10691.
12	-1999.	-541.	18907.	1149.	141.	18168.	-573.	1495.	3586.
13	13446.	21907.	36960.	11157.	17366.	32654.	-4240.	6944.	19194.
14	33804.	47779.	58139.	24123.	36929.	50055.	4742.	21525.	37953.
15	-9496.	-485.	-39708.	-15081.	-5804.	-41073.	20173.	26994.	-7414.
16	-30358.	-24160.	-60286.	-31094.	-27103.	-60420.	11585.	12157.	-32050.
17	155.	-15725.	-16192.	6517.	-6631.	-7814.	11358.	2701.	-5964.
18	-12503.	-35267.	-21101.	-903.	-18462.	-15102.	8628.	-8.	-16795.
19	-7527.	-17545.	3197.	1445.	-7620.	5312.	6740.	718.	-9272.
20	1943.	3237.	16388.	4243.	2526.	14402.	6096.	4863.	4363.
21	15604.	23097.	29597.	10668.	16984.	27132.	4627.	14384.	18284.
22	29061.	42059.	47824.	19938.	31579.	40618.	6867.	21967.	32499.
23	-8099.	-1951.	-29813.	-14429.	-9440.	-32915.	17828.	22195.	-7661.
24	-25658.	-22885.	-49541.	-23962.	-23648.	-48634.	10509.	10765.	-31443.
25	224.	-15719.	-17435.	7276.	-5414.	-6641.	13928.	5668.	-3324.
26	-11211.	-33882.	-12402.	608.	-14826.	-11238.	9812.	1369.	-17395.
27	-8071.	-15921.	3667.	2990.	-5024.	5496.	9365.	1874.	-7326.
28	1616.	4698.	12002.	3260.	2179.	12343.	11335.	8286.	6020.
29	13783.	23755.	23987.	10572.	15917.	23213.	10585.	16766.	17705.
30	25776.	39820.	39653.	17485.	30309.	36256.	10022.	25758.	32690.
31	-8727.	-2482.	-24365.	-13307.	-8597.	-28563.	16093.	19072.	-5618.
32	-20968.	-20348.	-41255.	-21512.	-20891.	-42515.	8309.	8496.	-27428.
33	-987.	-14913.	-14670.	6101.	-4368.	-6659.	13996.	7584.	-5478.
34	-9316.	-28156.	-8154.	1863.	-11549.	-9056.	9312.	2093.	-14830.
35	-5431.	-11472.	4307.	3156.	-6197.	4903.	10997.	4393.	-5572.
36	1939.	7202.	10114.	6309.	3234.	12204.	14697.	11799.	8070.
37	10485.	19990.	17520.	8664.	12335.	17718.	14816.	15530.	13883.
38	23098.	33052.	32315.	15520.	24904.	29808.	13722.	24996.	28127.
39	-6266.	-1601.	-18853.	-12383.	-6430.	-22640.	17117.	17965.	-7237.
40	-17027.	-19735.	-33200.	-16323.	-19137.	-35343.	7723.	7742.	-24632.

all 50 companies, most of the observations noted previously still hold. The full costing firms in Table VI have the number of reversals occurring in a range of a high of 24 reversals (Conditions 5 and 6) to a low of 11 reversals (Conditions 7 and 8). These numbers correspond very closely to the number of reversals for all 50 companies in Table III. Similarly, the successful efforts firms in Table IX had reversals ranging from a high of 24 reversals (Condition 5) to a low of 11 reversals (Condition 7). While the number of reversals in Tables VI and IX do not correspond exactly to Table III, there is little difference. Both the full costing firms' means and successful efforts firms' means exhibit the sine wave pattern imposed during the simulation.

In comparing the results of Table VII and Table X to the results for all companies in Table IV, there would appear to be discrepancies. For example, Condition 10 in Table IV had no reversals. Yet, Condition 10 in Table VII had seven reversals while Condition 10 in Table X had 3 reversals. Conversely, Condition 11 had 12 reversals in Table VII and X, yet, had 13 reversals in Table IV. Other such differences can be observed. However, a closer inspection of when the timing differences are positive or negative in the three tables indicates that a discrepancy does not exist. The reason that Condition 10 in Table IV has no reversals when Condition 10 for the full costing firms and for the successful efforts firms have reversals is that in the year a full costing mean is a reversal, the successful efforts mean is not, and vice-versa. Also, the mean that is positive is of sufficient size to offset the reversal of the other grouping. For the most part, the observations noted for Table

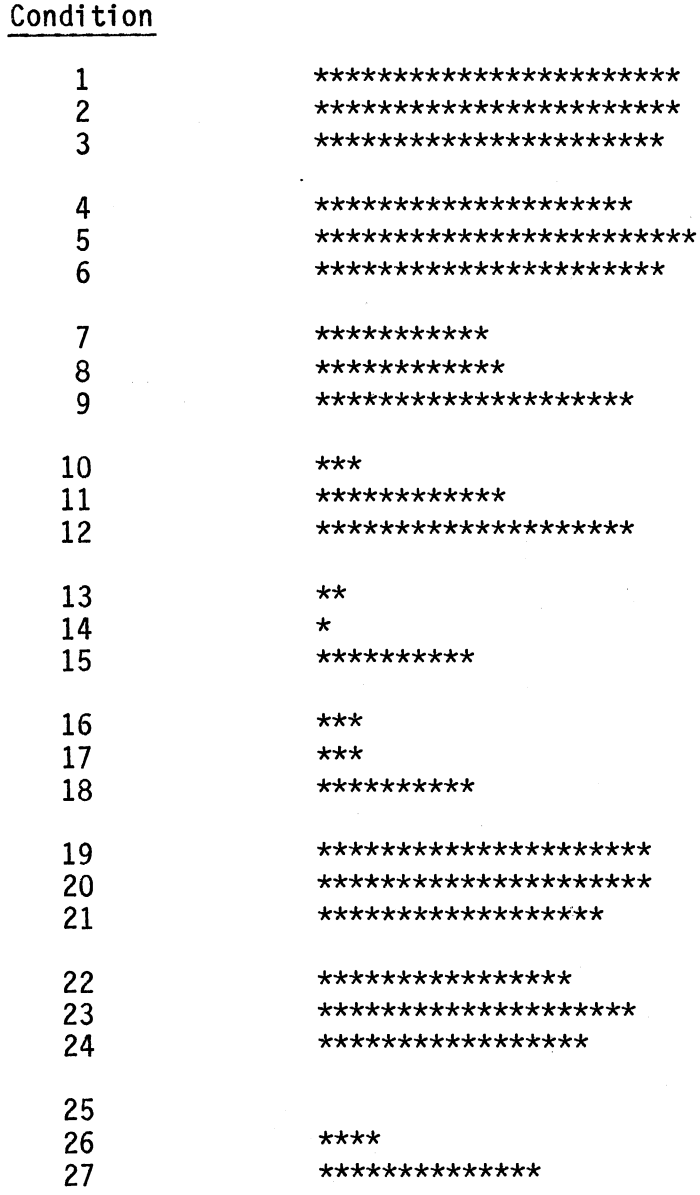

Figure 3. Reversals for Successful Efforts Companies

TABLE IX

TIMING DIFFERENCE MEANS - SUCC. EFFORTS - INCREASING IDC

YEAR	COND 1-- INC IDC INC PROD INC RES	COND 2-- INC IDC INC PROD CON RES	COND 3-- INC IDC INC PROD DEC RES	COND 4-- INC IDC CON PROD INC RES	COND 5-- INC IDC CON PROD CON RES	COND 6-- INC IDC CON PROD DEC RES	COND 7-- INC IDC DEC PROD INC RES	COND 8-- INC IDC DEC PROD CON RES	COND 9-- INC IDC DEC PROD DEC RES
1	73411.	73294.	73960.	74188.	74069.	74039.	74317.	74209.	74390.
2	91161.	90309.	88302.	91610.	90713.	88420.	94229.	93592.	92367.
3	44439.	45714.	40969.	44373.	45618.	40711.	47370.	48316.	44412.
4	18939.	22341.	21370.	12607.	16804.	15642.	14951.	18821.	17835.
5	-3324.	4572.	3918.	-15135.	-4129.	-4574.	-21472.	-9817.	-10704.
6	-10501.	-3301.	-1602.	-25915.	-16635.	-11954.	-34678.	-26397.	-21213.
7	-6116.	-1895.	-64989.	-10855.	-9434.	-64087.	15602.	16304.	-41144.
8	413.	-1195.	-61755.	-2320.	-6199.	-51838.	29153.	29026.	-26387.
9	50930.	41717.	50865.	58588.	51324.	59836.	62279.	55992.	65805.
10	86704.	73183.	87254.	96679.	85531.	93795.	105510.	98532.	102603.
11	13011.	8637.	22583.	32216.	26331.	31225.	41316.	37468.	40284.
12	-3290.	-6151.	7123.	-5404.	-9663.	1234.	-1543.	-4220.	7369.
13	-19601.	-12620.	-5020.	-25084.	-17023.	-11933.	-37615.	-27620.	-17967.
14	-23908.	-13622.	-7557.	-40247.	-26547.	-18907.	-54097.	-37970.	-27346.
15	-10345.	-7836.	-83118.	-15443.	-14722.	-82049.	18361.	19137.	-55612.
16	-7351.	-10182.	-62192.	-750.	-4493.	-58354.	33688.	33668.	-41667.
17	49300.	37385.	54801.	62230.	52566.	64845.	66770.	58531.	69208.
18	89625.	74336.	91933.	102576.	90933.	99035.	114444.	105298.	108949.
19	23643.	18985.	28853.	33479.	26738.	33336.	55930.	49837.	51204.
20	-3401.	-7879.	-4130.	-5146.	-10355.	-6187.	3741.	-3892.	1957.
21	-18958.	-17189.	-13438.	-21967.	-21897.	-17855.	-23184.	-25516.	-19882.
22	-26751.	-20118.	-14140.	-42434.	-35342.	-25031.	-47887.	-41795.	-32349.
23	-14444.	-13292.	-81926.	-19830.	-20441.	-83110.	20291.	20277.	-61093.
24	-6979.	-10400.	-52000.	925.	-2668.	-50832.	39607.	39489.	-43038.
25	44926.	28413.	55044.	70176.	58974.	70390.	74812.	64631.	74173.
26	95247.	79530.	97512.	108792.	91136.	101064.	122691.	110820.	114034.
27	28681.	23390.	21040.	43591.	32875.	31400.	62264.	53452.	50914.
28	-3442.	-4888.	-3170.	741.	-4212.	205.	14918.	5476.	11076.
29	-17457.	-20116.	-19695.	-21046.	-27307.	-23590.	-10919.	-20762.	-17337.
30	-30704.	-22121.	-24452.	-37973.	-31346.	-30195.	-36028.	-33306.	-34587.
31	-19103.	-16240.	-77248.	-24618.	-23364.	-85371.	24675.	24340.	-66227.
32	-7215.	-7119.	-41943.	146.	-1004.	-50507.	44068.	44020.	-47992.
33	48817.	28596.	61980.	75987.	60862.	72827.	86360.	73617.	77668.
34	96556.	83423.	101995.	120343.	99861.	108356.	136895.	122688.	123433.
35	40132.	33832.	27437.	58150.	42338.	40973.	78124.	65510.	61855.
36	-4336.	-8565.	-14711.	10120.	-698.	-2146.	24669.	11337.	10515.
37	-19758.	-19015.	-28916.	-21466.	-26706.	-30604.	-4146.	-11264.	-15471.
38	-30426.	-28328.	-29953.	-36578.	-39793.	-36707.	-25261.	-33247.	-35797.
39	-17232.	-18921.	-70822.	-18338.	-23063.	-87471.	30965.	29410.	-70737.
40	-7482.	-18594.	-38202.	-2124.	-15084.	-52943.	48345.	47810.	-54138.

TABLE X

TIMING DIFFERENCE MEANS - SUCC. EFFORTS - CONSTANT IDC

YEAR	COND 10- CON IDC INC PROD INC RES	COND 11- CON IDC INC PROD CON RES	COND 12- CON IDC INC PROD DEC RES	COND 13- CON IDC CON PROD INC RES	COND 14- CON IDC CON PROD CON RES	COND 15- CON IDC CON PROD DEC RES	COND 16- CON IDC DEC PROD INC RES	COND 17- CON IDC DEC PROD CON RES	COND 18- CON IDC DEC PROD DEC RES
1	75062.	74770.	75789.	76031.	75803.	75875.	76377.	76243.	76394.
2	68150.	67205.	65472.	68685.	67712.	65508.	71553.	70839.	69575.
3	62435.	63669.	59594.	62519.	63653.	59418.	65196.	65987.	62634.
4	55377.	58543.	57989.	49091.	53287.	52333.	51254.	55012.	54322.
5	41865.	50811.	50029.	28563.	41027.	40440.	20886.	34114.	33329.
6	46223.	55195.	57312.	25572.	37767.	43470.	14383.	25152.	31860.
7	33580.	40297.	-52998.	21685.	27459.	-54052.	63930.	65676.	-21920.
8	30307.	28999.	-72222.	22001.	17629.	-62625.	77564.	77473.	-23428.
9	13382.	-627.	922.	25782.	12862.	15442.	34786.	25630.	31108.
10	7407.	-13882.	-1200.	23424.	5561.	10887.	38247.	27403.	28637.
11	-464.	-5819.	20597.	24387.	18404.	28929.	36543.	31354.	36744.
12	10836.	8629.	33384.	6579.	1622.	26775.	11435.	7892.	27964.
13	9144.	19282.	37363.	3334.	14052.	28122.	-19768.	-5201.	18639.
14	19083.	32983.	46716.	-2220.	15789.	32185.	-28032.	-5342.	19107.
15	18055.	21612.	-75681.	10481.	12991.	-75469.	61086.	62020.	-39883.
16	10911.	8376.	-67997.	21415.	17640.	-65167.	76978.	76964.	-35949.
17	2855.	-13958.	-4051.	23801.	8727.	14413.	33430.	21791.	27773.
18	10377.	-10431.	2079.	28324.	12758.	13939.	45554.	33840.	31716.
19	1712.	-3580.	14479.	13068.	5617.	17113.	38674.	31764.	32603.
20	12173.	7579.	23291.	9380.	3376.	20094.	19662.	10735.	21034.
21	13602.	15265.	31702.	9961.	10527.	25174.	4726.	1583.	19596.
22	12380.	20333.	33898.	-6534.	1800.	21069.	-18651.	-10977.	11583.
23	16927.	19518.	-58328.	9803.	8849.	-62961.	62115.	61834.	-34849.
24	7338.	6620.	-55785.	16940.	13437.	-55285.	73493.	73307.	-35036.
25	-5004.	-24192.	-13663.	29180.	13291.	16167.	39192.	25743.	28559.
26	15905.	-5378.	10016.	31605.	11799.	13273.	50908.	36841.	33247.
27	7991.	-1037.	7598.	22943.	11965.	14193.	43202.	33629.	29071.
28	9337.	7783.	24435.	13969.	7190.	22338.	27073.	17017.	26192.
29	14363.	14339.	26320.	10333.	3843.	19374.	18320.	7449.	20242.
30	15071.	26951.	30889.	6569.	15332.	22387.	4080.	7723.	16148.
31	17523.	24243.	-41234.	11950.	13464.	-50618.	68795.	68506.	-29628.
32	13102.	16809.	-41383.	22902.	20913.	-47907.	77976.	77924.	-32657.
33	-93.	-24337.	-10889.	33798.	14538.	12532.	49606.	34483.	29764.
34	6642.	-15555.	28.	32697.	10043.	8165.	53975.	39712.	30788.
35	12558.	3263.	9937.	29336.	14790.	17416.	50410.	39276.	31607.
36	9259.	8354.	18591.	23343.	14238.	21973.	37220.	24747.	26056.
37	24421.	28509.	32231.	21179.	17240.	26415.	37145.	29964.	32973.
38	16941.	21258.	25745.	9170.	6401.	16880.	17709.	8841.	15795.
39	17399.	18931.	-37027.	17560.	9703.	-51096.	70667.	68849.	-37327.
40	8318.	-855.	-41529.	16209.	-2619.	-52370.	74677.	74039.	-41652.

TABLE XI

TIMING DIFFERENCE MEANS - SUCC. EFFORTS - DECREASING IDC

YEAR	COND 19- DEC IDC INC PROD INC RES	COND 20- DEC IDC INC PROD CON RES	COND 21- DEC IDC INC PROD DEC RES	COND 22- DEC IDC CON PROD INC RES	COND 23- DEC IDC CON PROD CON RES	COND 24- DEC IDC CON PROD DEC RES	COND 25- DEC IDC DEC PROD INC RES	COND 26- DEC IDC DEC PROD CON RES	COND 27- DEC IDC DEC PROD DEC RES
1	51291.	51085.	51844.	51856.	51706.	51860.	52115.	52038.	52111.
2	20714.	20158.	19149.	20996.	20422.	19077.	22971.	22549.	21688.
3	33940.	34595.	32639.	34039.	34617.	32562.	35353.	35702.	34130.
4	47124.	49035.	48538.	43953.	46217.	45635.	44963.	46957.	46732.
5	60782.	66028.	65535.	53271.	60497.	60095.	48527.	56293.	55928.
6	78491.	84694.	86056.	64394.	72881.	76583.	56941.	64462.	68948.
7	5033.	10487.	-62258.	-6417.	-182.	-63562.	29089.	30741.	-39143.
8	-21982.	-22438.	-98566.	-29836.	-32129.	-93211.	14486.	14463.	-64627.
9	-3482.	-12781.	-14189.	4980.	-4108.	-4736.	11417.	5332.	6710.
10	-19648.	-34093.	-24667.	-8102.	-20863.	-16132.	689.	-6598.	-6306.
11	-18471.	-21622.	4021.	-2387.	-5350.	5878.	3192.	-358.	5935.
12	7070.	6913.	26778.	4703.	2235.	24159.	5648.	3631.	20058.
13	29081.	34742.	50253.	26766.	32190.	45748.	9026.	18219.	40217.
14	54546.	62556.	74822.	42687.	53065.	67192.	23790.	38094.	59689.
15	-4953.	-2526.	-59337.	-8873.	-5639.	-58863.	25211.	25995.	-34765.
16	-31130.	-31666.	-80766.	-23652.	-25484.	-79669.	11651.	11685.	-58733.
17	-3280.	-12733.	-12106.	8349.	-246.	-1272.	14117.	7803.	7786.
18	-15427.	-28170.	-21091.	-5386.	-14875.	-14557.	4363.	-2119.	-6114.
19	-8103.	-10210.	6496.	-2327.	-6210.	4790.	9866.	5954.	6824.
20	4791.	3063.	15980.	3217.	894.	14734.	6878.	2211.	10635.
21	33336.	33423.	46977.	31722.	31546.	43651.	26349.	25109.	39731.
22	48639.	52649.	63559.	38643.	42582.	57187.	30076.	34580.	52380.
23	-6163.	-4212.	-47549.	-10595.	-10646.	-49443.	22076.	21997.	-30874.
24	-27820.	-25776.	-66081.	-22882.	-23034.	-65902.	11152.	11057.	-51032.
25	-5749.	-17112.	-17847.	10495.	2942.	991.	16919.	10327.	8290.
26	-11682.	-23678.	-12171.	-3230.	-14277.	-14357.	6502.	-589.	-4601.
27	-3766.	-7892.	5302.	3033.	-1657.	5060.	12513.	7768.	5809.
28	1970.	667.	15134.	4119.	1083.	13354.	9162.	4219.	11250.
29	24043.	23626.	34015.	22649.	19251.	31441.	24152.	18877.	30071.
30	44614.	52505.	54983.	41192.	44245.	51852.	37710.	40021.	49072.
31	-11929.	-5412.	-41562.	-14816.	-13407.	-45134.	17067.	16861.	-30891.
32	-24254.	-21521.	-54823.	-19749.	-18980.	-56691.	9000.	9003.	-45140.
33	-7786.	-20002.	-17474.	6515.	-1929.	-5676.	13939.	7589.	3009.
34	-12642.	-22997.	-9694.	-1510.	-11662.	-11561.	7702.	1315.	-3691.
35	-171.	-3054.	8751.	5827.	1069.	9684.	14359.	9212.	7049.
36	2622.	2331.	12473.	7787.	5093.	12531.	12715.	7536.	10477.
37	23409.	26375.	29995.	21705.	20825.	28968.	26675.	23872.	29362.
38	37234.	41659.	42557.	34588.	32596.	40685.	36269.	32856.	40372.
39	-5938.	-4590.	-31593.	-6423.	-10509.	-35700.	17406.	16642.	-24100.
40	-18779.	-23215.	-44895.	-16310.	-22446.	-47764.	8462.	8213.	-37697.

IV holds for both Table VII and Table X. Similarly, the observations noted for Table V also holds for Table VIII and Table XI, and the number of reversals for the respective conditions corresponds very closely.

Results for the Second Grouping

The tables for this second grouping were formatted similarly to the first grouping. Within this grouping, production and reserves were held constant while IDC was allowed to vary under the three pattern assumptions. Therefore, the first set shows a cluster of Condition 1, Condition 10, and Condition 22. Table XII, Table XIII, and Table XIV show the timing difference means for all companies. In addition, a histogram that shows the reversals that corresponds to the clustering of conditions for these tables can be seen in Figure 4.

These tables would hold production and reserves constant while IDC was allowed to vary under the three assumptions of increasing, constant, and decreasing. In examining Table XII, several aspects of this clustering are worth noting. The conditions that correspond to either the increasing IDC or decreasing IDC have few differences in the number of reversals. Yet, when these two assumptions are compared to the constant IDC means, there is a substantial drop in the number of reversals. One exception was Condition 12, whose 16 reversals was comparable to the 22 reversals for Condition 3 and the 18 reversals for Condition 21. Another aspect worth noting was the substantial differences in the dollar amounts of the means in each set. This difference would indicate that the pattern of IDC expenditures does affect the size of the positive and negative timing differences.

Condition	
1	**********
10	
19	**********
2	**********
11	**********
20	**********
3	**********
12	**********
21	**********
4	**********
13	*****
22	**********
5	**********
14	*
23	**********
6	**********
15	**********
24	**********
7	**********
16	*****
25	
8	**********
17	***
26	***
9	**********
18	*********
27	**********

Figure 4. Reversals for All Companies-Varying IDC

TABLE XII

TIMING DIFFERENCE MEANS - ALL COMPANIES - VARYING IDC

YEAR	COND 1-- INC IDC INC PROD INC RES	COND 10- CON IDC INC PROD INC RES	COND 19- DEC IDC INC PROD INC RES	COND 2-- INC IDC INC PROD CON RES	COND 11- CON IDC INC PROD CON RES	COND 20- DEC IDC INC PROD CON RES	COND 3-- INC IDC INC PROD DEC RES	COND 12- CON IDC INC PROD DEC RES	COND 21- DEC IDC INC PROD DEC RES
1	78148.	72891.	48192.	78089.	72745.	48089.	78422.	73255.	48468.
2	90880.	65821.	22450.	89830.	64768.	21712.	86719.	61970.	19941.
3	40291.	56707.	31019.	40561.	57074.	31215.	35967.	53352.	29237.
4	12380.	48002.	42194.	18770.	53877.	45670.	14642.	50165.	43341.
5	-7949.	36566.	53512.	3375.	47963.	60888.	4552.	49104.	61591.
6	-18869.	33350.	70117.	-5266.	48904.	81510.	-2411.	52203.	83788.
7	-9675.	28689.	2998.	-4957.	37280.	11592.	-64329.	-46172.	-52998.
8	-4180.	21153.	-26788.	-4077.	24804.	-22202.	-55740.	-62140.	-88321.
9	53069.	12722.	-2712.	41026.	-3514.	-14698.	51580.	-4120.	-19243.
10	82687.	7734.	-17939.	63856.	-18359.	-36439.	80784.	-6095.	-28071.
11	16801.	345.	-15214.	6407.	-11827.	-24176.	20405.	15921.	2103.
12	-7893.	5208.	2536.	-7182.	6169.	3186.	1733.	28600.	22843.
13	-23266.	3688.	21264.	-13166.	15573.	28324.	-7014.	33512.	43606.
14	-29888.	10191.	44175.	-14834.	28592.	55167.	-10152.	41272.	66480.
15	-16946.	9004.	-7227.	-11460.	17037.	-1506.	-78850.	-65136.	-49522.
16	-10372.	4585.	-30744.	-10333.	7326.	-27913.	-52972.	-58165.	-70526.
17	52667.	6875.	-1563.	36922.	-13877.	-14229.	57109.	-5524.	-14149.
18	88608.	7574.	-13965.	66659.	-21327.	-31719.	88928.	-3859.	-21096.
19	27391.	2368.	-7815.	18564.	-8405.	-14028.	24049.	10309.	4846.
20	-4924.	7894.	3367.	-5990.	6823.	3150.	-6497.	22368.	16184.
21	-24756.	3429.	24470.	-16977.	16444.	28255.	-19381.	27550.	38287.
22	-34372.	6754.	38350.	-20537.	22319.	47353.	-16803.	33941.	55691.
23	-21650.	9564.	-7531.	-17405.	15532.	-3081.	-75660.	-47108.	-38691.
24	-10838.	4575.	-26739.	-14650.	5108.	-24331.	-43511.	-46049.	-57811.
25	52511.	1627.	-2762.	31408.	-22915.	-16416.	60887.	-14936.	-17641.
26	98069.	9166.	-11447.	74941.	-22304.	-28780.	99628.	2132.	-12286.
27	26042.	3472.	-5918.	17268.	-9026.	-11906.	13040.	5538.	4484.
28	-5576.	8575.	1793.	-5661.	10525.	2682.	-12992.	21720.	13568.
29	-26437.	7991.	19213.	-21667.	16674.	23690.	-28831.	22785.	29001.
30	-40772.	7596.	35196.	-25724.	26506.	46162.	-27148.	29641.	47318.
31	-25384.	9493.	-10328.	-20563.	19130.	-3947.	-67234.	-34089.	-32963.
32	-11277.	7996.	-22611.	-13093.	10476.	-20935.	-32494.	-36371.	-48039.
33	59176.	2523.	-4387.	38627.	-24284.	-17457.	72155.	-13990.	-16072.
34	106605.	7121.	-11079.	87928.	-23766.	-25576.	108520.	655.	-8924.
35	38160.	7041.	-2801.	25350.	-6502.	-7263.	16529.	5856.	6529.
36	-8052.	3116.	2281.	-11019.	7341.	4766.	-28668.	12720.	11293.
37	-31249.	12011.	16947.	-26270.	23431.	23183.	-42652.	22466.	23757.
38	-42512.	9519.	30166.	-32251.	22936.	37655.	-32214.	25201.	37436.
39	-25977.	11031.	-6602.	-24967.	17162.	-3098.	-58739.	-26921.	-25223.
40	-12233.	6266.	-18303.	-20372.	-249.	-21475.	-26318.	-31251.	-39047.

TABLE XIII

TIMING DIFFERENCE MEANS - ALL COMPANIES - VARYING IDC

YEAR	COND 4-- INC IDC CON PROD INC RES	COND 13- CON IDC CON PROD INC RES	COND 22- DEC IDC CON PROD INC RES	COND 5-- INC IDC CON PROD CON RES	COND 14- CON IDC CON PROD CON RES	COND 23- DEC IDC CON PROD CON RES	COND 6-- INC IDC CON PROD DEC RES	COND 15- CON IDC CON PROD DEC RES	COND 24- DEC IDC CON PROD DEC RES
1	78536.	73376.	48474.	78477.	73262.	48399.	78462.	73298.	48476.
2	91598.	66595.	22926.	90632.	65636.	22262.	87134.	62420.	20155.
3	40838.	57159.	31213.	41053.	57433.	31340.	36300.	53538.	29242.
4	6982.	42825.	39612.	13661.	48930.	43076.	9748.	45477.	40667.
5	-20645.	22866.	45960.	-7268.	36837.	54576.	-5370.	38727.	55685.
6	-33107.	14811.	57771.	-18895.	32294.	70076.	-12734.	39397.	75019.
7	-16670.	15481.	-8875.	-13571.	24419.	928.	-64615.	-48340.	-55881.
8	-4671.	16830.	-31913.	-8579.	15611.	-30466.	-46593.	-54672.	-85005.
9	62667.	26442.	6179.	52447.	11640.	-4864.	62960.	12790.	-8509.
10	95480.	26276.	-5205.	81112.	5627.	-20295.	88833.	8220.	-18275.
11	32327.	20061.	-3311.	22074.	8203.	-10893.	27062.	21935.	4156.
12	-6455.	5845.	2926.	-7568.	3839.	1188.	-2402.	23748.	21164.
13	-29083.	-2564.	18961.	-19201.	9278.	24778.	-14002.	24653.	39201.
14	-46562.	-10706.	33405.	-29486.	9574.	44997.	-21987.	26461.	58623.
15	-23128.	274.	-11977.	-19045.	7600.	-6222.	-78170.	-66372.	-49968.
16	-6506.	9989.	-27373.	-9661.	9766.	-26294.	-49803.	-56178.	-70045.
17	64392.	23780.	7433.	51401.	5760.	-3438.	66820.	11441.	-4543.
18	102933.	27225.	-3145.	86591.	5203.	-16668.	96862.	8354.	-14830.
19	38877.	16081.	-441.	29373.	5062.	-6915.	30981.	15256.	5051.
20	-3080.	9455.	3730.	-6118.	5513.	1710.	-7050.	19168.	14568.
21	-31283.	986.	21195.	-23768.	7548.	24265.	-24477.	21058.	35391.
22	-50718.	-11965.	29290.	-36494.	3087.	37081.	-29152.	19976.	48902.
23	-26093.	1622.	-12512.	-25310.	4509.	-10043.	-79027.	-53257.	-41179.
24	-32886.	12546.	-23422.	-9940.	8667.	-23341.	-42997.	-45349.	-57268.
25	72588.	26350.	8885.	55900.	6660.	-1236.	73855.	10605.	-2825.
26	115665.	29459.	-1311.	94274.	5493.	-14552.	105754.	7716.	-12798.
27	42648.	22493.	3011.	30784.	9142.	-3340.	26879.	13691.	5278.
28	-3189.	13031.	3689.	-5166.	8601.	1631.	-7191.	21541.	12848.
29	-33136.	965.	16610.	-28566.	3947.	17584.	-31623.	16237.	27327.
30	-51785.	-5898.	29338.	-35957.	11325.	37277.	-34064.	20840.	44054.
31	-28619.	3729.	-14061.	-27098.	7735.	-11002.	-79934.	-44718.	-36848.
32	-3653.	14505.	-20630.	-9699.	11688.	-19936.	-42412.	-42376.	-49603.
33	81362.	27779.	6308.	62152.	6290.	-3148.	81576.	6545.	-6167.
34	131276.	33513.	177.	107049.	7919.	-11605.	116164.	7048.	-10308.
35	54865.	25316.	4491.	35496.	6747.	-2559.	31143.	12544.	7293.
36	5483.	17588.	7048.	-1849.	9218.	4164.	-11375.	17619.	12368.
37	-31573.	8970.	15185.	-29795.	10471.	16580.	-40803.	18698.	23343.
38	-52811.	-3670.	25054.	-44098.	4817.	28750.	-42114.	16819.	35246.
39	-31191.	5355.	-9403.	-30997.	5871.	-8470.	-82861.	-41298.	-29170.
40	-3252.	13842.	-16317.	-20095.	-1368.	-20792.	-39321.	-40052.	-41554.

TABLE XIV

TIMING DIFFERENCE MEANS - ALL COMPANIES - VARYING IDC

YEAR	COND 7-- INC IDC DEC PROD INC RES	COND 16- CON IDC DEC PROD INC RES	COND 25- DEC IDC DEC PROD INC RES	COND 8-- INC IDC DEC PROD CON RES	COND 17- CON IDC DEC PROD CON RES	COND 26- DEC IDC DEC PROD CON RES	COND 9-- INC IDC CEC PROD DEC RES	COND 18- CON IDC DEC PROD DEC RES	COND 27- DEC IDC DEC PROD DEC RES
1	78601.	73549.	48604.	78547.	73481.	48565.	78632.	73557.	48602.
2	94474.	69386.	24752.	93781.	68693.	24271.	91270.	66327.	22599.
3	44595.	60178.	32692.	44939.	60461.	32780.	41314.	57464.	31130.
4	9410.	45102.	40672.	15918.	50960.	44021.	12111.	47652.	42064.
5	-24363.	19219.	43103.	-10746.	32578.	51927.	-9017.	34452.	53106.
6	-41687.	4362.	50878.	-28578.	20626.	61977.	-21305.	29232.	68040.
7	13259.	60247.	27940.	15963.	65092.	33416.	-28976.	51.	-17926.
8	29093.	74218.	14269.	29094.	74758.	15266.	-23197.	-13564.	-52025.
9	65485.	34623.	11905.	58406.	25529.	5680.	60659.	21854.	778.
10	101283.	38449.	2464.	92229.	26082.	-5958.	87743.	14303.	-16124.
11	37538.	29857.	2132.	30445.	21280.	-3590.	32005.	21489.	-2378.
12	-4253.	9736.	2538.	-4627.	8728.	2563.	1428.	18802.	11822.
13	-38726.	-21451.	2393.	-26683.	-5603.	12581.	-18530.	13838.	29705.
14	-57805.	-33615.	14266.	-38318.	-8572.	29809.	-28466.	13171.	48821.
15	14294.	54338.	22692.	18985.	59497.	26494.	-40619.	-21026.	-21089.
16	33597.	71715.	11618.	33746.	72060.	11921.	-32361.	-24306.	-45417.
17	69006.	32640.	12738.	58729.	13835.	5252.	61599.	17710.	911.
18	115138.	44437.	6495.	103896.	30949.	-1064.	97542.	17400.	-11455.
19	53591.	34304.	8303.	44637.	25333.	3336.	39069.	16428.	-1224.
20	3641.	18053.	6487.	-1740.	12294.	3537.	-954.	15176.	7599.
21	-30916.	-2233.	15488.	-24203.	4092.	19746.	-23820.	13610.	29007.
22	-56509.	-25414.	18472.	-41678.	-8855.	28274.	-35218.	8337.	42439.
23	16909.	57135.	19952.	20976.	60490.	22096.	-44457.	-17190.	-19268.
24	39371.	71894.	10831.	39461.	71993.	10911.	-37141.	-26258.	-41237.
25	79422.	38748.	15424.	66663.	22717.	7998.	67271.	18120.	2483.
26	130763.	49078.	8157.	116170.	32998.	390.	106271.	15925.	-10998.
27	59825.	40342.	10939.	46396.	27575.	4821.	37559.	15443.	-759.
28	14770.	30101.	10248.	5943.	21601.	6253.	4353.	21842.	8635.
29	-20991.	10359.	17369.	-20785.	10075.	17822.	-24173.	14596.	23888.
30	-50300.	-9094.	23866.	-35227.	6577.	32894.	-35812.	14337.	40881.
31	22978.	62583.	16580.	25701.	65027.	17966.	-45723.	-11884.	-18255.
32	42990.	72727.	8654.	43170.	72855.	8749.	-40567.	-25820.	-36234.
33	93807.	45334.	13968.	80037.	29613.	7586.	72463.	15367.	-1234.
34	147712.	53389.	8507.	130953.	36585.	1704.	117322.	16064.	-9250.
35	76511.	46184.	12678.	60140.	31930.	6803.	46354.	15581.	738.
36	26403.	36375.	13706.	14755.	26265.	9668.	5327.	19591.	9274.
37	-9937.	27966.	20746.	-13553.	24339.	19701.	-25180.	20704.	21622.
38	-41631.	3375.	24995.	-34121.	9242.	28926.	-38356.	13698.	34249.
39	29904.	65927.	17262.	30072.	65780.	17304.	-53118.	-18803.	-15669.
40	48338.	71093.	8093.	48088.	70759.	7978.	-47598.	-30463.	-31164.

Table XIII shows the results of grouping the next three sets of conditions. The first two sets are similar to the first two sets in Table XII in that the increasing and decreasing show a high number of reversals. Yet, the constant has few reversals and when there are reversals, the dollar amounts are virtually inconsequential. The third group shows a similar pattern in the incidence of reversals for the increasing and decreasing assumptions. The constant assumption, while higher than the other two constant conditions, is still substantially less than either the increasing or decreasing assumptions.

The most interesting groupings of conditions, however, are shown in Table XIV. In this grouping, only the third set shows a similarity in the number of reversals between the increasing and decreasing assumptions. The first two sets show that both the constant and decreasing assumptions had virtually no reversals or few reversals which were of any consequence. In fact, even the increasing assumption had a substantial drop in the number of reversals from those of other conditions. In all three of these tables, the timing difference means were generally much lower in number and amount than for the other two assumptions. An examination of the tables for the full costing firms (Tables XV, XVI, and XVII) indicates that the observations noted for all 50 companies would apply to these tables as well. As before, the constant IDC assumptions seem to have substantially fewer reversals on the average, than in the means corresponding to the increasing IDC and decreasing IDC. The successful efforts tables (Tables XVIII, XIX, XX) show that the previously noted observations would continue to hold.

TABLE XV

TIMING DIFFERENCE MEANS - FULL COST - VARYING IDC

YEAR	COND 1-- INC IDC INC PROD INC RES	COND 10- CON IDC INC PROD INC RES	COND 19- DEC IDC INC PROD INC RES	COND 2-- INC IDC INC PROD CON RES	COND 11- CON IDC INC PROD CON RES	COND 20- DEC IDC INC PROD CON RES	COND 3-- INC IDC INC PROD DEC RES	COND 12- CON IDC INC PROD DEC RES	COND 21- DEC IDC INC PROD DEC RES
1	82885.	70720.	45092.	82885.	70720.	45092.	82885.	70720.	45092.
2	90599.	63491.	24197.	89352.	62332.	23266.	85135.	58468.	20733.
3	36143.	50980.	28093.	35408.	50480.	27835.	30965.	47111.	25835.
4	5820.	40626.	37265.	15198.	48911.	42306.	7913.	42341.	38143.
5	-12573.	31267.	46242.	2178.	45115.	55748.	5187.	48179.	57647.
6	-27236.	20477.	61743.	-7232.	42612.	78336.	-3221.	47094.	61521.
7	-13233.	23799.	983.	-8019.	34263.	12697.	-63669.	-39346.	-43739.
8	-8772.	12000.	-31594.	-6959.	20610.	-21965.	-49726.	-52058.	-78077.
9	55208.	12062.	-1943.	40336.	-6401.	-16615.	52296.	-9162.	-24297.
10	78669.	8060.	-16230.	54523.	-22835.	-38790.	74313.	-10989.	-31476.
11	20591.	2160.	-11956.	4177.	-17834.	-26530.	18227.	11246.	185.
12	-12496.	-420.	-1999.	-8213.	3710.	-541.	-3656.	23616.	18907.
13	-26931.	-1767.	13446.	-13712.	11863.	21907.	-9008.	29661.	36960.
14	-35869.	1299.	33404.	-16047.	24197.	47779.	-12748.	35829.	59139.
15	-23547.	-48.	-9496.	-15085.	12462.	-485.	-74583.	-54592.	-39708.
16	-13393.	-2141.	-30358.	-10484.	6276.	-24160.	-43751.	-48332.	-60286.
17	56035.	10896.	155.	36459.	-13797.	-15725.	59417.	-6998.	-16192.
18	87592.	4771.	-12503.	58982.	-32223.	-35267.	85924.	-9797.	-21101.
19	31139.	3024.	-7527.	18144.	-13230.	-17845.	19246.	6139.	3197.
20	-6447.	3615.	1943.	-4102.	6066.	3237.	-8863.	21445.	16388.
21	-30554.	3256.	15604.	-16764.	17023.	23087.	-25324.	23399.	29577.
22	-41994.	1128.	28061.	-20956.	24306.	42058.	-19467.	33984.	47624.
23	-28657.	2200.	-8899.	-21519.	12546.	-1951.	-69394.	-35888.	-29813.
24	-14696.	1812.	-25658.	-19900.	3595.	-22885.	-35023.	-36313.	-49541.
25	60117.	8257.	224.	34403.	-21639.	-15719.	66730.	-16208.	-17435.
26	100892.	2427.	-11211.	70351.	-39230.	-33892.	101744.	-5753.	-12402.
27	23404.	-1047.	-8071.	11145.	-17015.	-15921.	5039.	3479.	3667.
28	-7710.	7813.	1616.	-6434.	13268.	4698.	-22815.	19005.	12032.
29	-35416.	1125.	13783.	-23218.	19009.	23755.	-37968.	19249.	23997.
30	-50841.	122.	25778.	-29327.	26062.	39820.	-29845.	28394.	39653.
31	-31665.	1473.	-8727.	-24896.	14017.	-2482.	-57221.	-26944.	-24365.
32	-45335.	2390.	-20968.	-19067.	4143.	-20348.	-23044.	-31360.	-41255.
33	69534.	5140.	-987.	48357.	-24232.	-14913.	82331.	-17091.	-14670.
34	116655.	7601.	-9316.	92434.	-31977.	-28156.	115045.	1281.	-8154.
35	36190.	1524.	-5431.	16869.	-16267.	-11472.	5621.	1775.	4307.
36	-11768.	-3027.	1939.	-13473.	6328.	7202.	-42626.	6849.	10114.
37	-42741.	-598.	10486.	-33526.	19353.	19990.	-56388.	12702.	17520.
38	-54598.	2098.	23098.	-36175.	24613.	33652.	-34475.	24656.	32315.
39	-34722.	4672.	-6266.	-31013.	15394.	-1601.	-46657.	-16815.	-19853.
40	-16984.	4214.	-17827.	-22150.	358.	-19735.	-14434.	-20974.	-33200.

TABLE XVI

TIMING DIFFERENCE MEANS - FULL COST - VARYING IDC

YEAR	COND 4-- INC IDC CON PROD INC RES	COND 13- CON IDC CON PROD INC RES	COND 22- DEC IDC CON PROD INC RES	COND 5-- INC IDC CON PROD CON RES	COND 14- CON IDC CON PROD CON RES	COND 23- DEC IDC CON PROD CON RES	COND 6-- INC IDC CON PROD DEC RES	COND 15- CON IDC CON PROD DEC RES	COND 24- DEC IDC CON PROD DEC RES
1	82885.	70720.	45092.	82885.	70720.	45092.	82885.	70720.	45092.
2	91586.	64504.	24857.	90551.	63559.	24103.	85848.	59332.	21232.
3	37303.	51799.	28388.	36487.	51212.	28063.	31889.	47659.	25923.
4	1357.	38559.	35271.	10518.	44574.	39935.	3854.	38621.	36299.
5	-26156.	17168.	38649.	-10407.	32648.	48655.	-6166.	37015.	51276.
6	-40299.	4050.	51150.	-21154.	26821.	67271.	-13514.	35325.	73456.
7	-22485.	9276.	-11332.	-17708.	21379.	2039.	-65144.	-42627.	-48201.
8	-7022.	11659.	-33989.	-10958.	13593.	-28803.	-41348.	-46719.	-76799.
9	66747.	27102.	7378.	53571.	10418.	-5620.	66083.	10137.	-12283.
10	94281.	29128.	-2308.	76693.	5693.	-19726.	83870.	5552.	-20417.
11	32438.	15734.	-4234.	17617.	-1999.	-16435.	22899.	14741.	2433.
12	-7506.	5111.	1149.	-5473.	6056.	141.	-6037.	20722.	18168.
13	-33082.	-8061.	11157.	-19379.	4504.	17366.	-16070.	21185.	32654.
14	-53476.	-19191.	24123.	-32426.	3359.	36929.	-25067.	20738.	50055.
15	-30814.	-9934.	-15081.	-23368.	2209.	-5804.	-74291.	-57275.	-41073.
16	-12266.	-1437.	-31094.	-14828.	1892.	-27103.	-41253.	-47188.	-60420.
17	86554.	23759.	6517.	50237.	2793.	-6631.	68796.	8469.	-7814.
18	103291.	26127.	-903.	82250.	-2352.	-18462.	94688.	2769.	-15102.
19	44275.	19094.	1445.	32008.	4507.	-7620.	28626.	13399.	5312.
20	-1015.	9535.	4243.	-1880.	7650.	2526.	-7913.	18242.	14402.
21	-40600.	-7990.	10668.	-25639.	4568.	16984.	-31098.	16943.	27132.
22	-59003.	-17396.	19938.	-37646.	4374.	31579.	-33274.	18883.	40618.
23	-33957.	-6559.	-14429.	-30180.	170.	-9440.	-74944.	-43553.	-32915.
24	-7497.	8151.	-23962.	-17213.	3897.	-23648.	-35162.	-35414.	-48634.
25	75001.	24521.	7276.	52827.	29.	-5414.	77319.	5043.	-6641.
26	122537.	27314.	608.	97412.	-813.	-14826.	110444.	2159.	-11238.
27	41705.	22042.	2990.	28693.	6318.	-5024.	22359.	13189.	5496.
28	-7120.	12093.	3260.	-6120.	10012.	2179.	-14587.	20744.	12343.
29	-45226.	-8402.	10572.	-29325.	4050.	15917.	-39656.	13099.	23213.
30	-65598.	-18365.	17485.	-40569.	7318.	30309.	-37934.	19292.	36256.
31	-32620.	-4493.	-13307.	-30833.	2006.	-8597.	-74497.	-33819.	-29563.
32	-7852.	6107.	-21512.	-18374.	2464.	-20891.	-34317.	-36846.	-42515.
33	86736.	21760.	6101.	63441.	-1957.	-4368.	90324.	559.	-6659.
34	142209.	34330.	1863.	114238.	5794.	-11549.	123972.	5931.	-9056.
35	51579.	21297.	3156.	28655.	-1296.	-6187.	21313.	7672.	4903.
36	847.	11834.	6309.	-3000.	4199.	3234.	-20605.	13265.	12204.
37	-41080.	-3239.	8664.	-32885.	3701.	12335.	-51003.	10981.	17718.
38	-68945.	-16530.	15520.	-48403.	3232.	24904.	-47522.	16758.	29808.
39	-44044.	-6850.	-12383.	-38932.	2038.	-6430.	-78250.	-31501.	-22640.
40	-4580.	11475.	-16323.	-25105.	-116.	-19137.	-25699.	-27733.	-35343.

TABLE XVII

TIMING DIFFERENCE MEANS - FULL COST - VARYING IDC

YEAR	COND 7-- INC IDC DEC PROD INC RES	COND 16- CON IDC DEC PROD INC RES	COND 25- DEC IDC DEC PROD INC RES	COND 8-- INC IDC DEC PROD CON RES	COND 17- CON IDC DEC PROD CON RES	COND 26- DEC IDC DEC PROD CON RES	COND 9-- INC IDC DEC PROD DEC RES	COND 18- CON IDC DEC PROD DEC RES	COND 27- DEC IDC DEC PROD DEC RES
1	82685.	70720.	45092.	82885.	70720.	45092.	82885.	70720.	45092.
2	94718.	67219.	26533.	93981.	66547.	25993.	90173.	63079.	23491.
3	41821.	55160.	30031.	41563.	54936.	29858.	38216.	52295.	28231.
4	3870.	38950.	36381.	13014.	46907.	41086.	6386.	40982.	37397.
5	-27254.	15553.	37678.	-11674.	31042.	47560.	-7331.	35575.	50235.
6	-49096.	-5660.	44814.	-30760.	16101.	59491.	-21396.	26604.	67133.
7	10915.	56564.	26791.	15622.	64509.	36091.	-16808.	22022.	3290.
8	29033.	70872.	14052.	29162.	72043.	16069.	-20007.	-3699.	-39423.
9	68691.	34460.	12393.	60820.	25428.	6028.	55514.	12600.	-5154.
10	97057.	38651.	4239.	85925.	24763.	-5318.	72883.	-32.	-25943.
11	33760.	23172.	1072.	23422.	11205.	-6822.	23727.	6233.	-10691.
12	-6963.	6037.	-573.	-5034.	9565.	1495.	-4513.	9640.	3586.
13	-39838.	-23135.	-4240.	-25747.	-6006.	6944.	-19094.	9037.	19194.
14	-61514.	-39198.	4742.	-38665.	-11801.	21525.	-29586.	7236.	37953.
15	10227.	47590.	20173.	18833.	56975.	26994.	-25627.	-2170.	-7414.
16	33507.	66453.	11585.	33825.	67157.	12157.	-23055.	-12664.	-32050.
17	71241.	31850.	11358.	58928.	15878.	2701.	53989.	7647.	-5954.
18	115832.	43320.	8628.	102494.	28060.	-8.	86135.	3085.	-16795.
19	51251.	29935.	6740.	39837.	18902.	718.	26935.	252.	-9272.
20	3540.	16444.	6096.	413.	13852.	4863.	-3865.	9268.	4363.
21	-38649.	-9192.	4627.	-22891.	6602.	14384.	-27758.	7624.	18284.
22	-65131.	-32179.	6867.	-41561.	-6733.	21967.	-38088.	5092.	32499.
23	13527.	52154.	17828.	21674.	59146.	22195.	-27832.	470.	-7661.
24	39135.	70296.	10509.	39433.	70680.	10765.	-31244.	-17510.	-31443.
25	84032.	38304.	13928.	68696.	19692.	5668.	60370.	7681.	-3324.
26	138836.	47249.	9812.	121521.	29156.	1369.	98508.	-1598.	-17395.
27	57386.	37483.	9365.	39340.	21521.	1874.	24203.	1814.	-7326.
28	14623.	33129.	11335.	6410.	26185.	8286.	-2370.	17491.	6020.
29	-31064.	2397.	10585.	-20809.	12701.	16766.	-31009.	8950.	17705.
30	-64572.	-22269.	10022.	-37148.	5430.	25768.	-37039.	12526.	32690.
31	21281.	56372.	16093.	27064.	61549.	19072.	-25220.	5860.	-5618.
32	41911.	67473.	8309.	42321.	67786.	8496.	-33142.	-18982.	-27428.
33	101254.	41062.	13996.	86458.	24743.	7584.	67258.	970.	-5478.
34	158530.	52802.	9312.	139219.	34459.	2093.	111210.	1341.	-14830.
35	74699.	41959.	10997.	54769.	25584.	4393.	30852.	-445.	-5572.
36	28138.	35530.	14697.	18172.	27784.	11799.	139.	13126.	8070.
37	-15729.	19787.	14816.	-15642.	18715.	15530.	-34890.	9436.	13883.
38	-58001.	-10960.	13722.	-34994.	9643.	24996.	-40916.	11580.	28127.
39	28643.	61187.	17117.	30734.	62710.	17965.	-35498.	-279.	-7237.
40	48331.	67508.	7723.	48366.	67480.	7742.	-41057.	-19274.	-24632.

TABLE XVIII

TIMING DIFFERENCE MEANS - SUCC. EFFORTS - VARYING IDC

YEAR	COND 1-- INC IDC INC PROD INC RES	COND 10- CON IDC INC PROD INC RES	COND 19- DEC IDC INC PROD INC RES	COND 2-- INC IDC INC PROD CON RES	COND 11- CON IDC INC PROD CON RES	COND 20- DEC IDC INC PROD CON RES	COND 3-- INC IDC INC PROD DEC RES	COND 12- CON IDC INC PROD DEC RES	COND 21- DEC IDC INC PROD DEC RES
1	73411.	75062.	51291.	73294.	74770.	51085.	73960.	75789.	51844.
2	91161.	68150.	20714.	90309.	67205.	20158.	88302.	65472.	19149.
3	44439.	62435.	33946.	45714.	63669.	34595.	40969.	59594.	32639.
4	18939.	55377.	47124.	22341.	58843.	49035.	21370.	57989.	48538.
5	-3324.	41865.	60782.	4572.	50811.	66028.	3918.	50029.	65535.
6	-10501.	46223.	78491.	-3301.	55195.	84684.	-1602.	57312.	86056.
7	-6116.	33590.	5033.	-1895.	40297.	10487.	-64989.	-52998.	-62258.
8	413.	30307.	-21982.	-1195.	28999.	-22438.	-61755.	-72222.	-98566.
9	50930.	13392.	-3482.	41717.	-627.	-12781.	50865.	922.	-14189.
10	86704.	7407.	-19648.	73188.	-13882.	-34090.	87254.	-1200.	-24667.
11	13011.	-464.	-18471.	8637.	-5819.	-21822.	22583.	20597.	4021.
12	-3290.	10836.	7070.	-6151.	8629.	6913.	7123.	33384.	26778.
13	-19601.	9144.	29081.	-12620.	19282.	34742.	-5020.	37363.	50253.
14	-23908.	19083.	54546.	-13622.	32998.	62556.	-7557.	46716.	74822.
15	-10345.	18055.	-4958.	-7836.	21612.	-2526.	-83118.	-75681.	-59337.
16	-7351.	10911.	-31130.	-10182.	8376.	-31666.	-62192.	-67997.	-80766.
17	49300.	2855.	-3280.	37385.	-13958.	-12733.	54801.	-4051.	-12106.
18	89625.	10377.	-15427.	74336.	-10431.	-28170.	91933.	2079.	-21091.
19	23643.	1712.	-8103.	18985.	-3590.	-10210.	29853.	14479.	6496.
20	-3401.	12173.	4791.	-7879.	7579.	3063.	-4130.	23291.	15980.
21	-18958.	13602.	33336.	-17189.	15865.	33423.	-13438.	31702.	46977.
22	-26751.	12380.	48639.	-20118.	20333.	52649.	-14140.	33898.	63559.
23	-14444.	16927.	-6163.	-13292.	18518.	-4212.	-81926.	-58328.	-47549.
24	-6979.	7336.	-27820.	-10400.	6620.	-25776.	-52000.	-55785.	-66081.
25	44906.	-5004.	-5749.	28413.	-24192.	-17112.	55044.	-13663.	-17847.
26	95247.	15905.	-11682.	79530.	-5378.	-23678.	97512.	10016.	-12171.
27	28681.	7991.	-3766.	23390.	-1037.	-7892.	21040.	7598.	5302.
28	-3442.	9337.	1970.	-4888.	7783.	667.	-3170.	24435.	15134.
29	-17457.	14863.	24643.	-20116.	14339.	23626.	-19695.	26320.	34015.
30	-30704.	15071.	44614.	-22121.	26951.	52505.	-24452.	30889.	54933.
31	-19103.	17523.	-11929.	-16240.	24243.	-5412.	-77248.	-41234.	-41552.
32	-7215.	13102.	-24254.	-7119.	16809.	-21521.	-41943.	-41383.	-54823.
33	48617.	-93.	-7786.	28896.	-24337.	-20002.	61980.	-10889.	-17474.
34	96556.	6042.	-12842.	83423.	-15555.	-22997.	101995.	28.	-9694.
35	40132.	12558.	-171.	33832.	3263.	-3054.	27437.	9937.	8751.
36	-4336.	9259.	2622.	-8555.	8354.	2331.	-14711.	18591.	12473.
37	-19758.	24421.	23409.	-19015.	28509.	26375.	-28916.	32231.	29995.
38	-30426.	16941.	37234.	-28328.	21258.	41659.	-29953.	25745.	42557.
39	-17232.	17389.	-6938.	-18921.	18931.	-4596.	-70822.	-37027.	-31593.
40	-7482.	8318.	-18779.	-18594.	-855.	-23215.	-38202.	-41529.	-44895.

TABLE XIX

TIMING DIFFERENCE MEANS - SUCC. EFFORTS - VARYING IDC

YEAR	COND 4-- INC IDC CON PROD INC RES	COND 13- CON IDC CON PROD INC RES	COND 22- DEC IDC CON PROD INC RES	COND 5-- INC IDC CON PROD CON RES	COND 14- CON IDC CON PROD CON RES	COND 23- DEC IDC CON PROD CON RES	COND 6-- INC IDC CON PROD DEC RES	COND 15- CON IDC CON PROD DEC RES	COND 24- DEC IDC CON PROD DEC RES
1	74188.	76031.	51856.	74069.	75803.	51706.	74039.	75875.	51860.
2	91610.	68685.	20996.	90713.	67712.	20422.	88420.	65508.	19077.
3	44373.	62519.	34039.	45618.	63653.	34617.	40711.	59418.	32562.
4	12607.	49091.	43953.	16804.	53287.	46217.	15642.	52333.	45635.
5	-15135.	28563.	53271.	-4129.	41027.	60497.	-4574.	40440.	60095.
6	-25915.	25572.	64394.	-16635.	37767.	72881.	-11954.	43470.	76583.
7	-10855.	21685.	-6417.	-9434.	27459.	-182.	-64087.	-54052.	-63562.
8	-2320.	22001.	-29836.	-6199.	17629.	-32129.	-51838.	-62625.	-93211.
9	58588.	25782.	498C.	51324.	12862.	-4108.	59836.	15442.	-4736.
10	96679.	23424.	-8102.	85531.	5561.	-20863.	93795.	10887.	-16132.
11	32216.	24387.	-2387.	26331.	18404.	-5350.	31225.	28929.	5878.
12	-5404.	6579.	4703.	-9663.	1622.	2235.	1234.	26775.	24159.
13	-25084.	3334.	26766.	-17023.	14052.	32190.	-11933.	23122.	45748.
14	-40247.	-2220.	42687.	-26547.	15789.	53065.	-18907.	32185.	67192.
15	-15443.	10491.	-8873.	-14722.	12991.	-6639.	-82049.	-75469.	-58863.
16	-750.	21415.	-23652.	-4493.	17640.	-25484.	-58354.	-65167.	-79669.
17	62230.	23801.	8349.	52566.	8727.	-246.	64845.	14413.	-1272.
18	102576.	28324.	-5386.	90933.	12758.	-14875.	99035.	13939.	-14557.
19	33479.	13066.	-2327.	26738.	5617.	-6210.	33336.	17113.	4790.
20	-5146.	9380.	3217.	-10355.	3376.	894.	-6187.	20094.	14734.
21	-21967.	9961.	31722.	-21897.	10527.	31546.	-17855.	25174.	43651.
22	-42434.	-6534.	38643.	-35342.	1800.	42582.	-25031.	21069.	57187.
23	-19830.	9803.	-10595.	-20441.	8849.	-10646.	-83110.	-62961.	-49443.
24	925.	16940.	-22882.	-2658.	13437.	-23034.	-50832.	-55285.	-65902.
25	70176.	28180.	10495.	58974.	13291.	2942.	70390.	16167.	991.
26	108792.	31605.	-3230.	91136.	11799.	-14277.	101064.	13273.	-14357.
27	43591.	22943.	3033.	32875.	11965.	-1657.	31400.	14193.	5060.
28	741.	13969.	4119.	-4212.	7190.	1083.	205.	22338.	13354.
29	-21046.	10333.	22649.	-27307.	3843.	19251.	-23590.	19374.	31441.
30	-37973.	6569.	41192.	-31346.	15332.	44245.	-30195.	22387.	51952.
31	-24618.	11950.	-14816.	-23364.	13464.	-13407.	-85371.	-50618.	-45134.
32	146.	22902.	-19749.	-1004.	20913.	-18980.	-50507.	-47907.	-56691.
33	75987.	33798.	6515.	60862.	14538.	-1929.	72827.	12532.	-5676.
34	120343.	32697.	-1510.	99861.	10043.	-11662.	108356.	8165.	-11561.
35	58150.	29336.	5827.	42338.	14790.	1069.	40973.	17416.	9684.
36	10120.	23343.	7787.	-698.	14238.	5093.	-2146.	21973.	12531.
37	-21466.	21179.	21705.	-26706.	17240.	20825.	-30604.	26415.	28958.
38	-36678.	9190.	34588.	-39793.	6401.	32596.	-36707.	16880.	40685.
39	-18338.	17560.	-6423.	-23063.	9703.	-10509.	-87471.	-51096.	-35700.
40	-2124.	16209.	-16310.	-15084.	-2619.	-22446.	-52943.	-52370.	-47764.

TABLE XX

TIMING DIFFERENCE MEANS - SUCC. EFFORTS - VARYING IDC

YEAR	COND 7-- INC IDC DEC PROD INC RES	COND 16- CON IDC DEC PROD INC RES	COND 25- DEC IDC DEC PROD INC RES	COND 8-- INC IDC DEC PROD CON RES	COND 17- CON IDC DEC PROD CON RES	COND 26- DEC IDC DEC PROD CON RES	COND 9-- INC IDC DEC PROD DEC RES	COND 18- CON IDC DEC PROD DEC RES	COND 27- DEC IDC DEC PROD DEC RES
1	74317.	76377.	52115.	74209.	76243.	52038.	74380.	76394.	52111.
2	94229.	71553.	22971.	93592.	70839.	22549.	92367.	69575.	21688.
3	47370.	65190.	35353.	48316.	65987.	35702.	44412.	62634.	34130.
4	14951.	51254.	44963.	18821.	55012.	46957.	17835.	54322.	46732.
5	-21472.	20886.	48527.	-9817.	34114.	56293.	-10704.	33329.	55928.
6	-34678.	14383.	56941.	-26397.	25152.	64462.	-21213.	31860.	68948.
7	15602.	63930.	29089.	16304.	65676.	30741.	-41144.	-21920.	-39143.
8	29153.	77564.	14486.	29026.	77473.	14463.	-26387.	-23428.	-64627.
9	62279.	34780.	11417.	55992.	25630.	5332.	65805.	31108.	6710.
10	105510.	38247.	689.	98532.	27403.	-6598.	102603.	28637.	-6306.
11	41316.	36543.	3192.	37468.	31354.	-358.	40284.	36744.	5935.
12	-1543.	11435.	5648.	-4220.	7892.	3631.	7369.	27964.	20058.
13	-37615.	-19768.	9026.	-27620.	-5201.	18219.	-17967.	18639.	40217.
14	-54097.	-28032.	23790.	-37970.	-5342.	38094.	-27346.	19107.	59699.
15	18361.	61086.	25211.	19137.	62020.	25995.	-55612.	-39883.	-34765.
16	33688.	76978.	11651.	33668.	76964.	11685.	-41667.	-35949.	-58733.
17	66770.	33430.	14117.	58531.	21791.	7803.	69208.	27773.	7736.
18	114444.	45554.	4363.	105298.	33840.	-2119.	108949.	31716.	-6114.
19	55930.	38674.	9866.	49837.	31764.	5954.	51204.	32603.	6824.
20	3741.	19062.	6878.	-3892.	10735.	2211.	1957.	21084.	10835.
21	-23184.	4726.	26349.	-25516.	1583.	25109.	-19882.	19596.	39731.
22	-47887.	-18651.	30076.	-41795.	-10977.	34580.	-32349.	11583.	52330.
23	20291.	62115.	22076.	20277.	61834.	21997.	-61083.	-34849.	-30874.
24	39607.	73493.	11152.	39489.	73307.	11057.	-43038.	-35006.	-51032.
25	74912.	39192.	16919.	64631.	25743.	10327.	74173.	28559.	8290.
26	122691.	50908.	6502.	110820.	36841.	-589.	114034.	33247.	-4601.
27	62264.	43202.	12513.	53452.	33629.	7768.	50914.	29071.	5809.
28	14918.	27073.	9162.	5476.	17017.	4219.	11076.	26192.	11250.
29	-10919.	18320.	24152.	-20762.	7449.	18877.	-17337.	20242.	30071.
30	-36028.	4080.	37710.	-33306.	7723.	40021.	-34587.	16148.	49072.
31	24675.	68795.	17067.	24340.	68506.	16861.	-66227.	-29628.	-30891.
32	44068.	77976.	9000.	44020.	77924.	9003.	-47992.	-32657.	-45140.
33	86360.	49606.	13939.	73617.	34483.	7589.	77668.	29764.	3009.
34	136895.	53975.	7702.	122688.	33712.	1315.	123433.	30788.	-3691.
35	78124.	50410.	14359.	65510.	33276.	9212.	61855.	31607.	7049.
36	24669.	37220.	12715.	11337.	24747.	7536.	10515.	26056.	10477.
37	-4146.	37145.	26675.	-11264.	29964.	23872.	-15471.	32973.	29362.
38	-25261.	17709.	36269.	-33247.	8841.	32856.	-35797.	15795.	40372.
39	30965.	70667.	17406.	29410.	68849.	16642.	-70737.	-37327.	-24100.
40	48345.	74677.	8462.	47810.	74039.	8213.	-54138.	-41652.	-37697.

Results for the Third Grouping

The tables for the third grouping were in sets of three conditions each so that IDC and reserves were held constant while the production data was allowed to vary. Thus, the first set consists of Condition 1, Condition 4, and Condition 7. The remaining conditions were grouped accordingly.

In examining Table XXI, the three sets show that the conditions that corresponded to increasing production and constant production have a substantial number of reversals (either 23 or 24 reversals). However, the conditions that correspond to decreasing production do not show the same consistency. In the first two sets, the decreasing production condition has half the number of reversals. Yet in the third set, the decreasing production condition has almost as many reversals (21 reversals) as the increasing (22 reversals) and constant (24 reversals) assumptions.

In the first set, of Table XXII, all three conditions have few reversals with Condition 10 having no reversals and Condition 13 and 16 having 5 reversals each. In the second set, the increasing production condition jumps to 13 reversals while the constant and decreasing production conditions' reversals are almost nonexistent, with 1 and 3 reversals, respectively. Then, in the third set, the increasing production is again high (16 reversals), while the other two conditions are lower (10 and 9, respectively) but still somewhat higher than previously. Table XXIII presents means that are similar to the ones in Table XXI. In the three sets, the reversals that correspond to the increasing and constant production assumptions are high ranging from

Condition	
1	**********
4	**********
7	**********
2	**********
5	**********
8	**********
3	**********
6	**********
9	**********
10	
13	*****
16	*****
11	**********
14	*
17	***
12	**********
15	**********
18	**********
19	**********
22	**********
25	
20	**********
23	**********
26	***
21	**********
24	**********
27	**********

Figure 5. Reversals for All Companies-Varying Production

TABLE XXI

TIMING DIFFERENCE MEANS - ALL COMPANIES - VARYING PROD.

YEAR	COND 1— INC IDC INC PROD INC RES	COND 4— INC IDC CON PROD INC RES	COND 7— INC IDC DEC PROD INC RES	COND 2— INC IDC INC PROD CON RES	COND 5— INC IDC CON PROD CON RES	COND 8— INC IDC DEC PROD CON RES	COND 3— INC IDC INC PROD DEC RES	COND 6— INC IDC CON PROD DEC RES	COND 9— INC IDC DEC PROD DEC RES
1	78146.	78536.	78601.	78089.	78477.	78547.	78422.	78462.	78632.
2	90880.	91598.	94474.	89830.	90632.	93781.	86719.	87134.	91270.
3	40291.	40838.	44595.	40561.	41053.	44939.	35967.	36300.	41314.
4	12380.	6982.	9410.	18770.	13661.	15918.	14642.	9748.	12111.
5	-7949.	-20645.	-24363.	3375.	-7268.	-10746.	4552.	-5370.	-9017.
6	-18869.	-33107.	-41887.	-5266.	-18895.	-28578.	-2411.	-12734.	-21305.
7	-9675.	-16670.	13259.	-4957.	-13571.	15963.	-64329.	-64615.	-28976.
8	-4180.	-4671.	29093.	-4077.	-8579.	29094.	-55740.	-46593.	-23197.
9	53069.	62667.	65485.	41026.	52447.	58406.	51580.	62960.	60659.
10	82687.	95480.	101283.	63856.	81112.	92229.	80784.	88833.	87743.
11	16801.	32327.	37538.	6407.	22074.	30445.	20405.	27062.	32005.
12	-7893.	-6455.	-4253.	-7182.	-7568.	-4627.	1733.	-2402.	1428.
13	-23260.	-29083.	-38726.	-13166.	-18201.	-26683.	-7014.	-14002.	-18530.
14	-29888.	-46662.	-57805.	-14834.	-29486.	-38318.	-10152.	-21987.	-28466.
15	-16946.	-23126.	14294.	-11460.	-19045.	18985.	-78850.	-78170.	-40619.
16	-10372.	-6508.	33597.	-10333.	-9661.	33746.	-52972.	-49803.	-32361.
17	52667.	64392.	69006.	36922.	51401.	58729.	57109.	66820.	61599.
18	88608.	102933.	115138.	66659.	86591.	103896.	88928.	96862.	97542.
19	27391.	38877.	53591.	18564.	29373.	44837.	24049.	30981.	39069.
20	-4924.	-3080.	3641.	-5990.	-6118.	-1740.	-6497.	-7050.	-954.
21	-24756.	-31283.	-30916.	-16977.	-23768.	-24203.	-19381.	-24477.	-23820.
22	-34372.	-50718.	-56509.	-20537.	-36494.	-41678.	-16803.	-29152.	-35218.
23	-21650.	-26693.	16909.	-17405.	-25310.	20976.	-75660.	-79027.	-44457.
24	-10838.	-3286.	39371.	-14650.	-9940.	39461.	-43511.	-42997.	-37141.
25	52511.	72588.	79422.	31408.	55900.	66663.	60887.	73855.	67271.
26	98069.	115665.	130763.	74941.	94274.	116170.	99628.	105754.	106271.
27	26042.	42548.	59825.	17258.	30784.	46396.	13040.	26879.	37559.
28	-5570.	-3189.	14770.	-5661.	-5166.	5943.	-12992.	-7191.	4353.
29	-26437.	-33136.	-20991.	-21667.	-28566.	-20785.	-28831.	-31623.	-24173.
30	-40772.	-51785.	-50300.	-25724.	-35957.	-35227.	-27148.	-34064.	-35812.
31	-25384.	-28619.	22978.	-20563.	-27098.	25701.	-67234.	-79934.	-45723.
32	-11277.	-3553.	42990.	-13093.	-9689.	43170.	-32494.	-42412.	-40567.
33	59176.	81362.	93807.	38627.	62152.	80037.	72155.	81576.	72463.
34	106605.	131276.	147712.	87928.	107049.	130953.	108520.	116164.	117322.
35	38160.	54865.	76511.	25350.	35496.	60140.	16529.	31143.	46354.
36	-8052.	5483.	26403.	-11019.	-1849.	14755.	-28668.	-11375.	5327.
37	-31249.	-31573.	-9937.	-26270.	-29795.	-13553.	-42652.	-40803.	-25130.
38	-42512.	-52811.	-41631.	-32251.	-44098.	-34121.	-32214.	-42114.	-38356.
39	-25977.	-31191.	29904.	-24967.	-30997.	30072.	-58739.	-82861.	-53118.
40	-12233.	-3352.	48338.	-20372.	-20095.	48088.	-26318.	-39321.	-47598.

TABLE XXII

TIMING DIFFERENCE MEANS - ALL COMPANIES - VARYING PROD.

YEAR	COND 10- CON IDC INC PROD INC RES	COND 13- CON IDC CON PROD INC RES	COND 16- CON IDC DEC PROD INC RES	COND 11- CON IDC INC PROD CON RES	COND 14- CON IDC CON PROD CON RES	COND 17- CON IDC DEC PROD CON RES	COND 12- CON IDC INC PROD DEC RES	COND 15- CON IDC CON PROD DEC RES	COND 18- CON IDC DEC PROD DEC RES
1	72891.	73576.	73549.	72745.	73262.	73491.	73255.	73298.	73557.
2	65821.	66595.	69386.	64768.	65636.	68693.	61970.	62420.	66327.
3	56707.	57159.	60178.	57074.	57433.	60461.	53352.	53538.	57464.
4	48002.	42825.	45102.	53877.	48930.	50960.	50165.	45477.	47652.
5	36566.	22860.	18219.	47953.	36837.	32578.	49104.	38727.	34452.
6	33350.	14811.	4362.	48904.	32294.	20626.	52203.	39397.	29232.
7	28689.	15481.	60247.	37280.	24419.	65092.	-46172.	-48340.	51.
8	21153.	16830.	74218.	24804.	15611.	74758.	-62140.	-54672.	-13564.
9	12722.	26442.	34623.	-3514.	11640.	25529.	-4120.	12790.	21854.
10	7734.	26276.	38449.	-18359.	5627.	26082.	-6095.	8220.	14303.
11	848.	20061.	29857.	-11827.	8203.	21290.	15921.	21835.	21489.
12	5206.	5845.	8736.	6169.	3839.	8728.	28600.	23748.	18802.
13	3688.	-2364.	-21451.	15573.	9278.	-5603.	33512.	24653.	13838.
14	10191.	-10706.	-33615.	28592.	9574.	-8572.	41272.	26461.	13171.
15	9004.	274.	54338.	17037.	7600.	59497.	-65136.	-66372.	-21026.
16	4385.	9989.	71715.	7326.	9766.	72060.	-58165.	-56178.	-24306.
17	6875.	23780.	32640.	-13877.	5760.	18835.	-5524.	11441.	17710.
18	7574.	27225.	44437.	-21327.	5203.	30949.	-3859.	8354.	17400.
19	2368.	16081.	34304.	-8405.	5062.	25333.	10309.	15256.	16428.
20	7894.	9458.	18053.	6823.	5513.	12294.	22368.	19168.	15176.
21	8429.	986.	-2233.	16444.	7548.	4092.	27550.	21058.	13610.
22	6754.	-11965.	-25414.	22319.	3087.	-8855.	33941.	19976.	8337.
23	9564.	1622.	57135.	15532.	4509.	60490.	-47108.	-53257.	-17190.
24	4575.	12546.	71894.	5108.	8667.	71993.	-46049.	-45349.	-26258.
25	1627.	26350.	38748.	-22915.	6660.	22717.	-14936.	10605.	13120.
26	9166.	29459.	49078.	-22304.	5493.	32998.	2132.	7716.	15825.
27	3472.	22493.	40342.	-9026.	9142.	27575.	5538.	13691.	15443.
28	9575.	13031.	30101.	10525.	9601.	21601.	21720.	21541.	21842.
29	7991.	965.	10359.	16674.	3947.	10075.	22785.	16237.	14596.
30	7596.	-5898.	-9094.	26506.	11325.	6577.	29641.	20840.	14337.
31	9498.	3729.	62583.	19130.	7735.	65027.	-34089.	-44718.	-11884.
32	7996.	14505.	72727.	10476.	11688.	72855.	-36371.	-42376.	-25820.
33	2523.	27779.	45334.	-24284.	6290.	29613.	-13990.	6545.	15367.
34	7121.	33513.	53399.	-23766.	7919.	36585.	655.	7048.	16054.
35	7041.	25316.	46184.	-6502.	6747.	31930.	5856.	12544.	15581.
36	3116.	17588.	36375.	7341.	9218.	26265.	12720.	17619.	19591.
37	12011.	8970.	27986.	23431.	10471.	24339.	22466.	18698.	20704.
38	9519.	-3670.	3375.	22936.	4817.	9242.	25201.	16819.	13638.
39	11031.	5355.	65927.	17162.	5871.	65780.	-26921.	-41298.	-13803.
40	6266.	13642.	71093.	-249.	-1368.	70759.	-31251.	-40052.	-30463.

TABLE XXIII

TIMING DIFFERENCE MEANS - ALL COMPANIES - VARYING PROD.

YEAR	COND 19- DEC IDC INC PROD INC RES	COND 22- DEC IDC CON PROD INC RES	COND 25- DEC IDC DEC PROD INC RES	COND 20- DEC IDC INC PROD CON RES	COND 23- DEC IDC CON PROD CON RES	COND 26- DEC IDC DEC PROD CON RES	COND 21- DEC IDC INC PROD DEC RES	COND 24- DEC IDC CON PROD DEC RES	COND 27- DEC IDC DEC PROD DEC RES
1	48192.	48474.	48604.	48089.	48399.	48565.	48468.	48476.	48602.
2	22450.	22926.	24752.	21712.	22262.	24271.	19941.	20155.	22589.
3	31019.	31213.	32692.	31215.	31340.	32780.	29237.	29242.	31180.
4	42194.	39612.	40672.	45670.	43076.	44021.	43341.	40967.	42064.
5	53512.	45960.	43103.	60888.	54576.	51927.	61591.	55685.	53106.
6	70117.	57771.	50878.	81510.	70076.	61977.	83788.	75019.	68040.
7	2998.	-8875.	27940.	11592.	928.	33416.	-52998.	-55881.	-17926.
8	-26788.	-31913.	14269.	-22202.	-30466.	15266.	-88321.	-85005.	-52025.
9	-2712.	6179.	11905.	-14698.	-4864.	5680.	-19243.	-8509.	778.
10	-17939.	-5205.	2464.	-36439.	-20295.	-5958.	-28071.	-18275.	-16124.
11	-15214.	-3311.	2132.	-24176.	-10893.	-3590.	2103.	4156.	-2378.
12	2536.	2926.	2536.	3186.	1188.	2563.	22843.	21164.	11822.
13	21264.	18961.	2393.	28324.	24778.	12591.	43606.	39201.	29705.
14	44175.	33405.	14266.	55167.	44997.	29809.	66480.	58623.	48821.
15	-7227.	-11977.	22692.	-1506.	-6222.	26494.	-49522.	-49968.	-21089.
16	-30744.	-27373.	11618.	-27913.	-26294.	11921.	-70526.	-70045.	-45417.
17	-1563.	7433.	12738.	-14229.	-3438.	5252.	-14149.	-4543.	911.
18	-13965.	-3145.	6495.	-31719.	-16668.	-1064.	-21096.	-14630.	-11455.
19	-7815.	-441.	8303.	-14028.	-6915.	3336.	4846.	5051.	-1224.
20	3367.	3730.	6487.	3150.	1710.	3537.	16184.	14568.	7599.
21	24470.	21195.	15488.	28255.	24265.	19746.	38287.	35391.	29007.
22	38350.	29290.	18472.	47353.	37081.	28274.	55691.	48902.	42439.
23	-7531.	-12512.	19952.	-3081.	-10043.	22096.	-38681.	-41179.	-19268.
24	-26739.	-23422.	10831.	-24331.	-23341.	10911.	-57811.	-57268.	-41237.
25	-2762.	8885.	15424.	-16416.	-1236.	7998.	-17641.	-2825.	2493.
26	-11447.	-1311.	8157.	-28780.	-14552.	390.	-12286.	-12798.	-10998.
27	-5918.	3011.	10939.	-11906.	-3340.	4821.	4484.	5278.	-759.
28	1793.	3689.	10248.	2682.	1631.	6253.	13568.	12848.	8635.
29	19213.	16510.	17369.	23690.	17594.	17822.	29001.	27327.	23888.
30	35196.	29338.	23866.	46162.	37277.	32894.	47318.	44054.	40881.
31	-10328.	-14061.	16580.	-3947.	-11002.	17966.	-32963.	-36848.	-18255.
32	-22611.	-20630.	8654.	-20935.	-19936.	8749.	-48039.	-49603.	-36294.
33	-4387.	6308.	13968.	-17457.	-3148.	7536.	-16072.	-6167.	-1234.
34	-11079.	177.	8507.	-25576.	-11605.	1704.	-8924.	-10308.	-9260.
35	-2801.	4491.	12678.	-7263.	-2559.	6803.	6529.	7293.	738.
36	2231.	7048.	13706.	4766.	4164.	9668.	11293.	12368.	9274.
37	16947.	15185.	20746.	23183.	16530.	19701.	23757.	23343.	21622.
38	30166.	25054.	24995.	37655.	28750.	28926.	37436.	35246.	34249.
39	-6602.	-9403.	17262.	-3098.	-8470.	17304.	-25223.	-29170.	-15669.
40	-18303.	-16317.	8093.	-21475.	-20792.	7978.	-39047.	-41554.	-31164.

TABLE XXIV

TIMING DIFFERENCE MEANS - FULL COST - VARYING PROD.

YEAR	COND 1-- INC IDC INC PROD INC RES	COND 4-- INC IDC CON PROD INC RES	COND 7-- INC IDC DEC PROD INC RES	COND 2-- INC IDC INC PROD CON RES	COND 5-- INC IDC CON PROD CON RES	COND 8-- INC IDC DEC PROD CON RES	COND 3-- INC IDC INC PROD DEC RES	COND 6-- INC IDC CON PROD DEC RES	COND 9-- INC IDC DEC PROD DEC RES
1	82885.	82885.	82885.	82885.	82885.	82885.	82885.	82885.	82885.
2	90599.	91586.	94718.	89352.	90551.	93981.	85135.	85848.	90173.
3	36143.	37303.	41821.	35408.	36487.	41563.	30965.	31889.	33216.
4	5820.	1357.	3870.	15198.	10518.	13014.	7913.	3354.	6336.
5	-12573.	-26156.	-27254.	2178.	-10407.	-11674.	5187.	-6166.	-7331.
6	-27236.	-40299.	-49096.	-7232.	-21154.	-30760.	-3221.	-13514.	-21376.
7	-13233.	-22485.	10915.	-8019.	-17708.	15622.	-63669.	-65144.	-16808.
8	-8772.	-7022.	29033.	-6959.	-10958.	29162.	-49726.	-41348.	-20007.
9	55208.	66747.	68691.	40336.	53571.	60820.	52296.	66083.	55514.
10	78669.	94281.	97057.	54523.	76693.	85925.	74313.	83870.	72883.
11	20591.	32438.	33760.	4177.	17817.	23422.	18227.	22899.	23727.
12	-12496.	-7506.	-6963.	-9213.	-5473.	-5034.	-3656.	-6037.	-4513.
13	-26931.	-33082.	-39838.	-13712.	-19379.	-25747.	-9008.	-16070.	-19074.
14	-35869.	-53478.	-61514.	-16047.	-32426.	-38665.	-12748.	-25067.	-29586.
15	-23547.	-30814.	10227.	-15085.	-23368.	18833.	-74583.	-74291.	-25627.
16	-13393.	-12266.	33507.	-10484.	-14828.	33825.	-43751.	-41253.	-23055.
17	56035.	66554.	71241.	36459.	50237.	58928.	59417.	68796.	53939.
18	87592.	103291.	115832.	58982.	82250.	102494.	85924.	94688.	86135.
19	31139.	44275.	51251.	18144.	32008.	39837.	19246.	28626.	26935.
20	-6447.	-1915.	3540.	-4102.	-1880.	413.	-8863.	-7913.	-3865.
21	-30554.	-40600.	-38649.	-16764.	-25639.	-22891.	-25324.	-31098.	-27756.
22	-41994.	-59003.	-65131.	-20956.	-37646.	-41561.	-19467.	-33274.	-38088.
23	-28857.	-33957.	13527.	-21519.	-30180.	21674.	-69394.	-74944.	-27832.
24	-14696.	-7497.	39135.	-18900.	-17213.	39433.	-35023.	-35162.	-31244.
25	60117.	75001.	84032.	34403.	52827.	68696.	66730.	77319.	60370.
26	100892.	122537.	138836.	70351.	97412.	121521.	101744.	110444.	98508.
27	23404.	41705.	57386.	11145.	28693.	39340.	5039.	22359.	24203.
28	-7710.	-7120.	14623.	-6434.	-6120.	6410.	-22815.	-14587.	-2370.
29	-35416.	-45226.	-31064.	-23218.	-29825.	-20809.	-37968.	-39656.	-31009.
30	-50841.	-65598.	-64572.	-29327.	-40569.	-37148.	-29845.	-37934.	-37039.
31	-31665.	-32620.	21281.	-24886.	-30833.	27064.	-57221.	-74497.	-25220.
32	-15338.	-7852.	41911.	-19067.	-18374.	42321.	-23044.	-34317.	-33142.
33	69534.	86736.	101254.	48357.	63441.	86458.	82331.	90324.	67258.
34	116655.	142209.	158530.	92434.	114238.	139219.	115045.	123972.	111210.
35	36190.	51579.	74899.	16869.	28655.	54769.	5621.	21313.	30852.
36	-11768.	847.	28138.	-13473.	-3000.	18172.	-42626.	-20605.	139.
37	-42741.	-41680.	-15729.	-33526.	-32885.	-15842.	-56388.	-51003.	-34890.
38	-54598.	-63945.	-58001.	-36175.	-48403.	-34994.	-34475.	-47522.	-40916.
39	-34722.	-44044.	28843.	-31013.	-38932.	30734.	-46657.	-73250.	-35498.
40	-16984.	-4580.	48331.	-22150.	-25105.	48366.	-14434.	-25699.	-41057.

TABLE XXV

TIMING DIFFERENCE MEANS - FULL COST - VARYING PROD.

YEAR	COND 10- CON IDC INC PROD INC RES	COND 13- CON IDC CON PROD INC RES	COND 16- CON IDC DEC PROD INC RES	COND 11- CON IDC INC PROD CON RES	COND 14- CON IDC CON PROD CON RES	COND 17- CON IDC DEC PROD CON RES	COND 12- CON IDC INC PROD DEC RES	COND 15- CON IDC CON PROD DEC RES	COND 18- CON IDC DEC PROD DEC RES
1	70720.	70720.	70720.	70720.	70720.	70720.	70720.	70720.	70720.
2	63491.	64504.	67219.	62332.	63559.	66547.	58468.	59332.	63079.
3	50980.	51799.	55160.	50480.	51212.	54936.	47111.	47659.	52295.
4	40626.	36559.	38950.	48911.	44574.	46907.	42341.	38621.	40982.
5	31267.	17168.	15553.	45115.	32648.	31042.	48179.	37015.	35575.
6	20477.	4050.	-5660.	42612.	26821.	16101.	47094.	35325.	26604.
7	23799.	9276.	56564.	34263.	21379.	64509.	-39346.	-42627.	22022.
8	12000.	11659.	70872.	20610.	13593.	72043.	-52058.	-46719.	-3699.
9	12062.	27102.	34460.	-6401.	10418.	25428.	-9162.	10137.	12600.
10	8060.	29126.	38651.	-22835.	5693.	24763.	-10989.	5552.	-32.
11	2160.	15734.	23172.	-17834.	-1999.	11205.	11246.	14741.	6233.
12	-420.	5111.	6037.	3710.	6056.	9565.	23816.	20722.	9640.
13	-1767.	-8061.	-23135.	11863.	4504.	-6006.	29661.	21185.	9037.
14	1299.	-19191.	-39198.	24197.	3359.	-11801.	35829.	20738.	7236.
15	-48.	-9934.	47590.	12462.	2209.	56975.	-54592.	-57275.	-2170.
16	-2141.	-1437.	66453.	6276.	1892.	67157.	-48332.	-47188.	-12664.
17	10896.	23759.	31350.	-13797.	2793.	15878.	-6998.	8469.	7647.
18	4771.	26127.	43320.	-32223.	-2352.	28060.	-9797.	2769.	3085.
19	3024.	19094.	29935.	-13230.	4507.	18902.	6139.	13399.	252.
20	3615.	9535.	16444.	6066.	7650.	13852.	21445.	18242.	9268.
21	3256.	-7990.	-9192.	17023.	4568.	6602.	23399.	16943.	7624.
22	1128.	-17396.	-32179.	24306.	4374.	-6733.	33984.	19883.	5092.
23	2200.	-6559.	52154.	12546.	170.	59146.	-35888.	-43553.	470.
24	1812.	8151.	70296.	3595.	3897.	70680.	-36313.	-35414.	-17510.
25	8257.	24521.	38304.	-21639.	29.	19692.	-16208.	5043.	7681.
26	2427.	27314.	47249.	-39230.	-813.	29156.	-5753.	2159.	-1598.
27	-1047.	22042.	37483.	-17015.	6318.	21521.	3479.	13189.	1814.
28	7813.	12093.	33129.	13268.	10012.	26185.	19005.	20744.	17491.
29	1120.	-8402.	2397.	19009.	4050.	12701.	19249.	13099.	8950.
30	122.	-18365.	-22269.	26062.	7318.	5430.	28394.	19292.	12526.
31	1473.	-4493.	56372.	14017.	2006.	61549.	-26944.	-38819.	5860.
32	2890.	6107.	67478.	4143.	2464.	67786.	-31360.	-36846.	-18982.
33	5140.	21760.	41062.	-24232.	-1957.	24743.	-17091.	559.	970.
34	7601.	34330.	52802.	-31977.	5794.	34459.	1291.	5931.	1341.
35	1524.	21297.	41959.	-16267.	-1296.	25594.	1775.	7672.	-445.
36	-3027.	11834.	35530.	6328.	4199.	27784.	6849.	13265.	13126.
37	-398.	-3239.	18787.	18353.	3701.	18715.	12702.	10981.	9436.
38	2098.	-16530.	-10960.	24613.	3232.	9643.	24656.	16758.	11580.
39	4672.	-6850.	61187.	15394.	2038.	62710.	-16815.	-31501.	-279.
40	4214.	11475.	67506.	358.	-116.	67480.	-20974.	-27733.	-19274.

TABLE XXVI

TIMING DIFFERENCE MEANS - FULL COST - VARYING PROD.

YEAR	COND 19- DEC IDC INC PROD INC RES	COND 22- DEC IDC CON PROD INC RES	COND 25- DEC IDC DEC PROD INC RES	COND 20- DEC IDC INC PROD CON RES	COND 23- DEC IDC CON PROD CON RES	COND 26- DEC IDC DEC PROD CON RES	COND 21- DEC IDC INC PROD DEC RES	COND 24- DEC IDC CON PROD DEC RES	COND 27- DEC IDC DEC PROD DEC RES
1	45092.	45092.	45092.	45092.	45092.	45092.	45092.	45092.	45092.
2	24187.	24857.	26533.	23266.	24103.	25993.	20733.	21232.	23491.
3	28093.	28388.	30031.	27635.	28063.	29858.	25835.	25923.	28231.
4	37265.	35271.	36381.	42306.	39935.	41086.	33143.	36299.	37397.
5	46242.	38649.	37678.	55748.	48655.	47560.	57647.	51276.	50295.
6	61743.	51150.	44814.	78336.	67271.	59491.	81521.	73456.	67133.
7	963.	-11332.	26791.	12697.	2039.	36091.	-43739.	-48201.	3290.
8	-31594.	-33989.	14052.	-21965.	-28803.	16069.	-78077.	-76799.	-39423.
9	-1943.	7378.	12393.	-16615.	-5620.	6028.	-24297.	-12283.	-5154.
10	-16230.	-2308.	4239.	-38790.	-19726.	-5318.	-31476.	-20417.	-25943.
11	-11956.	-4234.	1072.	-26530.	-16435.	-6822.	185.	2433.	-10691.
12	-1999.	1149.	-573.	-541.	141.	1495.	18907.	18168.	3536.
13	13446.	11157.	-4240.	21907.	17366.	6944.	36960.	32654.	19194.
14	33804.	24123.	4742.	47779.	36929.	21525.	58139.	50055.	37953.
15	-9496.	-15081.	20173.	-485.	-5804.	26994.	-39708.	-41073.	-7414.
16	-30358.	-31094.	11585.	-24160.	-27103.	12157.	-60286.	-60420.	-32050.
17	155.	6517.	11358.	-15725.	-6631.	2701.	-16192.	-7814.	-5954.
18	-12503.	-903.	8628.	-35267.	-18462.	-8.	-21101.	-15102.	-16795.
19	-7527.	1445.	6740.	-17345.	-7620.	718.	3197.	5312.	-9272.
20	1943.	4243.	6096.	3237.	2526.	4863.	16388.	14402.	4353.
21	15604.	10663.	4627.	23087.	16984.	14384.	29597.	27132.	19284.
22	28061.	19938.	6867.	42058.	31579.	21967.	47824.	40618.	32499.
23	-8899.	-14429.	17828.	-1951.	-9440.	22195.	-29813.	-32915.	-7661.
24	-25658.	-23962.	10509.	-22885.	-23648.	10765.	-49541.	-48634.	-31443.
25	224.	7276.	13928.	-15719.	-5414.	5668.	-17435.	-6641.	-3324.
26	-11211.	608.	9812.	-33882.	-14826.	1369.	-12402.	-11238.	-17395.
27	-8071.	2990.	9365.	-15921.	-5024.	1874.	3667.	5496.	-7326.
28	1616.	3260.	11335.	4698.	2179.	8286.	12002.	12343.	6020.
29	13783.	10572.	10585.	23755.	15917.	16766.	23987.	23213.	17705.
30	25778.	17485.	10022.	39820.	30309.	25768.	39653.	36256.	32690.
31	-8727.	-13307.	16093.	-2482.	-8597.	19072.	-24365.	-28563.	-5618.
32	-20968.	-21512.	8309.	-20348.	-20891.	8496.	-41255.	-42515.	-27428.
33	-987.	6101.	13996.	-14913.	-4368.	7584.	-14670.	-6659.	-5478.
34	-9316.	1863.	9312.	-28156.	-11549.	2093.	-8154.	-9056.	-14830.
35	-5431.	3156.	10997.	-11472.	-6187.	4393.	4307.	4903.	-5572.
36	1939.	6309.	14697.	7202.	3234.	11799.	10114.	12204.	8070.
37	10486.	8664.	14816.	19990.	12335.	15530.	17520.	17718.	13883.
38	23098.	15520.	13722.	33652.	24904.	24996.	32315.	29808.	28127.
39	-6266.	-12383.	17117.	-1601.	-6430.	17965.	-18853.	-22640.	-7237.
40	-17827.	-16323.	7723.	-19735.	-19137.	7742.	-33200.	-35343.	-24632.

TABLE XXVII

TIMING DIFFERENCE MEANS - SUCC. EFFORTS - VARYING PROD.

YEAR	COND 1-- INC IDC INC PROD INC RES	COND 4-- INC IDC CON PROD INC RES	COND 7-- INC IDC DEC PROD INC RES	COND 2-- INC IDC INC PROD CON RES	COND 5-- INC IDC CON PROD CON RES	COND 8-- INC IDC DEC PROD CON RES	COND 3-- INC IDC INC PROD DEC RES	COND 6-- INC IDC CON PROD DEC RES	COND 9-- INC IDC DEC PROD DEC RES
1	73411.	74188.	74317.	73294.	74069.	74209.	73960.	74039.	74380.
2	91161.	91610.	94229.	90309.	90713.	93582.	88302.	88420.	92357.
3	44439.	44373.	47370.	45714.	45618.	48316.	40969.	40711.	44412.
4	18939.	12607.	14951.	22341.	16804.	18821.	21370.	15642.	17835.
5	-3324.	-15135.	-21472.	4572.	-4129.	-9817.	3918.	-4574.	-10704.
6	-10501.	-25915.	-34678.	-3301.	-16635.	-26397.	-1602.	-11954.	-21213.
7	-6116.	-10855.	15602.	-1895.	-9434.	16304.	-64989.	-64087.	-41144.
8	413.	-2320.	29153.	-1195.	-6199.	29026.	-61755.	-51838.	-26387.
9	50930.	58588.	62279.	41717.	51324.	55992.	50865.	59836.	65805.
10	86704.	96679.	105510.	73188.	85531.	98532.	87254.	93795.	102603.
11	13011.	32216.	41316.	8637.	26331.	37468.	22583.	31225.	40284.
12	-3290.	-5404.	-1543.	-6151.	-9663.	-4220.	7123.	1234.	7369.
13	-19601.	-25084.	-37615.	-12620.	-17023.	-27620.	-5020.	-11933.	-17967.
14	-23908.	-40247.	-54097.	-13622.	-26547.	-37970.	-7557.	-18907.	-27346.
15	-10345.	-15443.	18361.	-7836.	-14722.	19137.	-83118.	-82049.	-55612.
16	-7351.	-750.	33688.	-10182.	-4493.	33668.	-62192.	-58354.	-41667.
17	49300.	62230.	66770.	37385.	52566.	58531.	54801.	64845.	69208.
18	89625.	102570.	114444.	74336.	90933.	105298.	91933.	99035.	108949.
19	23643.	33479.	55930.	18985.	26738.	49837.	28853.	33336.	51204.
20	-3401.	-5146.	3741.	-7879.	-10355.	-3892.	-4130.	-6187.	1957.
21	-13958.	-21967.	-23184.	-17189.	-21897.	-25516.	-13438.	-17855.	-19882.
22	-26751.	-42434.	-47887.	-20118.	-35342.	-41795.	-14140.	-25031.	-32349.
23	-14444.	-19830.	20291.	-13292.	-20441.	20277.	-81926.	-83110.	-61083.
24	-6979.	925.	39607.	-10400.	-2668.	39489.	-52000.	-50832.	-43038.
25	44906.	70176.	74812.	29413.	58974.	64631.	55044.	70390.	74173.
26	95247.	108792.	122691.	79530.	91136.	110820.	97512.	101064.	114034.
27	28681.	43591.	62264.	23390.	32875.	53452.	21040.	31400.	50914.
28	-3442.	741.	14918.	-4888.	-4212.	5476.	-3170.	205.	11076.
29	-17457.	-21046.	-10919.	-20116.	-27307.	-20762.	-19695.	-23590.	-17337.
30	-30704.	-37973.	-36028.	-22121.	-31346.	-33306.	-24452.	-30195.	-34537.
31	-19103.	-24618.	24675.	-16240.	-23364.	24340.	-77248.	-85371.	-66227.
32	-7215.	146.	44068.	-7119.	-1004.	44020.	-41943.	-50507.	-47992.
33	48517.	75987.	86360.	28896.	60862.	73617.	61980.	72827.	77668.
34	96556.	120343.	136895.	83423.	99861.	122688.	101995.	108356.	123433.
35	40132.	58150.	78124.	33832.	42338.	65510.	27437.	40973.	61855.
36	-4336.	10120.	24669.	-8565.	-698.	11337.	-14711.	-2146.	10515.
37	-19758.	-21466.	-4146.	-19015.	-26706.	-11264.	-29916.	-30604.	-15471.
38	-30426.	-36678.	-25261.	-28328.	-39793.	-33247.	-29953.	-36707.	-35797.
39	-17232.	-18338.	30965.	-13921.	-23063.	29410.	-70822.	-87471.	-70737.
40	-7482.	-2124.	48345.	-18594.	-15084.	47810.	-38202.	-52943.	-54138.

TABLE XXVIII

TIMING DIFFERENCE MEANS - SUCC. EFFORTS - VARYING PROD.

YEAR	COND 10- CON IDC INC PROD INC RES	COND 13- CON IDC CON PROD INC RES	COND 16- CON IDC DEC PROD INC RES	COND 11- CON IDC INC PROD CON RES	COND 14- CON IDC CON PROD CON RES	COND 17- CON IDC DEC PROD CON RES	COND 12- CON IDC INC PROD DEC RES	COND 15- CON IDC CON PROD DEC RES	COND 18- CON IDC DEC PROD DEC RES
1	75062.	76031.	76377.	74770.	75803.	76243.	75789.	75875.	76394.
2	68150.	69685.	71553.	67205.	67712.	70839.	65472.	65508.	69575.
3	62435.	62519.	65196.	63669.	63653.	65987.	59594.	59418.	62534.
4	55377.	49091.	51254.	58843.	53287.	55012.	57989.	52333.	54322.
5	41865.	28563.	20886.	50811.	41027.	34114.	50029.	40440.	33329.
6	46223.	25572.	14383.	55195.	37767.	25152.	57312.	43470.	31860.
7	33580.	21685.	63930.	40297.	27459.	65676.	-52998.	-54052.	-21920.
8	30307.	22001.	77564.	28999.	17629.	77473.	-72222.	-62625.	-23428.
9	13382.	25782.	34786.	-627.	12862.	25630.	922.	15442.	31108.
10	7407.	23424.	38247.	-13882.	5561.	27403.	-1200.	10687.	28637.
11	-464.	24387.	36543.	-5819.	18404.	31354.	20597.	28929.	36744.
12	10636.	6579.	11435.	9629.	1622.	7892.	33384.	26775.	27964.
13	9144.	3334.	-19768.	19282.	14052.	-5201.	37363.	28122.	18639.
14	19083.	-2220.	-28032.	32988.	15789.	-5342.	46716.	32185.	19107.
15	18055.	10481.	61086.	21612.	12991.	62020.	-75681.	-75469.	-39833.
16	10911.	21415.	76978.	8376.	17640.	76964.	-67997.	-65167.	-35949.
17	2855.	23801.	33430.	-13958.	8727.	21791.	-4051.	14413.	27773.
18	10377.	28324.	45554.	-10431.	12758.	33840.	2079.	13939.	31716.
19	1712.	13068.	38674.	-3580.	5617.	31764.	14479.	17113.	32603.
20	12173.	9380.	19662.	7579.	3376.	10735.	23291.	20094.	21084.
21	13602.	9961.	4726.	15865.	10527.	1583.	31702.	25174.	19596.
22	12380.	-6534.	-18651.	20333.	1800.	-10977.	33898.	21069.	11583.
23	16927.	9303.	62115.	18518.	9849.	61834.	-58328.	-62961.	-34849.
24	7338.	16940.	73493.	6620.	13437.	73307.	-55785.	-55285.	-35006.
25	-5004.	28180.	39192.	-24192.	13291.	25743.	-13663.	16167.	28559.
26	15905.	31605.	50908.	-5378.	11799.	36841.	10016.	13273.	33247.
27	7991.	22943.	43202.	-1037.	11965.	33629.	7598.	14193.	29071.
28	9337.	13969.	27073.	7783.	7190.	17017.	24435.	22338.	26192.
29	14863.	10333.	19320.	14339.	3843.	7449.	26320.	19374.	20242.
30	15071.	6569.	4080.	26951.	15332.	7723.	30899.	22387.	16148.
31	17523.	11950.	68795.	24243.	13464.	68506.	-41234.	-50618.	-29628.
32	13102.	22902.	77976.	16809.	20913.	77924.	-41393.	-47907.	-32657.
33	-93.	33798.	49606.	-24337.	14538.	34483.	-10889.	12532.	29764.
34	6642.	32697.	53975.	-15555.	10043.	38712.	28.	8165.	30738.
35	12558.	29336.	50410.	3263.	14790.	38276.	9937.	17416.	31607.
36	9259.	23343.	37220.	8354.	14238.	24747.	18591.	21973.	26056.
37	24421.	21179.	37145.	28509.	17240.	29964.	32231.	26415.	32973.
38	16941.	9190.	17709.	21258.	6401.	8841.	25745.	16880.	15795.
39	17389.	17560.	70667.	18931.	9703.	68849.	-37027.	-51096.	-37327.
40	8318.	16209.	74677.	-855.	-2619.	74039.	-41529.	-52370.	-41652.

TABLE XXIX

TIMING DIFFERENCE MEANS - SUCC. EFFORTS - VARYING PROD.

YEAR	COND 19- DEC IDC INC PROD INC RES	COND 22- DEC IDC CON PROD INC RES	COND 25- DEC IDC DEC PROD INC RES	COND 20- DEC IDC INC PROD CON RES	COND 23- DEC IDC CON PROD CON RES	COND 26- DEC IDC DEC PROD CON RES	COND 21- DEC IDC INC PROD DEC RES	COND 24- DEC IDC CON PROD DEC RES	COND 27- DEC IDC DEC PROD DEC RES
1	51291.	51856.	52115.	51085.	51706.	52038.	51844.	51860.	52111.
2	20714.	20996.	22971.	20158.	20422.	22549.	19149.	19077.	21688.
3	33946.	34039.	35353.	34595.	34617.	35702.	32639.	32562.	34130.
4	47124.	43953.	44963.	49035.	46217.	46957.	48538.	45635.	46732.
5	60782.	53271.	48527.	66028.	60497.	56293.	65535.	60095.	55928.
6	78491.	64394.	56941.	84684.	72881.	64462.	86056.	76583.	68948.
7	5033.	-6417.	29089.	10487.	-182.	30741.	-62258.	-63562.	-39143.
8	-21982.	-29836.	14486.	-22438.	-32129.	14463.	-98566.	-93211.	-64627.
9	-3482.	4980.	11417.	-12731.	-4108.	5332.	-14189.	-4736.	6710.
10	-19648.	-8102.	689.	-34090.	-20863.	-6598.	-24667.	-16132.	-6305.
11	-18471.	-2387.	3192.	-21822.	-5350.	-358.	4021.	5878.	5935.
12	7070.	4703.	5648.	6913.	2235.	3631.	26778.	24159.	20056.
13	29081.	26766.	9026.	34742.	32190.	18219.	50253.	45748.	40217.
14	54546.	42687.	23790.	62556.	53065.	38094.	74822.	67192.	59689.
15	-4958.	-8873.	25211.	-2526.	-6639.	25995.	-59337.	-58863.	-34765.
16	-31130.	-23652.	11651.	-31666.	-25484.	11685.	-80766.	-79669.	-58783.
17	-3280.	8349.	14117.	-12733.	-246.	7803.	-12106.	-1272.	7736.
18	-15427.	-5386.	4363.	-28170.	-14875.	-2119.	-21091.	-14557.	-6114.
19	-8103.	-2327.	9866.	-10210.	-6210.	5954.	6496.	4790.	6824.
20	4791.	3217.	6878.	3063.	894.	2211.	15980.	14734.	10835.
21	33336.	31722.	26349.	33423.	31546.	25109.	46977.	43651.	39731.
22	48639.	38643.	30076.	52649.	42582.	34580.	63559.	57187.	52330.
23	-6163.	-10595.	22076.	-4212.	-10646.	21997.	-47549.	-49443.	-30874.
24	-27820.	-22882.	11152.	-25776.	-23034.	11057.	-66081.	-65902.	-51032.
25	-5749.	10495.	16919.	-17112.	2942.	10327.	-17847.	991.	8290.
26	-11682.	-3230.	6502.	-23678.	-14277.	-589.	-12171.	-14357.	-4601.
27	-3766.	3033.	12513.	-7892.	-1657.	7768.	5302.	5060.	5809.
28	1970.	4119.	9162.	667.	1093.	4219.	15134.	13354.	11250.
29	24643.	22649.	24152.	23626.	19251.	18877.	34015.	31441.	30071.
30	44614.	41192.	37710.	52505.	44245.	40021.	54983.	51852.	49072.
31	-11929.	-14816.	17067.	-5412.	-13407.	16861.	-41562.	-45134.	-30891.
32	-24254.	-19749.	9000.	-21521.	-18980.	9003.	-54823.	-56691.	-45140.
33	-7786.	6515.	13939.	-20002.	-1929.	7589.	-17474.	-5676.	3009.
34	-12842.	-1510.	7702.	-22997.	-11662.	1315.	-9694.	-11561.	-3691.
35	-171.	5827.	14359.	-3054.	1069.	9212.	8751.	9684.	7049.
36	2622.	7787.	12715.	2331.	5093.	7536.	12473.	12531.	10477.
37	23409.	21705.	26675.	26375.	20825.	23872.	29995.	28966.	29362.
38	37234.	34598.	36269.	41659.	32596.	32856.	42557.	40685.	40372.
39	-6936.	-6423.	17406.	-4596.	-10509.	16642.	-31593.	-35700.	-24100.
40	-18779.	-16310.	8462.	-23215.	-22446.	8213.	-44895.	-47764.	-37697.

15 to 21 reversals. The decreasing assumption has no reversals in the first set and only three in the second set, but then jumps to 18 reversals in the third set. The tables that relate to the full costing firms (Tables XXIV, XXV, and XXVI) and the tables that relate to the successful efforts firms (Tables XXVII, XXVIII and XXIX) show tables would continue to be pertinent to the tables for the full costing and successful efforts firms.

Results for the Fourth Grouping

The last grouping of tables was constructed so that the means for the full costing companies and the successful efforts companies could be observed together. The purpose of such a grouping would be to determine if there were any differences in the conditions due to the fact that the data pertained to the full costing or successful efforts firms. This grouping is presented in Tables XXX through XXXII, Tables XXXIII through XXXIX, and Tables XL through XLIV. There is very little difference as far as the reversals are concerned between the two types of firms. While there were some variations as to when the reversals occurred, generally when the full costing firms had a large number of reversals, the successful efforts firms did also. Similarly, when the full costing firms had few or no reversals, so did the successful efforts firms. Also, the patterns such as the sine wave cycle were present for both types of firms. Overall, there did not appear to be any effect on the timing difference means due to the fact that one group was based on the full costing approach while another group was based on successful efforts.

TABLE XXX

COMPARISON OF FULL COST - SUCC. EFFORTS - ALL CONDITIONS

COND 1-- INC IDC INC PROD INC RES		COND 2-- INC IDC INC PROD CON RES		COND 3-- INC IDC INC PROD DEC RES		COND 4-- INC IDC CON PROD INC RES		COND 5-- INC IDC CON PROD CON RES		COND 6-- INC IDC CON PROD DEC RES	
FC	SE	FC	SE	FC	SE	FC	SE	FC	SE	FC	SE
82885.	73411.	82885.	73294.	82885.	73960.	82885.	74188.	82885.	74069.	82885.	74C39.
90599.	91161.	89352.	90309.	85135.	88302.	91586.	91610.	90551.	90713.	85848.	8842C.
36143.	44439.	35408.	45714.	30965.	40969.	37303.	44373.	36487.	45618.	31889.	40711.
5820.	18939.	15198.	22341.	7913.	21370.	1357.	12607.	10518.	16804.	3854.	15642.
-12573.	-3324.	2178.	4572.	5187.	3918.	-26156.	-15135.	-10407.	-4129.	-6166.	-4574.
-27236.	-10501.	-7232.	-3301.	-3221.	-1602.	-40299.	-25915.	-21154.	-16635.	-13514.	-11954.
-13233.	-6116.	-8019.	-1895.	-63669.	-64989.	-22485.	-10855.	-17708.	-9434.	-65144.	-64087.
-8772.	413.	-6959.	-1195.	-49726.	-61755.	-7022.	-2320.	-10958.	-6199.	-41348.	-51838.
55208.	50930.	40336.	41717.	52296.	50865.	66747.	58588.	53571.	51324.	66093.	59836.
78669.	86704.	54523.	73188.	74313.	87254.	94281.	96679.	76693.	85531.	83870.	93795.
20591.	13011.	4177.	8637.	18227.	22583.	32438.	32216.	17817.	26331.	22899.	31225.
-12496.	-3290.	-8213.	-6151.	-3656.	7123.	-7506.	-5404.	-5473.	-9663.	-6037.	1234.
-26931.	-19601.	-13712.	-12620.	-9008.	-5020.	-33082.	-25084.	-19379.	-17023.	-16070.	-11933.
-35869.	-23908.	-16047.	-13622.	-12748.	-7557.	-53478.	-40247.	-32426.	-26547.	-25067.	-18907.
-23547.	-10345.	-15085.	-7836.	-74583.	-83118.	-30814.	-15443.	-23368.	-14722.	-74291.	-82045.
-13393.	-7351.	-10484.	-10182.	-43751.	-62192.	-12266.	-750.	-14828.	-4493.	-41253.	-58354.
56035.	49300.	36459.	37385.	59417.	54801.	66554.	62230.	50237.	52566.	68796.	64845.
87592.	89625.	58982.	74336.	85924.	91933.	103291.	102576.	82250.	90933.	94688.	99035.
31139.	23643.	18144.	18985.	19246.	28853.	44275.	33479.	32008.	26738.	28626.	33336.
-6447.	-3401.	-4102.	-7879.	-8863.	-4130.	-1015.	-5146.	-1880.	-10355.	-7913.	-6187.
-30554.	-18958.	-16764.	-17189.	-25324.	-13438.	-40600.	-21967.	-25639.	-21897.	-31098.	-17855.
-41994.	-26751.	-20956.	-20118.	-19467.	-14140.	-59003.	-42434.	-37646.	-35342.	-33274.	-25031.
-28857.	-14444.	-21519.	-13292.	-69394.	-81926.	-33957.	-19830.	-30180.	-20441.	-74944.	-83110.
-14696.	-6979.	-18900.	-10400.	-35023.	-52000.	-7497.	925.	-17213.	-2668.	-35162.	-50832.
60117.	44906.	34403.	28413.	66730.	55044.	75001.	70176.	52827.	58974.	77319.	70390.
100892.	95247.	70351.	79530.	101744.	97512.	122537.	108792.	97412.	91136.	110444.	101064.
23404.	28681.	11145.	23390.	5039.	21040.	41705.	43591.	28693.	32875.	22359.	31400.
-7710.	-3442.	-6434.	-4888.	-22815.	-3170.	-7120.	741.	-6120.	-4212.	-14587.	205.
-35416.	-17457.	-23218.	-20116.	-37968.	-19695.	-45226.	-21046.	-29825.	-27307.	-39656.	-23590.
-50641.	-30704.	-29327.	-22121.	-29845.	-24452.	-65598.	-37973.	-40569.	-31346.	-37934.	-30195.
-31665.	-19103.	-24886.	-16240.	-57221.	-77248.	-32620.	-24618.	-30833.	-23364.	-74497.	-85371.
-15338.	-7215.	-19067.	-7119.	-23044.	-41943.	-7852.	146.	-18374.	-1004.	-34317.	-50507.
69534.	48817.	48357.	28856.	82331.	61980.	86736.	75987.	63441.	60862.	90324.	72827.
116655.	96556.	92434.	83423.	115045.	101995.	142209.	120343.	114238.	99861.	123972.	108356.
36190.	40132.	16869.	33832.	5621.	27437.	51579.	58150.	28655.	42338.	21313.	40973.
-11768.	-4336.	-13473.	-8565.	-42626.	-14711.	847.	10120.	-3000.	-698.	-20605.	-2146.
-42741.	-19758.	-33526.	-19015.	-56388.	-28916.	-41680.	-21466.	-32885.	-26706.	-51003.	-30604.
-54598.	-30426.	-36175.	-28328.	-34475.	-29953.	-68945.	-36678.	-48403.	-39793.	-47522.	-36707.
-34722.	-17232.	-31013.	-18921.	-46657.	-70822.	-44044.	-18338.	-38932.	-23063.	-78250.	-87471.
-16984.	-7482.	-22150.	-18594.	-14434.	-38202.	-4580.	-2124.	-25105.	-15084.	-25699.	-52943.

TABLE XXXI

COMPARISON OF FULL COST - SUCC. EFFORTS - ALL CONDITIONS

COND 7-- INC IDC DEC PROD INC RES		COND 8-- INC IDC DEC PROD CON RES		COND 9-- INC IDC DEC PROD DEC RES		COND 10- CON IDC INC PROD INC RES		COND 11- CON IDC INC PROD CON RES		COND 12- CON IDC INC PROD DEC RES	
FC	SE	FC	SE	FC	SE	FC	SE	FC	SE	FC	SE
82885.	74317.	82885.	74209.	82885.	74380.	70720.	75062.	70720.	74770.	70720.	75789.
94716.	94229.	93981.	93582.	90173.	92367.	63491.	68150.	62332.	67205.	58468.	65472.
41621.	47370.	41563.	48316.	38216.	44412.	50980.	62435.	50480.	63669.	47111.	59594.
3870.	14951.	13014.	18821.	6386.	17835.	40626.	55377.	48911.	58843.	42341.	57985.
-27254.	-21472.	-11674.	-9817.	-7331.	-10704.	31267.	41865.	45115.	50811.	48179.	50029.
-49096.	-34678.	-30760.	-26397.	-21396.	-21213.	20477.	46223.	42612.	55195.	47094.	57312.
10915.	15602.	15622.	16304.	-16808.	-41144.	23799.	33580.	34263.	40297.	-39346.	-52998.
29033.	29153.	29162.	29026.	-20007.	-26387.	12000.	30307.	20610.	28999.	-52058.	-72222.
68691.	62279.	60820.	55992.	55514.	65805.	12062.	13382.	-6401.	-627.	-9162.	922.
97057.	105510.	85925.	98532.	72883.	102603.	8060.	7407.	-22835.	-13882.	-10989.	-12CC.
33760.	41316.	23422.	37468.	23727.	40284.	2160.	-464.	-17834.	-5819.	11246.	20597.
-6963.	-1543.	-5034.	-4220.	-4513.	7369.	-420.	10836.	3710.	9629.	23816.	33384.
-39838.	-37615.	-25747.	-27620.	-19094.	-17967.	-1767.	9144.	11863.	19282.	29661.	37363.
-61514.	-54097.	-38665.	-37970.	-29586.	-27346.	1299.	19083.	24197.	32988.	35829.	46716.
10227.	18361.	18833.	19137.	-25627.	-55612.	-48.	18055.	12462.	21612.	-54592.	-75681.
33507.	33688.	33825.	33668.	-23055.	-41667.	-2141.	10911.	6276.	8376.	-48332.	-67997.
71241.	66770.	58928.	58531.	53989.	69208.	10896.	2855.	-13797.	-13958.	-6998.	-4C51.
115832.	114444.	102494.	105298.	86135.	108949.	4771.	10377.	-32223.	-10431.	-9797.	2079.
51251.	55930.	39837.	49837.	26935.	51204.	3024.	1712.	-13230.	-3580.	6139.	14479.
3540.	3741.	413.	-3892.	-3665.	1957.	3615.	12173.	6066.	7579.	21445.	23291.
-38649.	-23184.	-22891.	-25516.	-27758.	-19882.	3256.	13602.	17023.	15865.	23399.	31702.
-65131.	-47887.	-41561.	-41795.	-38088.	-32349.	1128.	12380.	24306.	20333.	33984.	33898.
13527.	20291.	21674.	20277.	-27832.	-61083.	2200.	16927.	12546.	18518.	-35888.	-58326.
39135.	39607.	39433.	39489.	-31244.	-43038.	1812.	7338.	3595.	6620.	-36313.	-55785.
84032.	74812.	68696.	64631.	60370.	74173.	8257.	-5004.	-21639.	-24192.	-16208.	-13663.
138836.	122691.	121521.	110820.	98508.	114034.	2427.	15905.	-39230.	-5378.	-5753.	10016.
57386.	62264.	39340.	53452.	24203.	50914.	-1047.	7991.	-17015.	-1037.	3479.	7598.
14623.	14918.	6410.	5476.	-2370.	11076.	7813.	9337.	13268.	7783.	19005.	24435.
-31064.	-10919.	-20809.	-20762.	-31009.	-17337.	1120.	14863.	19009.	14339.	19249.	26320.
-64572.	-36028.	-37148.	-33306.	-37039.	-34587.	122.	15071.	26062.	26951.	28394.	30889.
21281.	24675.	27064.	24340.	-25220.	-66227.	1473.	17523.	14017.	24243.	-26944.	-41234.
41911.	44068.	42321.	44020.	-33142.	-47992.	2890.	13102.	4143.	16809.	-31360.	-41383.
101254.	86360.	86458.	73617.	67258.	77668.	5140.	-93.	-24232.	-24337.	-17091.	-10889.
158530.	136895.	139219.	122688.	111210.	123433.	7601.	6642.	-31977.	-15555.	1281.	28.
74899.	78124.	54769.	65510.	30852.	61855.	1524.	12558.	-16267.	3263.	1775.	9937.
28138.	24669.	18172.	11337.	139.	10515.	-3027.	9259.	6328.	8354.	6849.	18591.
-15729.	-4146.	-15842.	-11264.	-34890.	-15471.	-398.	24421.	18353.	28509.	12702.	32231.
-58001.	-25261.	-34994.	-33247.	-40916.	-35797.	2098.	16941.	24613.	21258.	24656.	25745.
28843.	30965.	30734.	29410.	-35498.	-70737.	4672.	17389.	15394.	18931.	-15815.	-37027.
48331.	48345.	48366.	47810.	-41057.	-54138.	4214.	8318.	358.	-855.	-20974.	-41529.

TABLE XXXII

COMPARISON OF FULL COST - SUCC. EFFORTS - ALL CONDITIONS

COND 13- CON IDC CON PROD INC RES		COND 14- CON IDC CON PROD CON RES		COND 15- CON IDC CON PROD DEC RES		COND 16- CON IDC DEC PRGD INC RES		COND 17- CON IDC DEC PROD CON RES		COND 18- CON IDC DEC PROD DEC RES	
FC	SE	FC	SE	FC	SE	FC	SE	FC	SE	FC	SE
70720.	76031.	70720.	75803.	70720.	75875.	70720.	76377.	70720.	76243.	70720.	76394.
64504.	68685.	63559.	67712.	59332.	65508.	67219.	71553.	66547.	70839.	63079.	69575.
51799.	62519.	51212.	63653.	47659.	59418.	55160.	65196.	54936.	65987.	52295.	62634.
36559.	49091.	44574.	53287.	38621.	52333.	38950.	51254.	46907.	55012.	40982.	54322.
17168.	28563.	32648.	41027.	37015.	40440.	15553.	20886.	31042.	34114.	35575.	33329.
4050.	25572.	26821.	37767.	35325.	43470.	-5660.	14383.	16101.	25152.	26604.	3186C.
9276.	21685.	21379.	27459.	-42627.	-54052.	56564.	63930.	64509.	65676.	22022.	-2192C.
11659.	22001.	13593.	17629.	-46719.	-62625.	70872.	77564.	72043.	77473.	-3699.	-23428.
27102.	25782.	10418.	12862.	10137.	15442.	3446C.	34786.	25428.	25630.	12600.	311C8.
29128.	23424.	5693.	5561.	5552.	10887.	38651.	38247.	24763.	27403.	-32.	28637.
15734.	24387.	-1999.	18404.	14741.	28929.	23172.	36543.	11205.	31354.	6233.	36744.
5111.	6579.	6056.	1622.	20722.	26775.	6037.	11435.	9565.	7892.	9640.	27964.
-8061.	3334.	4504.	14052.	21185.	28122.	-23135.	-19768.	-6006.	-5201.	9037.	18639.
-19191.	-2220.	3359.	15789.	20738.	32185.	-39198.	-29032.	-11801.	-5342.	7236.	19107.
-9934.	10481.	2209.	12991.	-57275.	-75469.	47590.	61086.	56975.	62020.	-2170.	-39883.
-1437.	21415.	1892.	17640.	-47188.	-65167.	66453.	76978.	67157.	76964.	-12664.	-35949.
23759.	23801.	2793.	8727.	8469.	14413.	31850.	33430.	15878.	21791.	7647.	27773.
26127.	28324.	-2352.	12758.	2769.	13939.	43320.	45554.	28060.	33840.	3095.	31716.
19094.	13068.	4507.	5617.	13399.	17113.	29935.	39674.	18902.	31764.	252.	32603.
9535.	9380.	7650.	3376.	18242.	20094.	16444.	19662.	13852.	10735.	9268.	21C84.
-7990.	9961.	4568.	10527.	16943.	25174.	-9192.	4726.	6602.	1583.	7624.	19596.
-17396.	-6534.	4374.	1800.	18883.	21069.	-32179.	-18651.	-6733.	-10977.	5092.	11583.
-6559.	9303.	170.	8849.	-43553.	-62961.	52154.	62115.	59146.	61834.	470.	-34844.
8151.	16940.	3897.	13437.	-35414.	-55285.	70296.	73493.	70680.	73307.	-17510.	-35006.
24521.	28180.	29.	13291.	5043.	16167.	38304.	39192.	19692.	25743.	7681.	28559.
27314.	31605.	-813.	11799.	2159.	13273.	47249.	50908.	29156.	36841.	-1598.	33247.
22042.	22943.	6318.	11965.	13189.	14193.	37483.	43202.	21521.	33629.	1814.	29071.
12093.	13969.	10012.	7190.	20744.	22338.	33129.	27073.	26185.	17017.	17491.	26192.
-8402.	10333.	4050.	3843.	13099.	19374.	2397.	19320.	12701.	7449.	8950.	20242.
-18365.	6569.	7318.	15332.	19292.	22387.	-22269.	4080.	5430.	7723.	12526.	16148.
-4493.	11950.	2006.	13464.	-39819.	-50618.	56372.	68795.	61549.	68506.	5860.	-29628.
6107.	22902.	2464.	20913.	-36846.	-47907.	67478.	77976.	67786.	77924.	-18982.	-32657.
21760.	33798.	-1957.	14538.	559.	12532.	41062.	49606.	24743.	34483.	970.	29764.
34330.	32697.	5794.	10043.	5931.	8165.	52802.	53975.	34459.	38712.	1341.	30788.
21297.	29336.	-1296.	14790.	7672.	17416.	41959.	50410.	25584.	38276.	-445.	316C7.
11834.	23343.	4199.	14238.	13265.	21973.	35530.	37220.	27784.	24747.	13126.	26056.
-3239.	21179.	3701.	17240.	10981.	26415.	18787.	37145.	18715.	29964.	8436.	32973.
-16530.	9190.	3232.	6401.	16758.	16880.	-10960.	17709.	9643.	8841.	11580.	15795.
-6850.	17560.	2038.	9703.	-31501.	-51096.	61187.	70667.	62710.	68849.	-279.	-37327.
11475.	16209.	-116.	-2619.	-27733.	-52370.	67508.	74677.	67480.	74039.	-19274.	-41652.

TABLE XXXIII

COMPARISON OF FULL COST - SUCC. EFFORTS - ALL CONDITIONS

COND 19- DEC IDC INC PROD INC RES		COND 20- DEC IDC INC PROD CON RES		COND 21 DEC IDC INC PROD DEC RES		COND 22- DEC IDC CON PROD INC RES		COND 23- DEC IDC CON PROD CON RES		COND 24- DEC IDC CON PROD DEC RES	
FC	SE	FC	SE	FC	SE	FC	SE	FC	SE	FC	SE
45092.	51291.	45092.	51085.	45092.	51844.	45092.	51856.	45092.	51706.	45092.	51860.
24187.	20714.	23266.	20158.	20733.	19149.	24857.	20996.	24103.	20422.	21232.	19077.
28093.	33946.	27835.	34595.	25835.	32639.	28388.	34039.	28063.	34617.	25923.	32562.
37265.	47124.	42306.	49035.	38143.	48538.	35271.	43953.	39935.	46217.	36299.	45635.
46242.	60782.	55748.	66028.	57647.	65535.	38649.	53271.	48655.	60497.	51276.	60095.
61743.	78491.	78336.	84684.	81521.	86056.	51150.	64394.	67271.	72881.	73456.	76583.
963.	5033.	12697.	10487.	-43739.	-62258.	-11332.	-6417.	2039.	-182.	-48201.	-63562.
-31594.	-21982.	-21965.	-22438.	-78077.	-98566.	-33989.	-29836.	-28803.	-32129.	-76799.	-93211.
-1943.	-3482.	-16615.	-12781.	-24297.	-14189.	7378.	4980.	-5620.	-4108.	-12283.	-4736.
-16230.	-19648.	-38790.	-34090.	-31476.	-24667.	-2308.	-8102.	-19726.	-20863.	-20417.	-16132.
-11956.	-18471.	-26530.	-21822.	185.	4021.	-4234.	-2387.	-16435.	-5350.	2433.	5878.
-1999.	7070.	-541.	6913.	18907.	26778.	1149.	4703.	141.	2235.	18168.	24159.
13446.	29081.	21907.	34742.	36960.	50253.	11157.	26766.	17366.	32190.	32654.	45748.
33804.	54546.	47779.	62556.	58139.	74822.	24123.	42687.	36929.	53065.	50055.	67192.
-9496.	-4958.	-485.	-2526.	-39708.	-59337.	-15081.	-8873.	-5804.	-6639.	-41073.	-58863.
-30358.	-31130.	-24160.	-31666.	-60286.	-80766.	-31094.	-23652.	-27103.	-25484.	-60420.	-79669.
155.	-3280.	-15725.	-12733.	-16192.	-12106.	6517.	8349.	-6631.	-246.	-7814.	-1272.
-12503.	-15427.	-35267.	-28170.	-21101.	-21091.	-903.	-5386.	-18462.	-14375.	-15102.	-14557.
-7527.	-8103.	-17845.	-10210.	3197.	6496.	1445.	-2327.	-7620.	-6210.	5312.	4790.
1943.	4791.	3237.	3063.	16398.	15980.	4243.	3217.	2526.	894.	14402.	14734.
15604.	33336.	23087.	33423.	29597.	46977.	10668.	31722.	16984.	31546.	27132.	43651.
28061.	48639.	42058.	52649.	47824.	63559.	19938.	38643.	31579.	42582.	40618.	57187.
-8699.	-6163.	-1951.	-4212.	-29813.	-47549.	-14429.	-10595.	-9440.	-10646.	-32915.	-49443.
-25658.	-27820.	-22885.	-25776.	-49541.	-66081.	-23962.	-22882.	-23648.	-23034.	-48634.	-65502.
224.	-5749.	-15719.	-17112.	-17435.	-17847.	7276.	10495.	-5414.	2942.	-6641.	991.
-11211.	-11682.	-33882.	-23678.	-12402.	-12171.	608.	-3230.	-14826.	-14277.	-11238.	-14357.
-8071.	-3766.	-15921.	-7892.	3667.	5302.	2990.	3033.	-5024.	-1657.	5496.	5060.
1616.	1970.	4698.	667.	12002.	15134.	3260.	4119.	2179.	1083.	12343.	13354.
13783.	24643.	23755.	23626.	23987.	34015.	10572.	22649.	15917.	19251.	23213.	31441.
25778.	44614.	39820.	52505.	39653.	54983.	17485.	41192.	30309.	44245.	36256.	51852.
-8727.	-11929.	-2482.	-5412.	-24365.	-41562.	-13307.	-14816.	-8597.	-13407.	-23563.	-45134.
-20968.	-24254.	-20348.	-21521.	-41255.	-54823.	-21512.	-19749.	-20891.	-18980.	-42515.	-56691.
-987.	-7786.	-14913.	-20002.	-14670.	-17474.	6101.	6515.	-4368.	-1929.	-6659.	-5676.
-9316.	-12842.	-28156.	-22997.	-8154.	-9694.	1863.	-1510.	-11549.	-11662.	-9056.	-11561.
-5431.	-171.	-11472.	-3054.	4307.	8751.	3156.	5827.	-6187.	1069.	4903.	9684.
1939.	2622.	7202.	2331.	10114.	12473.	6309.	7787.	3234.	5093.	12204.	12531.
10486.	23409.	19990.	26375.	17520.	29995.	8664.	21705.	12335.	20825.	17718.	28968.
23098.	37234.	33652.	41659.	32315.	42557.	15520.	34588.	24904.	32596.	29808.	40685.
-6266.	-6938.	-1601.	-4596.	-18853.	-31593.	-12383.	-6423.	-6430.	-10509.	-22640.	-35700.
-17827.	-18779.	-19735.	-23215.	-33200.	-44895.	-16323.	-16310.	-19137.	-22446.	-35343.	-47764.

TABLE XXXIV

COMPARISON OF FULL COST - SUCC. EFFORTS - VARYING IDC

COND 25- DEC IDC DEC PROD INC RES		COND 26- DEC IDC DEC PROD CON RES		COND 27- DEC IDC DEC PROD DEC RES	
FC	SE	FC	SE	FC	SE
45092.	52115.	45092.	52038.	45092.	52111.
26533.	22971.	25993.	22549.	23491.	21688.
30031.	35353.	29858.	35702.	28231.	34130.
36381.	44963.	41086.	46957.	37397.	46732.
37678.	48527.	47560.	56293.	50285.	55928.
44814.	56941.	59491.	64462.	67133.	68948.
26791.	29089.	36091.	30741.	3290.	-39143.
14052.	14486.	16069.	14463.	-39423.	-64627.
12393.	11417.	6028.	5332.	-5154.	6710.
4239.	689.	-5318.	-6598.	-25943.	-6306.
1072.	3192.	-6822.	-358.	-10691.	5935.
-573.	5648.	1495.	3631.	3586.	20058.
-4240.	9026.	8944.	18219.	19194.	40217.
4742.	23790.	21525.	38094.	37953.	59689.
20173.	25211.	26994.	25995.	-7414.	-34765.
11585.	11651.	12157.	11685.	-32050.	-58783.
11358.	14117.	2701.	7803.	-5964.	7786.
8628.	4363.	-8.	-2119.	-16795.	-6114.
6740.	9866.	718.	5954.	-9272.	6824.
6096.	6878.	4863.	2211.	4363.	10835.
4627.	26349.	14384.	25109.	18284.	39731.
6867.	30076.	21967.	34580.	32499.	52380.
17828.	22076.	22195.	21997.	-7661.	-30874.
10509.	11152.	10765.	11057.	-31443.	-51032.
13928.	16919.	5668.	10327.	-3324.	8290.
9812.	6502.	1369.	-589.	-17395.	-4601.
9365.	12513.	1874.	7768.	-7326.	5809.
11335.	9162.	8286.	4219.	6020.	11250.
10585.	24152.	16766.	18877.	17705.	30071.
10022.	37710.	25768.	40021.	32690.	49072.
16093.	17067.	19072.	16861.	-5618.	-30891.
8309.	9000.	8496.	9003.	-27428.	-45140.
13996.	13939.	7584.	7589.	-5478.	3009.
9312.	7702.	2093.	1315.	-14830.	-3691.
10997.	14359.	4393.	9212.	-5572.	7049.
14697.	12715.	11799.	7536.	8070.	10477.
14816.	26675.	15530.	23872.	13883.	29362.
13722.	36269.	24996.	32856.	28127.	40372.
17117.	17406.	17965.	16642.	-7237.	-24100.
7723.	8462.	7742.	8213.	-24632.	-37697.

TABLE XXXV

COMPARISON OF FULL COST - SUCC. EFFORTS - VARYING IDC

COND 1-- INC IDC INC PROD INC RES		COND 10- CON IDC INC PROD INC RES		COND 19- DEC IDC INC PROD INC RES		COND 2-- INC IDC INC PROD CON RES		COND 11- CON IDC INC PROD CON RES		COND 20- DEC IDC INC PROD CON RES	
FC	SE	FC	SE	FC	SE	FC	SE	FC	SE	FC	SE
82885.	73411.	70720.	75062.	45092.	51291.	82885.	73294.	70720.	74770.	45092.	51085.
90599.	91161.	63491.	68150.	24187.	20714.	89352.	90309.	62332.	67205.	23266.	20156.
36143.	44439.	50980.	62435.	28093.	33946.	35408.	45714.	50480.	63669.	27835.	34595.
5820.	18939.	40626.	55377.	37265.	47124.	15198.	22341.	48911.	58843.	42306.	49035.
-12573.	-3324.	31267.	41865.	46242.	60782.	2178.	4572.	45115.	50811.	55748.	66026.
-27236.	-10501.	20477.	46223.	61743.	78491.	-7232.	-3301.	42612.	55195.	78336.	84684.
-13233.	-6116.	23799.	33580.	963.	5033.	-8019.	-1895.	34263.	40297.	12697.	10487.
-8772.	413.	12000.	30307.	-31594.	-21982.	-6959.	-1195.	20610.	28999.	-21965.	-22428.
55208.	50930.	12062.	13382.	-1943.	-3482.	40336.	41717.	-6401.	-627.	-16615.	-12781.
78669.	86704.	8060.	7407.	-16230.	-19648.	54523.	73188.	-22835.	-13882.	-38790.	-34090.
20591.	13011.	2160.	-464.	-11956.	-18471.	4177.	8637.	-17834.	-5819.	-26530.	-21822.
-12496.	-3290.	-420.	10836.	-1999.	7070.	-8213.	-6151.	3710.	8629.	-541.	6913.
-26931.	-19601.	-1767.	9144.	13446.	29081.	-13712.	-12620.	11863.	19282.	21907.	34742.
-35869.	-23908.	1299.	19083.	33804.	54546.	-16047.	-13622.	24197.	32988.	47779.	62556.
-23547.	-10345.	-48.	18055.	-9496.	-4958.	-15085.	-7836.	12462.	21612.	-485.	-2526.
-13393.	-7351.	-2141.	10911.	-30358.	-31130.	-10484.	-10182.	6276.	8376.	-24160.	-31666.
56035.	49300.	10896.	2855.	155.	-3280.	36459.	37395.	-13797.	-13958.	-15725.	-12733.
87592.	89625.	4771.	10377.	-12503.	-15427.	58982.	74336.	-32223.	-10431.	-35267.	-28170.
31139.	23643.	3024.	1712.	-7527.	-8103.	18144.	18985.	-13230.	-3580.	-17845.	-10210.
-6447.	-3401.	3615.	12173.	1943.	4791.	-4102.	-7879.	6066.	7579.	3237.	3063.
-30554.	-18958.	3256.	13602.	15604.	33336.	-16764.	-17189.	17023.	15865.	23087.	33423.
-41994.	-26751.	1128.	12380.	28061.	48639.	-20956.	-20118.	24306.	20333.	42058.	52649.
-28857.	-14444.	2200.	16927.	-8899.	-6163.	-21519.	-13292.	12546.	18518.	-1951.	-4212.
-14696.	-6979.	1812.	7338.	-25658.	-27820.	-18900.	-10400.	3595.	6620.	-22885.	-25776.
60117.	44906.	8257.	-5004.	224.	-5749.	34403.	28413.	-21639.	-24192.	-15719.	-17112.
100892.	95247.	2427.	15905.	-11211.	-11682.	70351.	79530.	-39230.	-5378.	-33832.	-23678.
23404.	28681.	-1047.	7991.	-8071.	-3766.	11145.	23390.	-17015.	-1037.	-15921.	-7892.
-7710.	-3442.	7813.	9337.	1616.	1970.	-6434.	-4888.	13268.	7783.	4698.	667.
-35416.	-17457.	1120.	14863.	13783.	24643.	-23218.	-20116.	19009.	14339.	23755.	23626.
-50841.	-30704.	122.	15071.	25778.	44614.	-29327.	-22121.	26062.	26951.	39820.	52505.
-31665.	-19103.	1473.	17523.	-8727.	-11929.	-24886.	-16240.	14017.	24243.	-2482.	-5412.
-15338.	-7215.	2890.	13102.	-20968.	-24254.	-19067.	-7119.	4143.	16809.	-20348.	-21521.
69534.	48817.	5140.	-93.	-987.	-7786.	48357.	28896.	-24232.	-24337.	-14913.	-20002.
116655.	96556.	7601.	6642.	-9316.	-12842.	92434.	83423.	-31977.	-15555.	-28156.	-22997.
36190.	40132.	1524.	12558.	-5431.	-171.	16869.	33832.	-16267.	3263.	-11472.	-3054.
-11768.	-4336.	-3027.	9259.	1939.	2622.	-13473.	-8565.	6328.	8354.	7202.	2331.
-42741.	-19758.	-398.	24421.	10486.	23409.	-33526.	-19015.	18353.	28509.	19990.	26375.
-54598.	-30426.	2098.	16941.	23098.	37234.	-36175.	-28328.	24613.	21258.	33652.	41659.
-34722.	-17232.	4672.	17389.	-6266.	-6938.	-31013.	-18921.	15394.	18931.	-1601.	-4596.
-16984.	-7482.	4214.	8318.	-17827.	-18779.	-22150.	-18594.	358.	-855.	-19735.	-23215.

TABLE XXXVI

COMPARISON OF FULL COST - SUCC. EFFORTS - VARYING IDC

COND 3-- INC IDC INC PROD DEC RES		COND 12- CON IDC INC PROD DEC RES		COND 21- DEC IDC INC PROD DEC RES		COND 4-- INC IDC CON PROD INC RES		COND 13- CON IDC CON PROD INC RES		COND 22- DEC IDC CON PROD INC RES	
FC	SE	FC	SE	FC	SE	FC	SE	FC	SE	FC	SE
82885.	73960.	70720.	75789.	45092.	51844.	82885.	74188.	70720.	76031.	45092.	51856.
85135.	88302.	58468.	65472.	20733.	19149.	91586.	91610.	64504.	68685.	24857.	20996.
30965.	40969.	47111.	59594.	25835.	32639.	37303.	44373.	51799.	62519.	28388.	34039.
7913.	21370.	42341.	57989.	38143.	48538.	1357.	12607.	36559.	49091.	35271.	43953.
5187.	3918.	48179.	50029.	57647.	65535.	-26156.	-15135.	17168.	28563.	38649.	53271.
-3221.	-1602.	47094.	57312.	81521.	86056.	-40299.	-25915.	4050.	25572.	51150.	64394.
-63669.	-64989.	-39346.	-52998.	-43739.	-62258.	-22485.	-10855.	9276.	21685.	-11332.	-6417.
-49726.	-61755.	-52058.	-72222.	-78077.	-98566.	-7022.	-2320.	11659.	22001.	-33989.	-29836.
52296.	50865.	-9162.	922.	-24297.	-14189.	66747.	58588.	27102.	25782.	7378.	4980.
74313.	87254.	-10999.	-1200.	-31476.	-24667.	94281.	96679.	29128.	23424.	-2308.	-8102.
18227.	22583.	11246.	20597.	185.	4021.	32438.	32216.	15734.	24387.	-4234.	-2387.
-3656.	7123.	23816.	33384.	18907.	26778.	-7506.	-5404.	5111.	6579.	1149.	4703.
-9008.	-5020.	29661.	37363.	36960.	50253.	-33082.	-25084.	-8061.	3334.	11157.	26766.
-12748.	-7557.	35829.	46716.	58139.	74822.	-53478.	-40247.	-19191.	-2220.	24123.	42687.
-74583.	-83118.	-54592.	-75681.	-39708.	-59337.	-30814.	-15443.	-9934.	10481.	-15081.	-8873.
-43751.	-62192.	-48332.	-67997.	-60286.	-80766.	-12266.	-750.	-1437.	21415.	-31094.	-23652.
59417.	54801.	-6998.	-4051.	-16192.	-12106.	66554.	62230.	23759.	23801.	6517.	8349.
85924.	91933.	-9797.	2079.	-21101.	-21091.	103291.	102576.	26127.	28324.	-903.	-5386.
19246.	28853.	6139.	14479.	3197.	6496.	44275.	33479.	19094.	13068.	1445.	-2327.
-8863.	-4130.	21445.	23291.	16388.	15980.	-1015.	-5146.	9535.	9380.	4243.	3217.
-25324.	-13438.	23399.	31702.	29597.	46977.	-40600.	-21967.	-7990.	9961.	10668.	31722.
-19467.	-14140.	33984.	33898.	47824.	63559.	-59003.	-42434.	-17396.	-6534.	19938.	38643.
-69394.	-61926.	-35888.	-58328.	-29813.	-47549.	-33957.	-19830.	-6559.	9803.	-14429.	-10595.
-35023.	-52000.	-36313.	-55785.	-49541.	-66081.	-7497.	925.	8151.	16940.	-23962.	-22882.
66730.	55044.	-16208.	-13663.	-17435.	-17847.	75001.	70176.	24521.	28180.	7276.	10495.
101744.	97512.	-5753.	10016.	-12402.	-12171.	122537.	108792.	27314.	31605.	608.	-3230.
5039.	21040.	3479.	7598.	3667.	5302.	41705.	43591.	22042.	22943.	2990.	3033.
-22815.	-3170.	19005.	24435.	12002.	15134.	-7120.	741.	12093.	13969.	3260.	4119.
-37968.	-19695.	19249.	26320.	23987.	34015.	-45226.	-21046.	-8402.	10333.	10572.	22649.
-29845.	-24452.	28394.	30889.	39653.	54983.	-65598.	-37973.	-18365.	6569.	17485.	41192.
-57221.	-77248.	-26944.	-41234.	-24365.	-41562.	-32620.	-24618.	-4493.	11950.	-13307.	-14816.
-23044.	-41943.	-31360.	-41383.	-41255.	-54823.	-7852.	146.	6107.	22902.	-21512.	-19749.
82331.	61980.	-17091.	-10889.	-14670.	-17474.	86736.	75987.	21760.	33798.	6101.	6515.
115045.	101995.	1281.	28.	-8154.	-9694.	142209.	120343.	34330.	32697.	1863.	-1510.
5621.	27437.	1775.	9937.	4307.	8751.	51579.	58150.	21297.	29336.	3156.	5827.
-42626.	-14711.	6849.	18591.	10114.	12473.	847.	10120.	11834.	23343.	6309.	7787.
-56388.	-28916.	12702.	32231.	17520.	29995.	-41680.	-21466.	-3239.	21179.	8664.	21705.
-34475.	-29953.	24656.	25745.	32315.	42557.	-68945.	-36678.	-16530.	9190.	15520.	34588.
-46657.	-70822.	-16815.	-37027.	-18853.	-31593.	-44044.	-18338.	-6850.	17560.	-12383.	-6423.
-14434.	-38202.	-20974.	-41529.	-33200.	-44895.	-4580.	-2124.	11475.	16209.	-16323.	-16310.

TABLE XXXVII

COMPARISON OF FULL COST - SUCC. EFFORTS - VARYING IDC

COND 5-- INC IDC CON PROD CON RES		COND 14- CON IDC CON PROD CON RES		COND 23- DEC IDC CON PROD CON RES		COND 6-- INC IDC CON PROD DEC RES		COND 15- CON IDC CON PROD DEC RES		COND 24- DEC IDC CON PROD DEC RES	
FC	SE	FC	SE	FC	SE	FC	SE	FC	SE	FC	SE
82885.	74069.	70720.	75803.	45092.	51706.	82885.	74039.	70720.	75875.	45092.	51860.
90551.	90713.	63559.	67712.	24103.	20422.	85848.	88420.	59332.	65508.	21232.	19077.
36487.	45518.	51212.	63653.	29063.	34617.	31889.	40711.	47659.	59418.	25923.	32562.
10518.	16804.	44574.	53287.	39935.	46217.	3854.	15642.	38621.	52333.	36299.	45635.
-10407.	-4129.	32648.	41027.	48655.	60497.	-6166.	-4574.	37015.	40440.	51276.	60095.
-21154.	-16635.	26821.	37767.	67271.	72881.	-13514.	-11954.	35325.	43470.	73456.	76583.
-17708.	-9434.	21379.	27459.	2039.	-182.	-65144.	-64087.	-42627.	-54052.	-48201.	-63562.
-10958.	-6199.	13593.	17629.	-28803.	-32129.	-41348.	-51838.	-46719.	-62625.	-76799.	-93211.
53571.	51324.	10418.	12862.	-5620.	-4108.	66083.	59836.	10137.	15442.	-12283.	-4736.
76693.	85531.	5693.	5561.	-19726.	-20863.	83870.	93795.	5552.	10887.	-20417.	-16132.
17617.	26331.	-1999.	18404.	-16435.	-5350.	22899.	31225.	14741.	28929.	2433.	5878.
-5473.	-9663.	6056.	1622.	141.	2235.	-6037.	1234.	20722.	26775.	18168.	24159.
-19379.	-17023.	4504.	14052.	17366.	32190.	-16070.	-11933.	21185.	28122.	32654.	45748.
-32426.	-26547.	3359.	15789.	36929.	53065.	-25067.	-18907.	20738.	32185.	50055.	67192.
-23568.	-14722.	2209.	12991.	-5804.	-6639.	-74291.	-82049.	-57275.	-75469.	-41073.	-58863.
-14828.	-4493.	1892.	17640.	-27103.	-25484.	-41253.	-58354.	-47188.	-65167.	-60420.	-79669.
50237.	52566.	2793.	8727.	-6631.	-246.	68796.	64845.	8469.	14413.	-7814.	-1272.
82250.	90933.	-2352.	12758.	-18462.	-14875.	94688.	99035.	2769.	13939.	-15102.	-14557.
32008.	26738.	4507.	5617.	-7620.	-6210.	28626.	33336.	13399.	17113.	5312.	4790.
-1880.	-10355.	7650.	3376.	2526.	894.	-7913.	-6187.	18242.	20094.	14402.	14734.
-25639.	-21897.	4568.	10527.	16984.	31546.	-31098.	-17855.	16943.	25174.	27132.	43651.
-37646.	-35342.	4374.	1800.	31579.	42582.	-33274.	-25031.	18883.	21069.	40618.	57187.
-30180.	-20441.	170.	8849.	-9440.	-10646.	-74944.	-83110.	-43553.	-62961.	-32915.	-49443.
-17213.	-2668.	3897.	13437.	-23648.	-23034.	-35162.	-50832.	-35414.	-55285.	-49634.	-65902.
52627.	58974.	29.	13291.	-5414.	2942.	77319.	70390.	5043.	16167.	-6641.	991.
97412.	91136.	-813.	11799.	-14826.	-14277.	110444.	101064.	2159.	13273.	-11238.	-14357.
28693.	32875.	6318.	11965.	-5024.	-1657.	22359.	31400.	13189.	14193.	5496.	5060.
-6120.	-4212.	10012.	7190.	2179.	1083.	-14587.	205.	20744.	22338.	12343.	13354.
-29825.	-27307.	4050.	3843.	15917.	19251.	-39656.	-23590.	13099.	19374.	23213.	31441.
-40569.	-31346.	7318.	15332.	30309.	44245.	-37934.	-30195.	19292.	22387.	36256.	51852.
-30833.	-23364.	2006.	13464.	-8597.	-13407.	-74497.	-85371.	-38819.	-50618.	-28563.	-45134.
-18374.	-1004.	2464.	20913.	-20891.	-18980.	-34317.	-50507.	-36846.	-47907.	-42515.	-56691.
63441.	60862.	-1957.	14538.	-4368.	-1929.	90324.	72827.	559.	12532.	-6659.	-5676.
114238.	99861.	5794.	10043.	-11549.	-11662.	123972.	108356.	5931.	8165.	-9056.	-11561.
28655.	42338.	-1296.	14790.	-6187.	1069.	21313.	40973.	7672.	17416.	4903.	9684.
-3000.	-698.	4199.	14238.	3234.	5093.	-20605.	-2146.	13265.	21973.	12204.	12531.
-32885.	-26706.	3701.	17240.	12335.	20825.	-51003.	-30604.	10981.	26415.	17718.	28968.
-48403.	-39793.	3232.	6401.	24904.	32596.	-47522.	-36707.	16758.	16880.	29808.	40685.
-38932.	-23063.	2038.	9703.	-6430.	-10509.	-78250.	-87471.	-31501.	-51096.	-22640.	-35700.
-25105.	-15084.	-116.	-2619.	-19137.	-22446.	-25699.	-52943.	-27733.	-52370.	-35343.	-47764.

TABLE XXXVIII

COMPARISON OF FULL COST - SUCC. EFFORTS - VARYING IDC

COND 7-- INC IDC DEC PROD INC RES		COND 16- CON IDC DEC PROD INC RES		COND 25- DEC IDC DEC PROD INC RES		COND 8-- INC IDC DEC PROD CON RES		COND 17- CON IDC DEC PROD CON RES		COND 26- DEC IDC DEC PROD CON RES	
FC	SE	FC	SE	FC	SE	FC	SE	FC	SE	FC	SE
82885.	74317.	70720.	76377.	45092.	52115.	82885.	74209.	70720.	76243.	45092.	52038.
94718.	94229.	67219.	71553.	26533.	22971.	93981.	93582.	66547.	70839.	25993.	22549.
41821.	47370.	55160.	65196.	30031.	35353.	41563.	48316.	54936.	65987.	29858.	35702.
3870.	14951.	38950.	51254.	36381.	44963.	13014.	18821.	46907.	55012.	41086.	46957.
-27254.	-21472.	15553.	20886.	37678.	48527.	-11674.	-9817.	31042.	34114.	47560.	56293.
-49096.	-34678.	-5660.	14383.	44814.	56941.	-30760.	-26397.	16101.	25152.	59491.	64462.
10915.	15602.	56564.	63930.	26791.	29089.	15622.	16304.	64509.	65676.	36091.	30741.
29033.	29153.	70872.	77564.	14052.	14486.	29162.	29026.	72043.	77473.	16069.	14463.
68691.	62279.	34460.	34786.	12393.	11417.	60820.	55992.	25428.	25630.	6028.	5332.
97057.	105510.	38651.	38247.	4239.	689.	85925.	98532.	24763.	27403.	-5318.	-6598.
33760.	41316.	23172.	36543.	1072.	3192.	23422.	37468.	11205.	31354.	-6822.	-358.
-6963.	-1543.	6037.	11435.	-573.	5648.	-5034.	-4220.	9565.	7892.	1495.	3631.
-39838.	-37615.	-23135.	-19768.	-4240.	9026.	-25747.	-27620.	-6006.	-5201.	6944.	18219.
-61514.	-54097.	-39198.	-28032.	4742.	23790.	-38665.	-37970.	-11801.	-5342.	21525.	38094.
10227.	18361.	47590.	61086.	20173.	25211.	18833.	19137.	56975.	62020.	26994.	25995.
33507.	33688.	66453.	76978.	11585.	11651.	33825.	33668.	67157.	76964.	12157.	11685.
71241.	66770.	31850.	33430.	11358.	14117.	58928.	58531.	15878.	21791.	2701.	7803.
115832.	114444.	43320.	45554.	8628.	4363.	102494.	105298.	28060.	33840.	-8.	-2119.
51251.	55930.	29935.	38674.	6740.	9866.	39837.	49837.	18902.	31764.	718.	5954.
3540.	3741.	16444.	19662.	6096.	6878.	413.	-3892.	13852.	10735.	4863.	2211.
-38649.	-23184.	-9192.	4726.	4627.	26349.	-22891.	-25516.	6602.	1583.	14384.	25109.
-65131.	-47837.	-32179.	-18651.	6867.	30076.	-41561.	-41795.	-6733.	-10977.	21967.	34580.
13527.	20291.	52154.	62115.	17828.	22076.	21674.	20277.	59146.	61834.	22195.	21997.
39135.	39607.	70296.	73493.	10509.	11152.	39433.	39489.	70680.	73307.	10765.	11057.
84032.	74812.	38304.	39192.	13928.	16919.	68696.	64631.	19692.	25743.	5668.	10327.
138836.	122691.	47249.	50908.	9812.	6502.	121521.	110820.	29156.	36841.	1369.	-589.
57386.	62264.	37483.	43202.	9365.	12513.	39340.	53452.	21521.	33629.	1874.	7768.
14623.	14918.	33129.	27073.	11335.	9162.	6410.	5476.	26185.	17017.	8286.	4215.
-31064.	-10919.	2397.	19320.	10585.	24152.	-20809.	-20762.	12701.	7449.	16766.	18877.
-64572.	-36028.	-22269.	4080.	10022.	37710.	-37148.	-33306.	5430.	7723.	25768.	40021.
21281.	24675.	56372.	68795.	16093.	17067.	27064.	24340.	61549.	68506.	19072.	16861.
41911.	44068.	67478.	77976.	8309.	9000.	42321.	44020.	67786.	77924.	8496.	9003.
101254.	86360.	41062.	49606.	13996.	13939.	86458.	73617.	24743.	34483.	7594.	7589.
158530.	136895.	52802.	53975.	9312.	7702.	139219.	122688.	34459.	38712.	2093.	1315.
74699.	78124.	41959.	50410.	10997.	14359.	54769.	65510.	25584.	38276.	4393.	9212.
28138.	24669.	35530.	37220.	14697.	12715.	18172.	11337.	27784.	24747.	11799.	7536.
-15729.	-4146.	18787.	37145.	14816.	26675.	-15842.	-11264.	18715.	29964.	15530.	23872.
-58001.	-25261.	-10960.	17709.	13722.	36269.	-34994.	-33247.	9643.	8841.	24996.	32856.
28843.	30965.	61187.	70667.	17117.	17406.	30734.	29410.	62710.	68849.	17965.	16642.
48331.	48345.	67508.	74677.	7723.	8462.	48366.	47810.	67480.	74039.	7742.	8213.

TABLE XXXIX

COMPARISON OF FULL COST - SUCC. EFFORTS - VARYING IDC

COND 9-- INC IDC DEC PROD DEC RES		COND 18- CON IDC DEC PROD DEC RES		COND 27- DEC IDC DEC PROD DEC RES	
FC	SE	FC	SE	FC	SE
82885.	74380.	70720.	76394.	45092.	52111.
90173.	92367.	63079.	69575.	23491.	21688.
38216.	44412.	52295.	62634.	28231.	34130.
6386.	17835.	40982.	54322.	37397.	46732.
-7331.	-10704.	35575.	33329.	50285.	55928.
-21396.	-21213.	26604.	31860.	67133.	68948.
-16808.	-41144.	22022.	-21920.	3290.	-39143.
-20007.	-26387.	-3699.	-23428.	-39423.	-64627.
55514.	65805.	12600.	31108.	-5154.	6710.
72683.	102603.	-32.	28637.	-25943.	-6306.
23727.	40284.	6233.	36744.	-10691.	5935.
-4513.	7369.	9640.	27964.	3586.	20058.
-19094.	-17967.	9037.	18639.	19194.	40217.
-29586.	-27346.	7236.	19107.	37953.	59689.
-25627.	-55612.	-2170.	-39883.	-7414.	-34765.
-23055.	-41667.	-12664.	-35949.	-32050.	-58793.
53989.	69208.	7647.	27773.	-5964.	7786.
86135.	108949.	3085.	31716.	-16795.	-6114.
26935.	51204.	252.	32603.	-9272.	6824.
-3865.	1957.	9268.	21084.	4363.	10835.
-27758.	-19882.	7624.	19596.	19284.	39731.
-38088.	-32349.	5092.	11583.	32499.	52380.
-27832.	-61083.	470.	-34849.	-7661.	-30874.
-31244.	-43038.	-17510.	-35006.	-31443.	-51032.
60370.	74173.	7681.	28559.	-3324.	8290.
98508.	114034.	-1598.	33247.	-17395.	-4601.
24203.	50914.	1814.	29071.	-7326.	5809.
-2370.	11076.	17491.	26192.	6020.	11250.
-31009.	-17337.	8950.	20242.	17705.	30071.
-37039.	-34587.	12526.	16148.	32690.	49072.
-25220.	-66227.	5860.	-29628.	-5618.	-30891.
-33142.	-47992.	-18982.	-32657.	-27428.	-45140.
67258.	77668.	970.	29764.	-5478.	3009.
111210.	123433.	1341.	30788.	-14830.	-3691.
30352.	61855.	-445.	31607.	-5572.	7049.
139.	10515.	13126.	26056.	9070.	10477.
-34890.	-15471.	8436.	32973.	13883.	29362.
-40916.	-35797.	11580.	15795.	28127.	40372.
-35498.	-70737.	-279.	-37327.	-7237.	-24100.
-41057.	-54138.	-19274.	-41652.	-24632.	-37697.

TABLE XL

COMPARISON OF FULL COST - SUCC. EFFORTS - VARYING PROD.

COND 1-- INC IDC INC PROD INC RES		COND 4-- INC IDC CON PROD INC RES		COND 7-- INC IDC DEC PROD INC RES		COND 2-- INC IDC INC PROD CON RES		COND 5-- INC IDC CON PROD CON RES		COND 8-- INC IDC DEC PROD CON RES	
FC	SE	FC	SE	FC	SE	FC	SE	FC	SE	FC	SE
82885.	73411.	82885.	74186.	82885.	74317.	82885.	73294.	82885.	74069.	82885.	74209.
90599.	91161.	91586.	91610.	94718.	94229.	89352.	90309.	90551.	90713.	93981.	93582.
36143.	44439.	37303.	44373.	41821.	47370.	35408.	45714.	36487.	45618.	41563.	48316.
5820.	19939.	1357.	12607.	3870.	14951.	15198.	22341.	10518.	16804.	13014.	18821.
-12573.	-3324.	-26156.	-15135.	-27254.	-21472.	2178.	4572.	-10407.	-4129.	-11674.	-9817.
-27236.	-10501.	-40299.	-25915.	-49096.	-34678.	-7232.	-3301.	-21154.	-16635.	-30760.	-26397.
-13233.	-6116.	-22485.	-10855.	10915.	15602.	-8019.	-1895.	-17708.	-9434.	15622.	16304.
-9772.	413.	-7022.	-2320.	29033.	29153.	-6959.	-1195.	-10958.	-6199.	29162.	29026.
55208.	50930.	66747.	58588.	68691.	62279.	40336.	41717.	53571.	51324.	60820.	55992.
79669.	86704.	94281.	96679.	97057.	105510.	54523.	73188.	76693.	85531.	85925.	98532.
20591.	13011.	32438.	32216.	33760.	41316.	4177.	8637.	17817.	26331.	23422.	37468.
-12496.	-3290.	-7506.	-5404.	-6963.	-1543.	-8213.	-6151.	-5473.	-9663.	-5034.	-4220.
-26931.	-19601.	-33082.	-25084.	-39838.	-37615.	-13712.	-12620.	-19379.	-17023.	-25747.	-27620.
-35869.	-23908.	-53478.	-40247.	-61514.	-54097.	-16047.	-13622.	-32426.	-26547.	-38665.	-37970.
-23547.	-10345.	-30814.	-15443.	10227.	18361.	-15085.	-7836.	-23368.	-14722.	18833.	19137.
-13393.	-7351.	-12266.	-750.	33507.	33688.	-10484.	-10182.	-14828.	-4493.	33825.	33668.
56035.	49300.	66554.	62230.	71241.	66770.	36459.	37385.	50237.	52566.	58928.	58531.
87592.	89625.	103291.	102576.	115832.	114444.	58982.	74336.	82250.	90933.	102494.	105298.
31139.	23643.	44275.	33479.	51251.	55930.	18144.	18985.	32008.	26738.	39837.	49837.
-6447.	-3401.	-1015.	-5146.	3540.	3741.	-4102.	-7879.	-1880.	-10355.	413.	-3892.
-30554.	-18958.	-40600.	-21967.	-38649.	-23184.	-16764.	-17189.	-25639.	-21897.	-22891.	-25516.
-41994.	-26751.	-59003.	-42434.	-65131.	-47887.	-20956.	-20118.	-37646.	-35342.	-41561.	-41795.
-28857.	-14444.	-33957.	-19830.	13527.	20291.	-21519.	-13292.	-30180.	-20441.	21674.	20277.
-14696.	-6979.	-7497.	925.	39135.	39607.	-18900.	-10400.	-17213.	-2668.	39433.	39489.
60117.	44906.	75001.	70176.	84032.	74812.	34403.	28413.	52827.	58974.	68696.	64631.
100892.	95247.	122537.	108792.	138836.	122691.	70351.	79530.	97412.	91136.	121521.	110820.
23404.	28691.	41705.	43591.	57386.	62264.	11145.	23390.	28693.	32875.	39340.	53452.
-7710.	-3442.	-7120.	741.	14623.	14918.	-6434.	-4888.	-6120.	-4212.	6410.	5476.
-35416.	-17457.	-45226.	-21046.	-31064.	-10919.	-23218.	-20116.	-29825.	-27307.	-20809.	-20762.
-50841.	-30704.	-65598.	-37973.	-64572.	-36028.	-29327.	-22121.	-40569.	-31346.	-37148.	-33306.
-31665.	-19103.	-32620.	-24618.	21281.	24675.	-24886.	-16240.	-30833.	-23364.	27064.	24340.
-15338.	-7215.	-7852.	146.	41911.	44068.	-19067.	-7119.	-18374.	-1004.	42321.	44020.
69534.	48817.	86736.	75987.	101254.	86360.	48357.	28896.	63441.	60862.	86458.	73617.
116655.	96556.	142209.	120343.	158530.	136895.	92434.	83423.	114238.	99861.	139219.	122688.
36190.	40132.	51579.	58150.	74899.	78124.	16869.	33832.	28655.	42338.	54769.	65510.
-11768.	-4236.	847.	10120.	28138.	24669.	-13473.	-8565.	-3000.	-698.	18172.	11337.
-42741.	-19758.	-41680.	-21466.	-15729.	-4146.	-33526.	-19015.	-32885.	-26706.	-15842.	-11264.
-54598.	-30426.	-68945.	-36678.	-58001.	-25261.	-36175.	-28328.	-48403.	-39793.	-34994.	-33247.
-34722.	-17232.	-44044.	-18338.	28843.	30965.	-31013.	-18921.	-38932.	-23063.	30734.	29410.
-16984.	-7482.	-4580.	-2124.	48331.	48345.	-22150.	-18594.	-25105.	-15084.	48366.	47810.

TABLE XLI

COMPARISON OF FULL COST - SUCC. EFFORTS - VARYING PROD.

COND 3-- INC IDC INC PROD DEC RES		COND 6-- INC IDC CON PROD DEC RES		COND 9-- INC IDC DEC PROD DEC RES		COND 10- CON IDC INC PROD INC RES		COND 13- CON IDC CON PROD INC RES		COND 16- CON IDC DEC PROD INC RES	
FC	SE	FC	SE	FC	SE	FC	SE	FC	SE	FC	SE
82685.	73960.	82885.	74039.	82985.	74380.	70720.	75062.	70720.	76031.	70720.	76377.
85135.	88302.	85848.	88420.	90173.	92367.	63491.	68150.	64504.	68685.	67219.	71553.
30965.	40969.	31889.	40711.	38216.	44412.	50980.	62435.	51799.	62519.	55160.	65196.
7913.	21370.	3854.	15642.	6386.	17835.	40626.	55377.	36559.	49091.	38950.	51254.
5187.	3918.	-6166.	-4574.	-7331.	-10704.	31267.	41865.	17168.	28563.	15553.	20886.
-3221.	-1602.	-13514.	-11954.	-21396.	-21213.	20477.	46223.	4050.	25572.	-5660.	14383.
-63669.	-64989.	-65144.	-64087.	-16808.	-41144.	23799.	33580.	9276.	21685.	56564.	63930.
-49726.	-61755.	-41348.	-51838.	-20007.	-26387.	12000.	30307.	11659.	22001.	70872.	77564.
52296.	50665.	66083.	59836.	55514.	65805.	12062.	13382.	27102.	25782.	34460.	34786.
74313.	87254.	83870.	93795.	72883.	102603.	8060.	7407.	29128.	23424.	38651.	38247.
18227.	22583.	22899.	31225.	23727.	40284.	2160.	-464.	15734.	24387.	23172.	36543.
-3656.	7123.	-6037.	1234.	-4513.	7369.	-420.	10836.	5111.	6579.	6037.	11435.
-9008.	-5020.	-16070.	-11933.	-19094.	-17967.	-1767.	9144.	-8061.	3334.	-23135.	-19768.
-12748.	-7557.	-25067.	-18907.	-29586.	-27346.	1299.	19083.	-19191.	-2220.	-39198.	-28032.
-74583.	-63118.	-74291.	-82049.	-25627.	-55612.	-48.	18055.	-9934.	10481.	47590.	61086.
-43751.	-62192.	-41253.	-58354.	-23055.	-41667.	-2141.	10911.	-1437.	21415.	66453.	76978.
59417.	54801.	68796.	64845.	53989.	69208.	10896.	2855.	23759.	23801.	31850.	33430.
85924.	91933.	94688.	99035.	86135.	108949.	4771.	10377.	26127.	28324.	43320.	45554.
19246.	28853.	28626.	33336.	26935.	51204.	3024.	1712.	19094.	13068.	29935.	38674.
-8663.	-4130.	-7913.	-6187.	-3865.	1957.	3615.	12173.	9535.	9380.	16444.	19662.
-25324.	-13435.	-31098.	-17855.	-27758.	-19882.	2256.	13602.	-7990.	9961.	-9192.	4726.
-19467.	-14140.	-33274.	-25031.	-38088.	-32349.	1128.	12380.	-17396.	-6534.	-32179.	-18651.
-89394.	-81926.	-74944.	-83110.	-27832.	-61083.	2200.	16927.	-6559.	9803.	52154.	62115.
-35023.	-52000.	-35162.	-50832.	-31244.	-43038.	1812.	7338.	8151.	16940.	70296.	73493.
66730.	55044.	77319.	70390.	60370.	74173.	8257.	-5004.	24521.	28180.	38304.	39192.
101744.	97512.	110444.	101064.	98508.	114034.	2427.	15905.	27314.	31605.	47249.	50908.
5039.	21040.	22359.	31400.	24203.	50914.	-1047.	7991.	22042.	22943.	37483.	43202.
-22815.	-3170.	-14587.	205.	-2370.	11076.	7813.	9337.	12093.	13969.	33129.	27073.
-37968.	-19695.	-39656.	-23590.	-31009.	-17337.	1120.	14863.	-8402.	10333.	2397.	18320.
-29845.	-24452.	-37934.	-30195.	-37039.	-34587.	122.	15071.	-18365.	6569.	-22269.	4080.
-57221.	-77248.	-74497.	-85371.	-25220.	-66227.	1473.	17523.	-4493.	11950.	56372.	68795.
-23044.	-41943.	-34317.	-50507.	-33142.	-47992.	2890.	13102.	6107.	22902.	67478.	77976.
82331.	61980.	90324.	72827.	67258.	77668.	5140.	-93.	21760.	33798.	41062.	49606.
115045.	101995.	123972.	108356.	111210.	123433.	7601.	6642.	34330.	32697.	52802.	53575.
5621.	27437.	21313.	40973.	30852.	61855.	1524.	12558.	21297.	29336.	41959.	50410.
-42626.	-14711.	-20605.	-2146.	139.	10515.	-3027.	9259.	11834.	23343.	35530.	37220.
-56388.	-28916.	-51003.	-30604.	-34890.	-15471.	-398.	24421.	-3239.	21179.	18787.	37145.
-34475.	-29953.	-47522.	-36707.	-40916.	-35797.	2098.	16941.	-16530.	9190.	-10960.	17709.
-46657.	-70822.	-78250.	-87471.	-35498.	-70737.	4672.	17389.	-6850.	17560.	61187.	70667.
-14434.	-38202.	-25699.	-52943.	-41057.	-54138.	4214.	8318.	11475.	16209.	67508.	74677.

TABLE XLII

COMPARISON OF FULL COST - SUCC. EFFORTS - VARYING PROD.

COND 11- CON IDC INC PROD CON RES		COND 14- CON IDC CON PROD CON RES		COND 17- CON IDC DEC PROD CON RES		COND 12- CON IDC INC PROD DEC RES		COND 15- CON IDC CON PROD DEC RES		COND 18- CON IDC DEC PROD DEC RES	
FC	SE	FC	SE	FC	SE	FC	SE	FC	SE	FC	SE
70720.	74770.	70720.	75803.	70720.	76243.	70720.	75739.	70720.	75875.	70720.	76394.
62332.	67205.	63559.	67712.	66547.	70839.	58468.	65472.	59332.	65508.	63079.	69575.
50480.	63669.	51212.	63653.	54936.	65987.	47111.	59594.	47659.	59418.	52295.	62634.
48911.	58843.	44574.	53287.	46907.	55012.	42341.	57989.	38621.	52333.	40932.	54322.
45115.	50811.	32648.	41027.	31042.	34114.	48179.	50029.	37015.	40440.	35575.	33329.
42612.	55195.	26821.	37767.	16101.	25152.	47094.	57312.	35325.	43470.	26604.	31866.
34263.	40297.	21379.	27459.	64509.	65676.	-39346.	-52998.	-42627.	-54052.	22022.	-21920.
20610.	28999.	13593.	17629.	72043.	77473.	-52058.	-72222.	-46719.	-62625.	-3699.	-23428.
-6401.	-627.	10418.	12862.	25428.	25630.	-9162.	922.	10137.	15442.	12600.	31108.
-22835.	-13882.	5693.	5561.	24763.	27403.	-10989.	-1200.	5552.	10887.	-32.	28637.
-17634.	-5819.	-1999.	18404.	11205.	31354.	11246.	20597.	14741.	28929.	6233.	36744.
3710.	8529.	6056.	1622.	9565.	7892.	23816.	33384.	20722.	26775.	9640.	27964.
11863.	19282.	4504.	14052.	-6006.	-5201.	29661.	37363.	21185.	28122.	9037.	18639.
24197.	32988.	3359.	15789.	-11801.	-5342.	35829.	46716.	20738.	32185.	7236.	19107.
12462.	21612.	2209.	12991.	56975.	62020.	-54592.	-75681.	-57275.	-75469.	-2170.	-39883.
6276.	8376.	1892.	17640.	67157.	76964.	-48332.	-67997.	-47188.	-65167.	-12664.	-35949.
-13797.	-13958.	2793.	8727.	15878.	21791.	-6998.	-4051.	8469.	14413.	7647.	27773.
-32223.	-10431.	-2352.	12758.	28060.	33840.	-9797.	2079.	2769.	13939.	3085.	31716.
-13230.	-3580.	4507.	5617.	18902.	31764.	6139.	14479.	13399.	17113.	252.	32603.
6066.	7579.	7650.	3376.	13852.	10735.	21445.	23291.	18242.	20094.	9268.	21084.
17023.	15865.	4568.	10527.	6602.	1583.	23399.	31702.	16943.	25174.	7624.	19596.
24306.	20333.	4374.	1800.	-6733.	-10977.	33984.	33898.	18883.	21069.	5092.	11583.
12546.	18518.	170.	8849.	59146.	61834.	-35888.	-58328.	-43553.	-62961.	470.	-34849.
3595.	6620.	3897.	13437.	70680.	73307.	-36313.	-55785.	-35414.	-55285.	-17510.	-35006.
-21639.	-24192.	29.	13291.	19692.	25743.	-16208.	-13663.	5043.	16157.	7681.	28559.
-39230.	-5378.	-813.	11799.	29156.	36841.	-5753.	10016.	2159.	13273.	-1598.	33247.
-17015.	-1037.	6318.	11965.	21521.	33629.	3479.	7598.	13189.	14193.	1814.	29071.
13268.	7783.	10012.	7190.	26185.	17017.	19005.	24435.	20744.	22338.	17491.	26192.
19009.	14339.	4050.	3843.	12701.	7449.	19249.	26320.	13099.	19374.	8950.	20242.
26062.	26951.	7318.	15332.	5430.	7723.	28394.	30889.	19292.	22387.	12526.	16148.
14017.	24243.	2006.	13464.	61549.	68506.	-26944.	-41234.	-38819.	-50618.	5860.	-29628.
4143.	16809.	2464.	20913.	67786.	77924.	-31360.	-41383.	-36846.	-47907.	-18982.	-32657.
-24232.	-24337.	-1957.	14538.	24743.	34483.	-17091.	-10899.	559.	12532.	970.	29764.
-31977.	-15555.	5794.	10043.	34459.	38712.	1281.	28.	5931.	8165.	1341.	30788.
-16267.	3263.	-1296.	14790.	25584.	38276.	1775.	9937.	7672.	17416.	-445.	31607.
6328.	8354.	4199.	14238.	27784.	24747.	6849.	18591.	13265.	21973.	13126.	26056.
18353.	28509.	3701.	17240.	18715.	29964.	12702.	32231.	10981.	26415.	8436.	32973.
24613.	21258.	3232.	6401.	9643.	8841.	24656.	25745.	16758.	16880.	11580.	15795.
15394.	18931.	2038.	9703.	62710.	68849.	-16815.	-37027.	-31501.	-51096.	-279.	-37327.
358.	-555.	-116.	-2619.	67480.	74039.	-20974.	-41529.	-27733.	-52370.	-19274.	-41652.

TABLE XLIII

COMPARISON OF FULL COST - SUCC. EFFORTS - VARYING PROD.

COND 19- DEC IDC INC PROD INC RES		COND 22- DEC IDC CON PROD INC RES		COND 25- DEC IDC DEC PROD INC RES		COND 20- DEC IDC INC PROD CON RES		COND 23- DEC IDC CON PROD CON RES		COND 26- DEC IDC DEC PROD CON RES	
FC	SE	FC	SE	FC	SE	FC	SE	FC	SE	FC	SE
45092.	51291.	45092.	51856.	45092.	52115.	45092.	51085.	45092.	51706.	45092.	52038.
24187.	20714.	24857.	20996.	26533.	22971.	23266.	20158.	24103.	20422.	25993.	22549.
28093.	33946.	28388.	34039.	30031.	35353.	27835.	34595.	28063.	34617.	29858.	35702.
37265.	47124.	35271.	43953.	36381.	44963.	42306.	49035.	39935.	46217.	41086.	46957.
46242.	60782.	38649.	53271.	37678.	48527.	55748.	66028.	48655.	60497.	47560.	56293.
61743.	78491.	51150.	64394.	44814.	56941.	78336.	84684.	67271.	72881.	59491.	64462.
963.	5033.	-11332.	-6417.	26791.	29089.	12697.	10487.	2039.	-182.	36091.	30741.
-31594.	-21982.	-33989.	-29836.	14052.	14486.	-21965.	-22438.	-28803.	-32129.	16069.	14463.
-1943.	-3482.	7378.	4980.	12393.	11417.	-16615.	-12781.	-5620.	-4108.	6028.	5332.
-16230.	-19648.	-2308.	-8102.	4239.	689.	-38790.	-34090.	-19726.	-20863.	-5318.	-6598.
-11956.	-18471.	-4234.	-2387.	1072.	3192.	-26530.	-21822.	-16435.	-5350.	-6822.	-358.
-1999.	7070.	1149.	4703.	-573.	5648.	-541.	6913.	141.	2235.	1495.	3631.
13446.	29081.	11157.	26766.	-4240.	9026.	21907.	34742.	17366.	32190.	6944.	18219.
33604.	54546.	24123.	42687.	4742.	23790.	47779.	62556.	36929.	53065.	21525.	38094.
-9496.	-4953.	-15081.	-8873.	20173.	25211.	-485.	-2526.	-5804.	-6639.	26994.	25995.
-30358.	-31130.	-31094.	-23652.	11585.	11651.	-24160.	-31666.	-27103.	-25484.	12157.	11685.
155.	-3280.	6517.	8349.	11358.	14117.	-15725.	-12733.	-6631.	-246.	2701.	7803.
-12503.	-15427.	-903.	-5386.	8628.	4363.	-35267.	-28170.	-18462.	-14875.	-8.	-2119.
-7527.	-8103.	1445.	-2327.	6740.	9866.	-17845.	-10210.	-7620.	-6210.	718.	5954.
1943.	4791.	4243.	3217.	6096.	6878.	3237.	3063.	2526.	894.	4863.	2211.
15604.	33336.	10668.	31722.	4627.	26349.	23087.	33423.	16984.	31546.	14384.	25109.
28061.	48639.	19938.	38643.	6867.	30076.	42058.	52649.	31579.	42582.	21967.	34580.
-8899.	-6163.	-14429.	-10595.	17828.	22076.	-1951.	-4212.	-9440.	-10646.	22195.	21997.
-25658.	-27820.	-23962.	-22882.	10509.	11152.	-22885.	-25776.	-23648.	-23034.	10755.	11057.
224.	-5749.	7276.	10495.	13928.	16919.	-15719.	-17112.	-5414.	2942.	5668.	10327.
-11211.	-11682.	608.	-3230.	9812.	6502.	-33882.	-23678.	-14826.	-14277.	1369.	-589.
-8071.	-3766.	2990.	3033.	9365.	12513.	-15921.	-7892.	-5024.	-1657.	1874.	7768.
1616.	1970.	3260.	4119.	11335.	9162.	4698.	667.	2179.	1083.	3286.	4219.
13783.	24643.	10572.	22649.	10585.	24152.	23755.	23626.	15917.	19251.	16766.	18877.
25778.	44614.	17485.	41192.	10022.	37710.	39820.	52505.	30309.	44245.	25768.	40021.
-8727.	-11929.	-13307.	-14816.	16093.	17067.	-2482.	-5412.	-8597.	-13407.	19072.	16861.
-20968.	-24254.	-21512.	-19749.	8309.	9000.	-20348.	-21521.	-20891.	-18980.	8496.	9003.
-987.	-7786.	6101.	6515.	13996.	13939.	-14913.	-20002.	-4368.	-1929.	7584.	7589.
-9316.	-12842.	1863.	-1510.	9312.	7702.	-28156.	-22997.	-11549.	-11662.	2093.	1315.
-5431.	-171.	3156.	5827.	10997.	14359.	-11472.	-3054.	-6187.	1069.	4393.	9212.
1939.	2622.	6309.	7787.	14697.	12715.	7202.	2331.	3234.	5093.	11799.	7536.
10486.	23409.	8664.	21705.	14816.	26675.	19990.	26375.	12335.	20825.	15530.	23872.
23096.	37234.	15520.	34588.	13722.	36269.	33652.	41659.	24904.	32596.	24996.	32856.
-6266.	-6938.	-12383.	-6423.	17117.	17406.	-1601.	-4596.	-6430.	-10509.	17965.	16642.
-17627.	-18779.	-16323.	-16310.	7723.	8462.	-19735.	-23215.	-19137.	-22446.	7742.	8213.

TABLE XLIV

COMPARISON OF FULL COST - SUCC. EFFORTS - VARYING PROD.

COND 21- DEC IDC INC PROD DEC RES		COND 24- DEC IDC CON PROD DEC RES		COND 27- DEC IDC DEC PROD DEC RES	
FC	SE	FC	SE	FC	SE
45092.	51844.	45092.	51860.	45092.	52111.
20733.	19149.	21232.	19077.	23491.	21688.
25835.	32639.	25923.	32562.	28231.	34130.
38143.	48538.	36299.	45635.	37397.	46732.
57647.	65535.	51276.	60095.	50285.	55928.
81521.	86056.	73456.	76583.	67133.	68948.
-43739.	-62258.	-48201.	-63562.	3290.	-39143.
-78077.	-98566.	-76799.	-93211.	-39423.	-64627.
-24297.	-14189.	-12283.	-4736.	-5154.	6710.
-31476.	-24867.	-20417.	-16132.	-25943.	-6306.
185.	4021.	2433.	5878.	-10691.	5935.
18907.	26778.	18168.	24159.	3586.	20058.
36960.	50253.	32654.	45748.	19194.	40217.
58139.	74822.	50055.	67192.	37953.	59689.
-39708.	-59337.	-41073.	-58863.	-7414.	-34765.
-60286.	-80766.	-60420.	-79669.	-32050.	-58783.
-16192.	-12106.	-7814.	-1272.	-5964.	7786.
-21101.	-21091.	-15102.	-14557.	-16795.	-6114.
3197.	6496.	5312.	4790.	-9272.	6824.
16388.	15980.	14402.	14734.	4363.	10835.
29597.	46977.	27132.	43651.	18294.	39731.
47824.	63559.	40618.	57187.	32499.	52380.
-29813.	-47549.	-32915.	-49443.	-7661.	-30874.
-49541.	-66081.	-48634.	-65902.	-31443.	-51032.
-17435.	-17347.	-6641.	991.	-3324.	8290.
-12402.	-12171.	-11238.	-14357.	-17395.	-4601.
3667.	5302.	5490.	5060.	-7326.	5809.
12002.	15134.	12343.	13354.	6020.	11250.
23987.	34015.	23213.	31441.	17705.	30071.
39653.	54983.	36256.	51852.	32690.	49072.
-24365.	-41562.	-28563.	-45134.	-5618.	-30891.
-41255.	-54823.	-42515.	-56691.	-27428.	-45140.
-14670.	-17474.	-6659.	-5676.	-5478.	3009.
-8154.	-9694.	-9056.	-11561.	-14830.	-3691.
4307.	8751.	4903.	9684.	-5572.	7049.
10114.	12473.	12204.	12531.	8070.	10477.
17520.	29995.	17718.	28968.	13883.	29362.
32315.	42557.	29808.	40685.	28127.	40372.
-18853.	-31593.	-22640.	-35700.	-7237.	-24100.
-33200.	-44895.	-35343.	-47764.	-24632.	-37697.

In summary, the timing difference means as presented in the tables of this chapter offer some very interesting results. In particular, these results show that reversals will occur in most of the conditions when deferred taxes are accrued on the basis of comprehensive interperiod tax allocation. Yet there appears to be enough variation that no blanket statements about the comprehensive tax allocation can be made, patterns similar to the grouping of conditions presented in Tables XXI, XXII, and XXIII. Therefore, the observations noted for the latter at least with regards to the timing differences that arise from intangible drilling and development costs. Table XLV groups the conditions on the basis of the number of reversals that occurred. These results are different from what was expected to occur given the results of previous of deferred taxes studies and will be discussed in the following chapter.

TABLE XLV

GROUPING OF CONDITIONS BY NUMBER OF REVERSALS

	ATI	FC	SE
No reversals			
	10		25
	25		
1 to 4 reversals			
	14	17	10
	17	25	13
	26	26	14
			16
			17
			26
5 to 9 reversals			
	13	10	
	16	14	
	18	16	
10 to 14 reversals			
	7	7	7
	8	8	8
	11	11	11
	15	13	12
		15	15
		18	18
		22	27
15 to 19 reversals			
	12	12	21
	21	21	22
	22	24	24
	24		
	27		
20 to 24 reversals			
	1	1	1
	2	2	2
	3	3	3
	4	4	4
	5	5	5
	6	6	6
	9	9	9
	19	19	19
	20	20	20
	23	23	23
		27	

CHAPTER IV

ANALYSIS OF RESULTS

The majority of studies that pertain to deferred taxes payable and comprehensive interperiod tax allocation showed that the likelihood of reversals occurring over time with any great frequency was minimal. Davidson (1958) concluded from his simulation study that, as long as a firm's asset expenditure pattern in each year was equal to or greater than the previous year's asset expenditures, the deferred taxes payable would continue to grow since reversals would not occur in enough numbers to cause a decrease. Livingstone (1967, 1969) took Davidson's study a step further by imposing a cyclical pattern on the asset expenditure pattern since he felt that such a pattern was more indicative of what actually occurred in business. Even with the imposition of a cyclical pattern, Livingstone's simulation found that the likelihood of reversals was minimal. Livingstone concluded that the key to the reversals or nonreversals was dependent strictly on the asset expenditure pattern and recommended that comprehensive interperiod tax allocation and the deferred method be eliminated. Subsequent studies seemed to reinforce the conclusions of these two studies.

The purpose of this study was to determine if these conclusions and the lack of reversals, in total, would be valid for the timing differences that arose in oil and gas firms from the expenditures of intangible drilling and development costs. Thus, using the conclusions

of these previous studies as a basis, it was hypothesized that reversals would not occur over time regardless of the IDC expenditure pattern employed. Yet, reversals not only occurred but they occurred with great frequency in many of the cases examined in this study. The purpose of this chapter is to analyze the results and to explain by illustration why the reversals as well as other aspects noted in the results occurred.

Given the belief that the results were not expected to yield reversals or that, if reversals did occur, they would be few in number and inconsequential in amount, why did the reversals occur in as great a number and dollar amount that they did for so many of the conditions? In analyzing these timing difference means, the answer relates to how the three variables of IDC, production, and reserves interacted with one another given the particular pattern assumption (increasing, decreasing, and constant). That is, no one variable or pattern alone contributed to or caused the timing difference to reverse. Rather, it depended on (1) where the IDC expenditure was in its pattern of the sine wave cycle when the cycle was imposed, (2) if a cycle was imposed, and (3) how production was moving in relation to the movement of the estimated reserves.

In discussing the research problem, it was noted that it was this interaction of IDC, production, and reserves that affected the corresponding timing differences. Livingstone (1967) had noted that the timing difference that arose from the use of accelerated depreciation methods for tax purposes versus straight-line depreciation for financial accounting purposes was a function of the asset expenditures for the current and preceding years. In effect, Livingstone formulated

the timing difference in an algebraic form as follows:

$$D_t = (\text{SYD rate} \times P) - (\text{SL rate} \times P)$$

where D_t was the timing difference in year t and P was the pattern of asset expenditures over time (i.e., the sum of current year and prior years' asset expenditures). By factoring out P, the algebraic model becomes

$$D_t = (\text{SYD rate-SL rate}) \times P$$

where SYD rate-SL rate can be expressed as a vector of constants thereby making the timing difference dependent on P alone, i.e., on the pattern of asset expenditures over time. Livingstone found that even the addition of a sine wave cycle did not cause the timing differences to reverse. However, this relationship where the timing difference is so heavily dependent on the asset expenditure pattern does not hold for the timing difference generated as a result of IDC expenditures. The timing difference computed as a result of IDC costs would be as follows:

$$D_t = P_t - [(u_t/r_t) \times (P_{t-1})]$$

where P_t was the current year's IDC expenditures deducted for tax purposes, u_t/r_t was the amortization rate (production/estimated reserves), and P_{t-1} is the sum of all prior years' IDC expenditures. As can be seen, no one variable or combination of variables can be isolated to have a dominating effect as was the case in the depreciation timing difference model. Instead, the timing difference is really dependent on (1) P_t, the current year's IDC expenditures, (2) u_t, the current year's production and how it is moving in relation to r_t, the current year's reserves to create the amortization rate, u_t/r_t, and (3) how long a single year's IDC expenditure remains as a

part of the summation total used to compute the financial amortization expense. Some simple numerical examples will help to illustrate how these interrelationships worked to yield the results that this simulation generated. These examples should also explain what caused the reversals to occur.

Assume that an oil and gas firm spends $100,000 each year on IDC expenditures and that this $100,000 is deducted 100% for income tax purposes. In keeping with the assumptions used in this study, assume that the wells for which the IDC is expended are determined to be productive in the year following the expenditure and that the financial amortization expense is based on the unamortized IDC. Also, assume for this illustration that the amortization rate remains at 20% per year. The result can be seen in Table XLVI.

Notice in this example, that even though nothing changed as far as IDC, reserves, and production were concerned, the timing difference continually decreased until it reached zero. If the example were continued indefinitely, no further additions or deletions, in total, would be made to deferred taxes payable, although reversals would occur on an individual basis. Yet, it can be seen that the summation of prior years' expenditures that make up the base for purposes of calculating the financial amortization expense continued to grow each year. Only the fact that, after Year 5, the same dollar amounts were added and subtracted prevented having reversals. In this study, the constant assumption imposed no cycle but also did not use the same dollar amount each year. Instead, the amounts were allowed to vary around a base amount within set limits. Thus, any of the conditions in which IDC was simulated under the constant assumption have fewer

TABLE XLVI

ILLUSTRATION 1

Year	Tax Deduction	Financial Deduction	Timing Difference
1	$100,000	20%($0)=$0	$100,000
2	$100,000	20%($100,000)=$20,000	$ 80,000
3	$100,000	20%($200,000)=$40,000	$ 60,000
4	$100,000	20%($300,000)=$60,000	$ 40,000
5	$100,000	20%($400,000)=$80,000	$ 20,000
6	$100,000	20%($500,000)=$100,000	$ 0
7	$100,000	20%($500,000)=$100,000	$ 0
8	$100,000	20%($500,000)=$100,000	$ 0

reversals than either the increasing IDC conditions or the decreasing IDC conditions. The randomness of the changes could affect the additions to the base and therefore affect the reversals as well. However, it must be noted that the IDC expenditure simulated under the constant assumption did not in and of itself prevent or reduce the number of reversals. Otherwise, all conditions with the constant IDC would have had few or no reversals, yet a review of those conditions indicates that such was not the case. Rather, another aspect of the interrelationship helped to cause some of those reversals within the constant IDC conditions. That other aspect is how production was moving in relation to the estimated reserves.

To illustrate, taking the above example, assume that the amortization rate starts at 10% and increases 5% each year until a maximum of 30% is reached at which time the rate cycles back down at a rate of 5% until 10% is reached. Again, the IDC expenditure will be fully amortized after 5 years and then be removed from the bases. The result can be seen in Table XLVII.

As can be seen from this example, reversals occurred because (1) the financial base grew and (2) the amortization rate increased as the base grew. Even once the base leveled off at $500,000, reversals would occur as long as the amortization rate was more than 20%. Thus, in this illustration, it was the increasing amortization rate that contributed primarily to the occurrence of reversals. But what would cause an increase in the amortization rate? An increase in the amortization rate will occur whenever the production (numerator) is either increasing at a rate faster than the reserves or production is moving in a positive direction opposite to the direction of the reserves. In this study,

TABLE XLVII

ILLUSTRATION 2

Year	Tax Deduction	Financial Deduction	Timing Difference
1	$100,000	10%($0)=$0	$100,000
2	$100,000	10%($100,000)=$10,000	90,000
3	$100,000	15%($200,000)=$30,000	70,000
4	$100,000	20%($300,000)=$60,000	40,000
5	$100,000	25%($400,000)=$100,000	0
6	$100,000	30%($500,000)=$150,000	(50,000)
7	$100,000	25%($500,000)=$125,000	(25,000)
8	$100,000	20%($500,000)=$100,000	0
9	$100,000	15%($500,000)=$75,000	25,000
10	$100,000	10%($500,000)=$50,000	50,000

production would be increasing at a faster rate than reserves when the production was simulated under the increasing assumption while the reserves were simulated under the constant assumption, or production was constant while the reserves were decreasing. Production would be moving positively and opposite to that of the reserves when production was increasing while the reserves were decreasing. Therefore, those conditions that combined the increasing production/constant reserves, constant production/ decreasing reserves, and increasing production/decreasing reserves generally exhibited a large number of reversals, even when IDC was assumed to be relatively constant. Conversely, those conditions in which reserves were increasing at a rate faster than production exhibited few reversals. That is, when the amortization rate was computed with constant production/increasing reserves, decreasing production/ constant reserves, and decreasing production/increasing reserves, few, and in some cases, no reversals occurred. This fact occurs because the rate is decreasing as the denominator increases and the numerator either does not change or it decreases. With a decreasing amortization rate, the likelihood of reversals occurring decreases also. However, what about those conditions in which production and reserves are moving in similar directions (increasing/increasing, constant/constant, and decreasing/decreasing)? When production and reserves moved in similar directions, the amortization rate becomes an almost constant rate with few fluctuations from year to year. Therefore, the amortization rate enters into a situation similar to depreciation where the depreciation rates were reduced to a vector of constants and the timing difference was dependent on the asset expenditure pattern. This fact is reinforced

by the first numerical example in which the amortization rate was assumed to be 20% per year.

Livingstone (1967) concluded that the cyclical patterns had little, if any, effect on the timing differences simulated. However, in the present study, the cycles that were imposed had a very definite impact on the results of the simulation. It has already been noted in Chapter 3 that the dollar amounts exhibited a pattern similar to the sine wave pattern imposed on the increasing assumption (up 2 years, down 4 years, and up 2 years) and on the decreasing assumption (down 2 years, up 4 years, and down 2 years). A numerical example will serve to illustrate the effect of the cycle on the timing difference. Assume that $100,000 is spent on IDC in Year 1. Subsequent expenditures will follow the sine wave pattern used with the increasing assumption. Each year the dollar amount of the change will be $25,000. Also, the amortization rate will remain constant at 20% per year with full amortization of an IDC expenditure occurring after 5 years. Table XLVIII shows the results. Reversals occur as the IDC expenditures deducted for tax purposes decrease and the base used for the financial amortization increases. Even keeping the amortization rate constant could not prevent reversals from occurring. Only as the tax IDC increases while the earlier peak amounts reach full amortization and are eliminated from the base do the positve timing differences begin to resurface. Therefore, the cycle definitely affects the occurrence of the timing differences as well as the dollar amounts, at least where different bases are used for computing the deductions for tax and accounting purposes. A similar effect could be seen if the decreasing sine wave pattern were used, except that the first reversal would occur later since the down

TABLE XLVIII

ILLUSTRATION 3

Year	Tax Deduction	Financial Deduction	Timing Difference
1	$100,000	20%($0)=$0	$100,000
2	$125,000	20%($100,000)=$20,000	105,000
3	$100,000	20%($225,000)=$45,000	55,000
4	$ 75,000	20%($325,000)=$65,000	10,000
5	$ 50,000	20%($400,000)=$80,000	(30,000)
6	$ 25,000	20%($450,000)=$90,000	(65,000)
7	$ 50,000	20%($375,000)=$75,000	(25,000)
8	$100,000	20%($300,000)=$60,000	40,000
9	$100,000	20%($275,000)=$55,000	45,000
10	$125,000	20%($350,000)=$70,000	55,000

sides of the cycle occur later. Therefore, in those conditions in which the production and reserves were moving in similar directions, the reversals occurred in cycles of 3 to 5 years, and occurred, on the average, 50% of the time. However, it should be noted that when the production and reserves were related but where reserves were increasing faster than production, lower amortization rates occurred. In this case, the cycles by themselves could not generate reversals. For example, assume that a maximum rate of 20% occurs in Year 2 and decreases by 3% per year. Also, the cycle used for the IDC expenditure pattern will be the same as the one used previously. The results are shown in Table XLIX.

The combination of the cycle and the decreasing amortization rate affected the timing differences and the reversals (or lack of reversals). Conversely, if the amortization rate were allowed to increase over time, the reversals would be greater in number as well as in dollar amount. Having shown what the cycles and amortization rates can do individually, it should be clear as to what the cycles and moving amortization rates would do. As the cycle moves down and the rates move up, reversals will occur. As the cycle moves up and the rates decrease, there will be additions to the deferred taxes payable.

While the above illustrations give a general explanation of what could cause or prevent reversals in different situations, how do these illustrations relate to the results that were presented in Chapter 3? Those results will now be reviewed.

The results of the simulation presented the timing difference means that are computed from the simulated data. The computed timing

TABLE XLIX

ILLUSTRATION 4

Year	Tax Deduction	Financial Deduction	Timing Difference
1	$100,000	20%($0)=$0	$100,000
2	$125,000	20%($100,000)=$20,000	105,000
3	$100,000	17%($225,000)=$38,250	61,750
4	$ 75,000	14%($325,000)=$45,500	29,500
5	$ 50,000	11%($400,000)=$44,000	6,000
6	$ 25,000	8%($450,000)=$36,000	(11,000)
7	$ 50,000	5%($375,000)=$18,750	31,250
8	$ 75,000	2%($300,000)=$6,000	69,000

difference means were grouped into various combinations of twenty-seven conditions. These groupings of the means resulted in four general sets of tables.

The first grouping of tables presented the twenty-seven conditions in a numerical order that corresponded to the hypotheses listing. This grouping allowed the reserves to vary while holding IDC and production constant. The second grouping of tables presented combinations of the twenty-seven conditions in which production and reserves were held constant and IDC was allowed to vary. The third grouping of tables presented combinations of the twenty-seven conditions in a manner similar to the second grouping except that IDC and reserves were held constant and production was allowed to vary. The last grouping of tables compared the means of the successful efforts companies to full costing companies. Also, within each set of these tables, the conditions were formatted into sets of three to allow one of the three variables to vary given the three pattern assumptions while the other two variables were held constant. It was from these four groupings of tables that several points were noted and discussed in Chapter 3.

Within the first grouping of tables, it was noted that the first nine conditions (Condition 1 through Condition 9) exhibited a reasonably substantial number of reversals. The number of reversals for these nine conditions ranged from a high of 24 reversals (Conditions 1, 4, 5, and 6) to a low of 11 reversals (Condition 2). In addition, it was noted that the dollar amounts in the first nine conditions exhibited a pattern similar to the sine wave cycle imposed on the increasing IDC assumption. The pattern of the reversals was also

affected by the sine wave cycle in that the reversals began during the downside of the sine wave cycle. In all nine conditions, the reversals usually began in the fifth or sixth year of the 8-year cycle. Once the reversals began, there were clusterings of reversals of four or five years in duration. Only as the patterns of expenditures began to move on the up side of the cycle did the positive timing differences surface.

With regard to the second nine conditions (Condition 10 through Condition 18), it was noted that there were several differences from the results of the first nine conditions. Seven of the nine conditions had 10 or fewer reversals. Only Condition 11 with 13 reversal and Condition 12 with 16 reversals had more. In fact, it was noted that Condition 10 had no reversals, Condition 14 had only one reversal occuring in Year 40, and Condition 17 had only three reversals. Also, it was noted that when a reversal did occur it was considerably smaller than the positive timing differences. There were also a lack of the sine wave pattern with these conditions. This lack of the pattern was expected, however, since all nine of the conditions were combinations of the nine amortization rates with constant IDC. In simulating the constant assumption no cycle was imposed. Rather, any variations in the IDC expenditure from year to year was due to the use of the Monte Carlo method.

For the last set of nine conditions (Condition 19 through Condition 27), it was noted that these conditions exhibited many of the same characteristics noted for the first nine conditions. The principal difference was that the timing differences for these nine conditions related to the decreasing IDC expenditure patterns. As

with the first nine conditions, most of these last nine also had a substantial number of reversals, except for Condition 25 (no reversals) and Condition 26 (three reversals). The sine wave pattern was once again in evidence in the same manner as the first nine conditions except that the decreasing pattern was a mirror image of the increasing pattern.

All twenty-seven conditions were grouped in sets of three for purposes of allowing reserves to change while IDC and production were constant. From these groupings of three, it was noted that as the reserve number changed, there were substantial variations in the dollar amount across the three conditions. Since the IDC tax expenditure was unchanged, the only thing that could cause such variations were the changes in the amortization rates. Seven of the first nine conditions have large numbers of reversals. Only Condition 7 and Condition 8 had substantially fewer reversals. For the second nine conditions, it was noted that in the first grouping of three (Conditions 10, 11 and 12), Condition 10 had no reversals while Condition 11 had 13 reversals and Condition 12 had 16 reversals. In the second set (Conditions 13, 14, and 15), Condition 13 and 14 had only 5 reversals and 1 reversals, respectively while Condition 15 had 10 reversals. A similar pattern emerged with the last set of these conditions. For the last nine conditions, the patterns were similar to the first nine conditions, in that the first two sets of three had little variation. However, in the third set (Conditions 25, 26, and 27), Condition 25 had zero reversals and Condition 26 had 3 reversals while Condition 27 had 18 reversals.

The second grouping of tables was similar to the first grouping except that production and reserves were held constant while IDC was allowed to vary. It was noted for the first set of conditions that the increasing IDC and decreasing IDC had few differences in the number of reversals. Only the constant IDC number, in comparison, had a substantial drop in the number of reversals. For the last three sets of conditions only the third set (Conditions 9, 18, and 27) exhibited similarity to the first six sets. The other two sets (Conditions 7, 16, and 25 and Conditions 8, 17, and 26), showed that only the increasing IDC had more than 10 reversals while both the decreasing and constant IDC conditions had virtually no reversals, or few reversals of any consequence. Also, the increasing IDC mean had a substantial drop in the number of reversals from those of other conditions.

The third grouping of tables were constructed so that IDC and reserves were held constant while production was allowed to vary. In examining the first three sets, it was noted that the conditions that corresponded to the increasing and constant production numbers had a high number of reversals. The decreasing production in the first two sets had half as many reversals as the increasing and constant production numbers but almost as many in the third set. For the second set of three conditions, Conditions 10, 13, 14, 16, and 17 had 5 or fewer reversals. Only Condition 11 has as many as 13 reversals. However, in the third set (Conditions 12, 15, and 18) of conditions, each had more reversals with Condition 12 having 16 reversals (increasing production) but the constant (Condition 15) and decreasing (Condition 18) having 10 and 9 reversals, respectively. For the last three sets,

the decreasing production, only the condition in the third set (Condition 27) had a high number of reversals. The first two sets (with Conditions 25 and 26) had zero reversals and three reversals.

The fourth grouping of tables were constructed to compare the full costing means and successful efforts means. It was noted that means of the differences were exhibited. Overall, there did not appear to be any effect on the timing differences means due to the fact that one group was based on full cost and that the other group was based on successful efforts.

With these results from Chapter 3 in mind then, what caused or did not cause the reversals? The answer to this question depends upon which condition is being examined. From the numerical illustrations in this chapter, it could be seen that reversals or lack of reversals could be affected by

1. the IDC expenditure patterns and cycles
2. the movement of production in relation to the reserves yielding the amortization rate (production/reserves)
3. an interaction between the expenditure cycle and the amortization rate.

Thus for the twenty-seven conditions, any of the three areas could affect the reversals or lack of reversals, depending upon the conditions examined.

For example, the first nine conditions (Condition 1 through Condition 9) yield timing differences that related to the increasing IDC and the nine different amortization rates. All nine conditions exhibited patterns that corresponded to the sine wave cycle imposed on the increasing assumption (up 2 years, down 4 years, and up 2 years).

As Illustration 3 demonstrated, this sine wave cycle would cause reversals in clusters if there were no or little variation in the amortization rate. With little variation or a constant rate, then the amount of the timing difference would be extremely dependent on the patterns of the IDC expenditure. However, none of these conditions had a constant rate as did Illustration 3, so more than just the cycle caused reversals. As Illustration 4 showed, where the amortization rate is decreasing, the likelihood of reversals decreases. Conversely, if the amortization rate increases, as in Illustration 2, the likelihood of reversals increases. In both illustrations, there had to be a sufficient change in the rate to override the effect of the expenditure pattern. Therefore, if Conditions 1 through 9 had constant rates, reversals would be entirely dependent on the expenditure pattern. Since a constant rate was not present, in a strict sense, the reversals would be caused primarily by the cycle in conjunction with significant variations in the amortization rates.

Fluctuations in rates would be caused by the movement of production to reserves. If the movement is in similar directions (Condition 1 - Increasing production/Increasing reserves, Condition 5 - Constant production/Constant reserves, and Condition 9 - Decreasing production/Decreasing reserves), the changes in rates from year to year would probably not be sufficient enough to always override the effect of the cycle. Thus, all three of the conditions had substantial reversals (Condition 1 - 24 reversals, Condition 5 - 24 reversals, and Condition 9 - 21 reversals). If the production is increasing while the reserves were constant or decreasing or production is constant while reserves are decreasing, then the likelihood of

reversals would increase. Thus, Condition 2 (Increasing production/Constant reserve), Condition 3 (Increasing production/Decreasing reserves), and Condition 6 (Constant production/Decreasing reserves) all had a large number of reversals with 23 reversals, 22 reversals, and 24 reversals, respectively. If production is decreasing while the reserves are increasing or constant, then the likelihood of reversals decreases. Therefore, Condition 7 (Decreasing production/Increasing reserves) and Condition 8 (Decreasing production/Constant reserves) had only 11 reversals and 12 reversals respectively.

Looking at these first nine conditions, it would be easy to conclude that the timing differences were affected more by the relationship of production to reserves than by the increasing cycle. However, if this were true, then the constant IDC timing difference should exhibit substantial reversals, too. Yet, in scanning Conditions 10 through 18, only Conditions 11 and 12 showed more than 25% of reversals. And, in relation to Conditions 1 through 9, there were fewer reversals. Therefore, the amortization rate changes alone do not affect reversals. Illustration 1 showed that if there were a constant amortization rate, no reversals would occur. Now, none of these nine conditions were strictly constant but had some variation from year to year because of the Monte Carlo simulation technique. Therefore, if a constant rate were applied, some reversals might be expected to occur depending on the size of the fluctuation. With some variation in the rates, additional reversals could be expected. As noted, when production and reserves move in a similar direction, there would probably be little variation in the rate from year to year. Therefore, Condition 10 (increasing/Increasing) had no reversals and Condition 14 (Constant/Constant) had 1

reversal. Only Condition 18 (Decreasing/Decreasing) did not hold to this pattern. It had nine reversals. However, with further thought, such a change is not as inconsistent as it may first appear. Since the reserve amounts are usually significantly larger than the production amounts, changes in the reserves could have more impact on the amortization rate. In addition, the reserves are the denominator in the computation. Thus, if the reserves are decreasing at a rate faster than production is decreasing, then the effect would increase over time in the rates. It would seem that such is the case here. Reserves must have decreased faster than production enough times to cause some reversals.

Condition 16 (Decreasing/Increasing) and Condition 17 (Decreasing/Constant) would be similar to Conditions 7 and 8. Therefore, fewer reversals would be expected in conjunction with the constant assumptions. Condition 16 had 5 reversals only as did Condition 17. Condition 13 (Constant/Increasing) would be a situation where fewer reversals would be expected assuming the reserves were increasing at a sufficiently higher rate than any variation in the constant production. Thus, this condition had only 5 reversals.

Condition 11 (Increasing/Constant) and Condition 12 (Increasing/Decreasing) would have expected more reversals and such was the case. However, in conjunction with the constant IDC assumption, there were fewer reversals than with the increasing IDC. This would indicated that the cycle did have some effect on the number and occurrence of reversals. Condition 15 (Constant/Decreasing) had 10 reversals. With the decreasing reserves, reversals would be expected but are fewer in

number than the increasing IDC counterpart. Again, this would indicate that the increasing cycle did have some effect on the number and occurrence of reversals.

Conditions 19 through 27 corresponded to using decreasing IDC with the nine amortization rates. Since the decreasing IDC was a mirror image of the increasing IDC, most of the conclusions regarding the increasing IDC increasing holds. Again, this would indicate that the increasing cycle did have some effect on the number and occurrence of reversals.

Therefore, Condition 19 (Increasing/Increasing), Condition 25 (Constant/Constant), and Condition 27 (Decreasing/Decreasing) all had a substantial number of reversals with 21 reversals, 21 reversals, and 18 reversals, respectively. Similarly, the conditions that related to increasing production/decreasing reserves (Condition 21) and increasing production/constant reserves (Condition 20) had 18 reversals and 21 reversals, respectively. This reinforces that idea of the effect of the movement of production in relation to reserves. Also, Condition 25 (Decreasing/Increasing) had zero reversals and Condition 26 (Decreasing/Constant) had 3 reversals which would be expected. In addition, it seems strange, at first glance, that the decreasing IDC means had fewer total reversals than the increasing. If anything, it would mean that the opposite would be true, particularly in light of the conclusions of previous studies. Further analysis indicates that there may not be much of a difference. For example, by shifting the cycle from Year 1 to a start in Year 5, the same pattern as that imposed by the increasing IDC begins to emerge. The four years of the

downside of the cycle starts later than with the increasing assumption. Therefore, the effect of the downside, as seen in Illustration 2, starts later and, thus, the reversals start later.

It can be seen from the above discussion how important the relationship of the reserves and production can be. But this relationship is not the only factor. Rather, the cycle or lack of a cycle has an effect also. This idea is particularly apparent in Figure 4 of Chapter 3. This figure was a histogram of varying IDC. From the figure, it can be seen that those conditions that had a cycle and either similar production/reserve movements, (Conditions 1, 5, 9, 10, 23, and 27) increasing production/(Conditions 2, 3, 20, and 21) decreasing or constant reserve or constant production/decreasing reserves (Conditions 6 and 24) all had substantial numbers of reversals. Yet, the constant IDC in each case had substantially fewer reversals. This would indicate that the pattern or lack of pattern would have an effect since in each grouping and conditioning the amortization rate was the same. The only exceptions occurred when production was decreasing and the reserves were increasing. In these groupings, the decreasing IDC (Conditions 25 and 26) had very few reversals. Thus, the varying amortization rates were able to override the effect of the cycle.

Finally, the reasons as to why there were few differences between full costing and successful efforts firms should be noted. There is no difference because the method in which amortization is done (units of production) is the same for both types of firms. The primary difference between full costing and successful efforts in the way in which dry hole costs are treated. A full costing firm capitalizes all

IDC costs while a successful efforts capitalizes only those IDC costs associated with a producing well. In both instances, the amortization rate is dependent on those wells that are productive. Only the dollar amounts being amortized will be affected by the choice of method. Since the rate is a critical factor in the reversals, the fact that costs are capitalized in one case and not capitalized in the other case is immaterial.

Summary

Accounting Principles Board (APB) Opinion No. 11 set the standard for using the deferred method to account for income taxes using comprehensive interperiod income tax allocation. All subsequent opinions issued by the APB or standards issued by the Financial Accounting Standards Board (FASB) regarding deferred income taxes referred to APB 11 and generally required adherence to its standards. Such was the case with FASB 19 and FASB 25 which required the use of the deferred method for accounting for intangible drilling and development costs deducted for tax purposes. Yet, despite the adherence by the standard setting bodies to APB 11, the theoretical soundness of the deferred method and comprehensive interperiod income tax allocation has been frequently challenged. Most of the previous studies done in this area showed that APB 11 was not on strong theoretical grounds and put forth suggestions for replacing the deferred method as well as comprehensive interperiod tax allocation. In fact, the FASB is currently considering the deferred tax question.

This study tested the theoretical soundness of the deferred method with regards to its application in the oil and gas industry. IDC

costs were simulated via the Monte Carlo method. In addition, production and reserves were simulated as well since it was believed that any tax deferrals would be a function of the three variables working in relation to one another. It was assumed that the patterns of variable changes would be cyclical and that each variable would be either increasing, decreasing, or constant. Then, given the 27 possible combinations of IDC, production, and reserves, timing differences were computed from data simulated for 25 full costing firms and 25 successful efforts firms. From these combinations, it was hoped that the results would indicate which combinations of IDC, production, and reserves, if any, would lead to reversals over a period of 40 years. The results showed that a substantial number of reversals did occur in many of the conditions. It was seen from the above discussion that the reversals did occur or did not occur, depending upon how IDC, production, and reserves interrelated. In some cases, the pattern of IDC predominated while in other cases, the movement of production in relation to the estimated reserves affected the occurrence of reversals. Overall, it cannot be said that any one variable in and of itself caused or prevented a reversal. Therefore, from the above analyses, the following conclusions are drawn from the results:

1. If the IDC expenditure and the amortization rates remain relatively constant, the likelihood of reversals is diminished although not necessarily eliminated. (Conditions 10 through 18)

2. The cycle of IDC expenditures can have an effect due to the manner in which a timing difference occurs. IDC costs are 100% expensed for tax purposes while they are amortized on the basis of

units of production for financial accounting purposes. Therefore, unlike the timing difference that arises from depreciation which is computed on the same asset base for tax and financial accounting purposes, the timing differences that arise due to IDC expenditures are not computed on the same basis. Rather, the financial accounting expense is computed on a base that is the sum of prior years' expenditures that are unamortized. Therefore, as that base builds and the current year's expenditure decreases (the down side of the sine wave cycle), the likelihood of reversals increases and is almost a surety if the amortization rate is increasing while the IDC expenditure is decreasing. (Conditions 1, 2, 3, 4, 5, 6, 9, 19, 20, 21, 22, 23, 24, and 27)

3. If production is increasing at a rate faster than the reserves or is increasing while the reserves are decreasing, the likelihood of reversals increases as well (Conditions 2, 3, 11, 12, 20, and 21). Conversely, if production is decreasing at a faster rate than reserves or decreasing while reserves are increasing, the likelihood of reversals decreases (Conditions 7, 8, 25, and 26). It would seem from the results and analysis of this study that no blanket statement regarding deferred taxes arising from IDC expenditures can be made. Rather, it would appear that the deferring of income taxes for timing differences arising from IDC expenditures should be done on a case by case basis.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

With the issuance of Accounting Principles Board (APB) Opinion No. 11, the APB hoped to quell the controversies that existed with regards to the use of the deferred method of handling interperiod income tax allocations. Since that time, accounting researchers have shown concern about APB Opinion No. 11. Specifically, these researchers criticized the use of comprehensive interperiod tax allocation and the deferred method. It was their contention that reversals would not occur in the aggregate over time for a going concern. Rather, the timing differences generated from using accelerated methods of depreciation for tax purposes and straight-line depreciation for financial accounting purposes would cause the deferred taxes payable account to grow each year. This account, that was called a payable, did not really represent a liability since it was owed to no one. At best, it was a contingent liability. Because of this belief that decreases in the credit account would not occur as long as the tax deduction, in the aggregate, exceeded the financial deduction, in the aggregate, researchers concentrated on showing that the payable account did indeed continue to grow seemingly unabated. Of course, these researchers did admit that reversals did occur with individual assets. However, since financial statement users would not see the individual turnarounds, but would only see the

continual growth in the deferred taxes payable account, such individual reversals were considered inconsequential and meaningless.

The results of these previous studies helped to support those opponents of APB Opinion No. 11. Davidson (1958) showed that as long as a firm maintained or exceeded its capital asset expenditures, reversals would not occur. Livingstone (1967) further confirmed Davidson's findings by simulating the asset expenditure pattern of real companies. He found that reversals or the lack of reversals was dependent entirely on the asset expenditure pattern. Harwood (1961) found that even in the worst conditions, the use of interperiod tax allocation for depreciation would lead to the continual increase of the deferred tax account. Price Waterhouse and Company (1967) showed that for a 12-year period, dollar reduction accounted for only $20 million while dollar additions to deferred credits amounted to $950 million. Voss (1968) found little difference in the likelihood of reversals between large and small firms. Most of the remaining studies supported these conclusions. Therefore, given this background of results, it was reasonable to assume and thereby hypothesize that such results would be consistent with those of the present study.

The purpose of this study was to determine if such a lack of reversals would be found to exist in the oil and gas industry with regard to intangible drilling and development costs. Timing differences arise from IDC costs when they are allowed to be expensed when incurred for tax purposes but are written off on the basis of units of production for financial accounting purposes. The timing difference

results from the 100% tax deduction versus a less than 100% deduction for financial accounting purposes. Therefore, the IDC tax deduction would appear to be simply another form of accelerated depreciation and the results of previous studies done on accelerated depreciation seem to have application here. Thus, it was hypothesized that reversals would never occur regardless of the conditions that would give rise to the timing difference. Yet, it was believed that these previous conclusions might not hold in this case.

The IDC deductions are different from other accelerated depreciation methods used for tax purposes in that the tax deduction is a function of current year expenditures only and not a function of the expenditures of several preceding years. The timing difference for depreciable assets can be computed as follows:

$$D_t=(\text{SYD rate} \times P)-(\text{SL rate} \times P)$$

where D_t is the timing difference in year t and P is the pattern of asset expenditures over time. By factoring out P, the equation reduces to (SYD rate-SL rate) x P. SYD rate-SL rate can be expressed as a vector of constants thereby making the depreciation timing difference dependent on P alone. This relationship does not hold with regards to IDC costs. The timing difference, in this case, is computed as follows:

$$D_t=P_t-[(U_t/r_t)x(P_{t-1})]$$

where P_t is the current year's IDC expenditure deducted for tax purposes, U_t/r_t is the amortization rate (production/estimated reserves), and P_{t-1} is the sum of all prior years' expenditures. It is obvious from this equation that the timing difference is not dependent on the stream of asset expenditures only, but rather it is dependent on the

IDC expenditures, production, and estimated reserves. This study was conducted to see what effect, if any, this difference would have on reversals or lack of reversals of the deferred credits arising from the timing differences.

To test this timing difference model, data was generated for the IDC expenditures, production, and reserves via computer simulation. The simulation approach was chosen for several reasons. The most important stemmed from the fact that there was a lack of adequate historical data available to do an effective empirical study. In addition, if adherence to historical data had been chosen, the data would have been restricted by the historical patterns of the data. Also, since the timing differences contribute to deferred credits that are long-term in nature, and since it was believed to be more logical to examine what might occur in the future over a long period of time, a simulation model was chosen. The simulation also allowed the imposition of a pattern on the data. In this study, three possible patterns of change were examined as follows:

1. increasing (positive growth)
2. decreasing (negative growth)
3. constant (no real growth or decline)

The simulation was done for 50 oil and gas firms (25 full costing firms and 25 successful efforts firms chosen at random) for a period of 40 years. The choice of 40 years was made so that five full cycles of sine wave patterns could be examined. With the increasing and decreasing assumptions, a cycle resembling a sine wave pattern was imposed for each 8 year period. The cycle was imposed since it was

believed that the likelihood of strictly linear patterns was remote. Once the data was simulated for the 50 firms, the IDC, production, and reserves were mixed together into 27 possible combinations of the three pattern assumptions. From these 27 conditions, an analysis was performed of the timing differences and reversals.

The results of the simulation were the opposite of what had been hypothesized. In most of the 27 conditions large numbers of reversals occurred. Only in those conditions in which the IDC was relatively constant or in which production was decreasing while reserves were constant or decreasing was there a lack of substantial reversals. Overall, the results of this study showed that, at least in this case, there was some theoretical justification for the Financial Accounting Standards Board (FASB) requiring the use of comprehensive interperiod tax allocation as stipulated in FASB No. 19 and FASB No. 25. However, since there was no unanimity in the results for all 27 conditions, it would be difficult to justify blanket use of comprehensive interperiod tax allocation. Rather, an analysis of how the IDC expenditures, production, and reserves interrelate with one another would be needed on a case by case basis, to see if deferrals are necessary.

Policy Implications of the Results

The FASB is currently considering the question of deferred income taxes and the theoretical soundness of its use in the application of comprehensive interperiod tax allocation. Certainly, the results of previous studies would indicate such a consideration is necessary. In fact, the results of previous studies indicate that the deferred

method should be eliminated entirely. However, the implications of the results of this study are that there do exist some cases in special industries in which there may be some theoretical basis for the use of the deferred method. It would appear that the FASB was correct in requiring the application of APB Opinion No. 11 for the IDC timing differences, particularly since the book/tax interaction was eliminated However, it should be noted that blanket application of APB Opinion No. 11 is not the solution either. Certainly, the results showed enough cases here where reversals did not occur and when they did occur, they were few in number and insignificant in amount. The implication would be to consider some other allocation than comprehensive allocation.

Opponents would argue that interperiod tax allocation is never appropriate. The results of this study show at least one case in which tax allocation could be appropriate. The question become whether partial allocation or comprehensive allocation is appropriate. Under comprehensive allocation, income tax expense includes the tax effects of transactions entering into the determination of pretax accounting income even though some transactions may affect the determination of taxes payable in a different period. This view recognizes that the amount of income taxes payable for a given period does not necessarily measure the appropriate income tax expense related to transactions for that period. Those who support comprehensive allocation believe that the tax effects of timing differences should be recognized and that the tax effects should be matched with or allocated to those periods in which the differences reverse. Therefore, it is believed that comprehensive allocation results in a more

thorough and consistent association in the matching of revenues and expenses. On the other hand, partial allocation presumes that the income tax expense of a period for financial accounting purposes should be the tax payable for the period. Holders of this view believe that when recurring differences between taxable income and pretax accounting income give rise to an indefinite postponement of an amount of tax payments or to continuing tax reductions, tax allocation is not required for these differences. In this view, tax allocation is applicable only when the deferred amounts are reasonably certain to affect the flow of resources used to pay taxes in the near future.

Comprehensive allocation requires showing the effects of all timing differences when the timing differences occur regardless of whether or not an indefinite postponement would occur. Under partial allocation, the tax effects of many timing differences would not be recognized unless payment (or reversals) is reasonable in the near future. The results of this study would seem to offer support for both positions.

However, when the results are considered in relation to those results of previous studies, it is difficult to embrace comprehensive allocation exclusively. To do so would be emphasizing form over substance. Considering the emphasis that is often given to substance over form, such an acceptance of comprehensive allocation is unacceptable. Rather the fact that the results do present an interesting mixture of conditions where reversals occur in great numbers and conditions in which reversals do not occur would indicate that the application of some form of partial allocation should be adopted using the

deferral method. Partial allocation would be more amenable to different situations and industries.

It is recommended that the type of partial allocation adopted be one similar to that followed by the Chartered Accountants in Great Britain. In their standard, time becomes a factor. Timing differences are analyzed on a yearly basis. If this analysis indicated that the likelihood of reversals will occur within a three year period, then the deferred tax credit is recorded as a current liability. If the deferral does not occur within three years or if there appears to be an indefinite postponement of the tax liability, then no book entry is made. Rather, the "deferred taxes" are simply disclosed in the footnotes. Such an application of partial allocation would seem to be the case for many of the conditions in this study. On the other hand, when there seems to be an indefinite postponement, as previous studies have shown, no recording of the deferral would be made. The deferrals would, however, be disclosed in the footnotes. Such a procedure appears to be much closer to reality and emphasizes substance over form.

Suggestions for Future Research

The results of this study show that the questions of deferred taxes are far from settled. Research in the future could concentrate on those items that cause timing differences other than dpreciation. In addition, it would be interesting to look at IDC expenditures, production, and reserves in ten years to see how close the simulation was in predicting the likelihood of reversals. Finally, future studies

could concentrate on the effect on net income of using a form of partial allocation versus comprehensive allocation and see how close the two types come to predicting and handling actual reversals.

SELECTED BIBLIOGRAPHY

I. BOOKS

American Institute of Certified Public Accountants. Professional Standards of Accounting. Chicago: Commerce Clearing House, Inc., 1981.

Black, Homer A. "Interperiod Allocation of Corporate Income Taxes". Accounting Research Study No. 9. New York: American Institute of Certified Public Accountants, 1966.

Hendriksen, Eldon S. Accounting Theory. 3rd Ed. Homewood, Illinois: Richard D. Irwin, Inc., 1977.

Naylor, Thomas H. Computer Simulation Experiments with Models of Economic Systems. New York: Wiley and Son, Inc. 1971.

II. JOURNAL ARTICLES

Bearer, William H., and Roland E. Dukes. "Tax Allocation and Security Prices." Accounting Review. (April, 1972), pp. 320-332.

_____. "Tax Allocation and S-Depreciation Methods." Accounting Review. (July, 1973), pp. 549-559.

Bevis, Herman W. "Contingencies and Probabilities in Financial Statements." Journal of Accountancy. (October, 1968), pp. 37-45.

Boham, Michael P. "The Concept of APB Opinion No. 11 Is Being Whittled Away." Journal of Accounting, Auditing, and Finance. (Fall, 1979), pp. 76-82.

Burns, Paul. "Deferred Tax Accounting--A Critique." Accountancy. (October, 1977), pp. 80-81.

Davidson, Sidney. "Accelerated Depreciation and the Allocation of Income Taxes." Accounting Review. (April, 1958), pp. 173-180.

Davidson, Sidney, Lisa Skelton, and Roman L. Weil. "A Controversy over the Expected Behavior of Deferred Tax Credits." Journal of Accountancy. (August, 1976), pp. 52-56.

Drinkwater, David, and James Don Edward. "Nature of Taxes and the Matching Principle." Accounting Review. (July, 1965), pp. 579-582.

Harwood, Dale S., Jr. "Yet More on Tax Allocation." Accounting Review. (October, 1961), pp. 619-625.

Herring, Hartwell C., and Fred A. Jacobs. "The Expected Behavior of Deferred Tax Credits." Journal of Accountancy. (August, 1976), pp. 52-56.

Livingstone, John L. "A Behavioral Study of Tax Allocation in Electric Utility Regulation". Accounting Review. (July, 1967), pp. 544-552.

_____. "Accelerated Depreciation and Deferred Taxes: An Empirical Study of Fluctuating Asset Expenditures." Empirical Research in Accounting: Selected Studies. (1967), pp. 93-118.

_____. "Accelerated Depreciation, Cyclical Asset Expenditures, and Deferred Taxes." Journal of Accounting Research. (Spring, 1967), pp. 77-94.

_____. "Accelerated Depreciation, Tax Allocation, and Cyclical Asset Expenditures of Large Manufacturing Companies." Journal of Accounting Research. (Autumn, 1969), pp. 246-254.

Mateer, William H. "Tax Allocation: A Macro Approach." Accounting Review. (July, 1965), pp. 583-586.

Nair, R. D., and Jerry J. Weygandt. "Let's Fix Deferred Taxes." Journal of Accountancy. (November, 1981), pp. 87-98.

Perry, Raymond E. "Comprehensive Income Tax Allocation." Journal of Accountancy. (February, 1966), pp. 23-32.

Price Waterhouse and Company. "Is Generally Accepted Accounting for Income Taxes Possibly Misleading Investors?" Price Waterhouse and Company. (July, 1967).

Solomon, Kenneth I. "Income Taxes--Expense on Income Distribution?" New York CPA. (March, 1966), pp. 193-198.

Voss, William M. "Accelerated Depreciation and Deferred Tax Allocation." Journal of Accounting Research. (Autumn, 1968), pp. 262-269.

III. THESES AND DISSERTATIONS

Adler, James R. "Deferred Taxes: A Macro Simulation." (Unpub. Ph.D. dissertation, Library, New York University, 1972).

Balke, Thomas E. "An Analysis of Interperiod Income Tax Allocation." (Unpub. Ph.D. dissertation, Library, University of Missouri, 1970).

Rogers, Donald. "Interperiod Income Tax Allocation--A Fourteen Year Study." (Unpub. Ph.D. dissertation, Library, University of Oregon, 1970).

VITA

Charles William Stanley

Candidate for the Degree of

Doctor of Philosophy

Thesis: A SIMULATION STUDY OF INTANGIBLE DRILLING AND DEVELOPMENT COSTS AND DEFERRED TAXES IN THE OIL AND GAS INDUSTRY

Major Field: Accounting

Biographical:

Personal Data: Born in Dallas, Texas, August 20, 1950.

Education: Graduated from Mesquite High School, Mesquite Texas, in May, 1968; received Bachelor of Arts degree from the University of Texas at Austin in May, 1972; received Master of Business Administration degree from the University of Montana in August, 1976; received Master of Professional Accountancy degree from the University of Texas at Arlington in December, 1977; completed requirements for the Doctor of Philosophy degree at Oklahoma State University in July, 1984.

Professional Experience: Teaching Assistant, Department of Accounting, University of Texas at Arlington, September, 1976 to December, 1976 and June, 1978 to May 1979; Teaching Assistant, Department of Accounting, Oklahoma State University, August, 1980 to December, 1982; Assistant Professor, Department of Accounting, Baylor University, January, 1983 to present.