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MASTER LIMITED PARTNERSHIPS IN THE U.S. OIL AND GAS INDUSTRY

by

David S. Schramm

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A thesis submitted to the Faculty and the Board of Trustees of the Colorado School of Mines in partial fulfillment of the requirements for the degree of Master of Science (Mineral Economics).

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ABSTRACT

The master limited partnership (MLP) has become a popular source of exploration and development capital for the beleaguered U.S. oil and gas industry. In the two-year period of 1983-1985, the MLP went from raising no money for the industry to accounting for 51 percent (over $1 billion) of all limited partnership sales. The purpose of this thesis is to: (1) examine the theory behind MLPs, (2) trace their brief history, and (3) analyze their performance relative to corporations during the 1986 oil-price crash.

The MLP (a hybrid of a limited partnership and a corporation) is a limited partnership whose partnership interests are traded on a recognized exchange such as the New York Stock Exchange, the American Stock Exchange or over-the-counter. The MLP, like a corporation, is able to provide market liquidity to its investors while retaining the income pass-through benefits of the limited partnership.

Apache Petroleum Corp. formed the first MLP in 1981 by rolling 33 of its existing limited partnerships into one master one and getting it listed on the New York Stock Exchange. Since that time, over 30 oil and gas MLPs have been formed with a total market value in excess of $13 billion.

The year 1986 proved to be a most discouraging one for

the oil industry, in particular, for small exploration and production corporations and MLPs. Stock market prices and market capitalization declined sharply in response to the industry-wide slump. Corporate stock prices (along with oil prices) have rebounded somewhat since the oil-price crash of 1986. The corporate stock index (constructed from a group of 17 corporations) gained 8 percent in value between June 27, 1985 and June 30, 1987 while the MLP index (constructed from a group of 18 MLPs) lost 43 percent of its depository unit value. Within the MLP universe, roll-outs lost the least ground in the market. Between June 27, 1985 and December 30, 1986, roll-outs lost 36 percent of their unit value compared to 70 and 74 percent, respectively, for roll-ups and liquidation-formed MLPs. Their close ties to corporate parents may have enabled roll-outs to better weather the drop in oil prices.

Substantial net income losses, the general uncertainty over MLP tax treatment, the lowering of both the corporate and personal tax rates, the gradual elimination of allowances for passive losses, and production skewed more heavily toward natural gas may all have contributed to the MLPs' poor performance. Even though MLPs fared worse than corporations between 1985 and 1987, their existence in the oil and gas industry will continue as long as Congress and the Treasury Department allow them to operate.

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Chapter 1
INTRODUCTION

The purpose of this study is to examine the use of the master limited partnership form of business organization as a method of raising capital for the beleaguered U.S. oil and gas industry. Before Apache Corp. formed Apache Petroleum Co. in 1981 by rolling its smaller oil and gas partnerships into a master one (hence the name) and getting it listed on the New York Stock Exchange, this business structure was unknown. Since that time, more than 30 oil and gas master limited partnerships have been formed.

The master limited partnership (MLP) is not exclusive to the oil and gas industry. The real estate industry contains approximately 30 MLPs, and some 25 more are miscellaneously classified. These include such operations as Jones Intercable Investors, IP Timberlands, Mauna Loa Macadamia Partners, and Boston Celtics Limited Partnership.

Like limited partnerships, MLPs are formed in industries characterized as having abundant tax write-offs. In the case of oil and gas partnership programs, the flow-through tax benefits of depletion allowances, depreciation, and intangible drilling costs, can be substantial. In real estate investments, large mortgage loans translate to interest payment write-offs. Also,

depreciation of investment properties can add greatly to the noncash costs of the MLP. Real estate investments lack "at risk" limitations, allowing the limited partners to take advantage of operational losses beyond their tax basis in the program. This may be the most attractive feature of real estate limited partnerships. Oil and gas investors can only take losses up to their tax basis.

Used to raise capital for exploration and development and for purchasing existing reserves, master limited partnerships have become important sources of equity finance for the oil and gas firm. Funds may also be used to refinance existing assets. They have been effective in raising capital during periods of sluggish market conditions. For example, in 1985, master limited partnerships raised $1.16 billion for the oil and gas industry, while public limited partnerships (drilling and income) raised only $698 million. In September 1986, Mesa Limited Partners raised $400 million in equity capital through a public offering of 29 million preference units. Mesa's offering was the largest ever in the oil and gas industry. Its success underscores the attractiveness of partnership units tailored to today's energy environment.

The master limited partnership (MLP) is a hybrid of a corporation and a limited partnership. The MLP, like a corporation, is able to provide market liquidity for the

investors while retaining the income pass-through benefits of the limited partnership. MLP units, unlike those of ordinary partnerships, trade like corporate stock on major and over-the-counter exchanges. The principal difference between an MLP and a corporation is that a corporation's profits are taxed. Earnings of MLPs are allocated to the limited partners, each of whom then pays taxes on shares owned.

MLPs are formed by consolidation of existing income or drilling partnerships (roll-up) or through corporate reorganization (roll-out) or liquidation. In a roll-up, interests in numerous partnerships are swapped for interests in a surviving master limited partnership. In a roll-out, corporate-owned oil and gas assets are transfered to the newly formed partnership in exchange for partnership units. A portion of these units are then sold to the public. In a liquidation, a corporation completely reorganizes as an MLP and exchanges depository units for corporate stock. In all cases, the resulting MLP units are traded in the secondary market.

The MLP may have advantages over a corporate structure for both the company and the investors. From the company's perspective, the MLP is viewed as

1) A valuation vehicle

2) An efficient capital raising tool

3) A new financial currency

4) A form of defense

From the investors standpoint, the MLP offers many advantages over traditional oil and gas limited partnerships, the most obvious of which is continuous liquidity. The investor can transfer ownership interest without the general partner's consent. Also, because MLP units typically trade at $20, the income requirements of the investor are considerably less for MLPs than for limited partnerships, where the average minimum investment is between $5,000 and $10,000. There are numerous tax advantages that come from the flow-through nature of MLPs. Earnings, as mentioned, are not taxed. In the early life of the investment, distributions are often considered returns to capital and thus are not taxed. Also, unit holders can deduct their share of partnership expenses, such as depletion and intangible drilling costs, from personal tax liabilities and can use their share of partnership losses to shelter personal income.

Because investor confidence in oil and gas MLPs depends heavily on distribution yield and tax related benefits, the advent of lower oil prices and tax reform may prove a dilemma for the industry. MLPs have certainly suffered from collapsing oil prices. Since the flexible new financing tool had boosted oil and gas investment when other methods

were not able to, a collapse in MLP formation compounds the petroleum industry's current difficulty in obtaining financing for drilling. The new tax rules will especially hurt MLPs whose yields depend on sheltering income. From 1987 to 1991, the allowance for net loss from passive activities will be reduced from 65 percent to zero. On the other hand, reduced marginal tax rates will increase returns on oil and gas MLPs.

Just how and why did this hybrid form of organization develop? Why has it become so popular in such a short time? How has MLP performance been affected by lower oil prices and in particular, how have MLPs fared in relation to their corporate counterparts? Can MLPs continue to bring much needed investment capital to the oil and gas industry?

To begin to answer these questions, chapter 2 examines the theory behind MLPs. In particular, it looks at their basic structure, approaches to formation, benefits of the MLP structure to the corporate general partner and the individual investors, as well as the role of MLPs in the world of finance. Special attention is given to comparing the MLP form of organization to limited partnerships and corporations.

Chapter 3 traces the brief history of MLPs, with examples from Apache Petroleum Co. (a roll-up), Transco Exploration Partners (a roll-out) and Mesa Limited Partners

(a corporate liquidation). Performance of MLPs is analyzed by charting MLP unit and corporate stock prices, along with the price of oil, over time. MLP roll-ups, roll-outs and liquidations are described and compared with their corporate counterparts. Figures on MLP sales provide insight into how oil and gas master limited partnerships have fared as a result of the oil-price crash of 1986.

The concluding remarks consider the future of master limited partnerships in the U.S. oil and gas industry in light of the drop in oil prices. The analysis provides insight into successful strategies for MLPs in the late 1980s and the 1990s, as well as the potential effects of tax reform.

Chapter 2
THEORY

A master limited partnership is a limited partnership whose partnership interests are traded on a recognized exchange such as the New York Stock Exchange, the American Stock Exchange or the over-the-counter market. Much like corporate stock, thousands of these partnership units are traded daily, offering the investor considerably more liquidity than the typical partnership investment. Before we can thoroughly understand the nature of the master limited partnership, we must gain an appreciation for the forms of business organization whose characteristics it combines: the limited partnership and the corporation.

Limited Partnerships

A limited partnership is a form of business organization intermediate between a corporation and a partnership. By legal definition, it is a partnership formed by two or more persons, having as members one or more general partners and one or more limited partners.

The limited partnership is a creature of statutory law. It cannot be created or operated without complying with a state enabling act. In the early part of this century, a movement was begun to convince states to adopt identical or

nearly identical statutory schemes for limited partnerships. The effort was largely successful. The Uniform Limited Partnership Act (ULPA) was proposed for adoption by the legislatures of several states in 1916. By 1967, it had become the law in 44 states and the District of Columbia. At present, the states are about evenly divided between those that have retained the original uniform act and those enacting the Revised Uniform Limited Partnership Act (RULPA) of 1976 (Fessler 1986).

Much of the 1976 Act provides an explicit statutory basis for practices that had developed informally under the 1916 Act. Without overstepping the boundaries of the corporate form, limited partnerships became more established and stable business organizations. Also, the provision in the RULPA for foreign limited partnerships clearly establishes that a limited partnership, organized in one state and doing business in another, will be recognized as a limited partnership in the second state upon registration. This assures limited partners their limited liability under the law of the state of origin, no matter where the limited partnership does business (assuming uniform adoption, of course) (McCabe 1983).

Unlike a general partnership in which there is unlimited liability for all partners, a limited partnership makes a distinction in the extent of liability between its general

and limited partners. General partners are liable for all debts of the partnership. Limited partners have no liability beyond the extent of their contribution. In exchange for the privilage of limited liability, society expects passivity from the limited partners who are to concede control and management of the enterprise to the general partner(s). Under Section 303(a) of the RULPA, limited partners are exempt from liability except to the extent that they take part in some form of control of the business. However, if the limited partners' participation in the control of the business is not substantially the same as the general partners', they are liable only to persons who transact business with the limited partnership with actual knowledge of their participation in control. Participation in control is a highly subjective concept and is further defined in Section 303(b) of the RULPA.

Limited liability is also available if the corporate form of organization is used. In that case, shareholders (analogous to the limited partners), are not foreclosed from full participation in control of management. However, such participation by the investors may not be desirable to the promoter who is eager to retain maximum control over his project. In a limited partnership, control is allocated primarily to the general partner or partners. State laws do not require the limited partnership to elect a board of

directors to oversee management. However, an advisory committee may be formed by the general partner(s).

Allocation of control is not a function of percentage of ownership as is often the case in a general partnership. A general partner with a one percent financial interest may have 100 percent control. A general partner's control of the partnership is only limited by his fiduciary duty to the limited partners (Walthall 1983). Because the general partner bears the risks of the program, his contribution to equity in the venture is often less, and his proportional share of earnings greater than the limited partners'. In a corporation, most stockholders share capital contributions and earnings more or less equally. The price of the stock, and earnings per share, may vary over time, but they will not vary with the degree of the investors' participation in management.

Since a general partner is liable for the debts of the partnership, the entrepeneur may not wish to be a partner himself, and may prefer instead to have a corporation controlled by him serve as general partner. A partnership is defined by RCW 25.04.060(1) as "an association of two or more persons to carry on as co-owners a business for profit." Since a corporation is included within the definition of the term "person" under RCW 25.04.020, it follows that a corporation can enter into a limited

partnership as a general or limited partner (Fessler 1986).

In order to prevent the general partner of a risky business from incorporating solely for the purpose of avoiding personal liability, the Internal Revenue Service has set certain net worth requirements that a corporate general partner must meet. The guidelines apply to each limited partnership in which the corporate general partner has interests. If the total contributions to a partnership are less than $2.5 million, the corporate general partner must have, at all times, a net worth (exclusive of its interests in the limited partnership) equal to the lesser of $250,000 or 15 percent of the total contributions. If total contributions are $2.5 million or over, the net worth of the partner must at all times be at least 10 percent of total contributions (Fessler 1986). The IRS position is apparently designed to assure that the limited partnership lacks the corporate characteristic of limited liability.

The limited partnership permits a combination of "pass-through" tax treatment benefits for federal income tax purposes. Traditionally, the aim of limited partnerships has been to shelter income by offsetting it with such noncash deductions as depreciation (in the case of real estate and equipment), depletion or intangible drilling costs (for oil and gas). When deciding on the preferred form of business, the strategy is simple: if economic

activity is projected to generate near certain tax accounting losses, it is to the advantage of the participants that it not be pursued in the context of a corporation. This is because of the federal tax law presumption that a corporation is an association, a taxpaying entity separate from its shareholders. Association status means that the owners of the corporation, who might have substantial income from noncorporate sources, are unable to offset their personal income against corporation tax accounting losses. By contrast, partnerships are not regarded as distinct taxpaying entities. They are viewed as mere aggregations of individual partners, so that income or loss derived from such vehicles is included by the participants in determining their individual tax liability. But if the business will generate profits, other considerations are necessary. Depending on whether the business income is to be retained for expansion or distributed to participants as returns on investments, taxation as an association will prove wise or witless. If income is to be retained by the business and reinvested, association status is attractive because the tax liability is at the flat rate applied to corporate income. But if the income is to be distributed to the investors, the enterprisers must be aware of double taxation. After the income has been taxed at the flat association rate, it will

be distributed to the investors, only to be retaxed at the progressive rates applied to individual taxpayers (Fessler 1986).

In order for an organization to be classified as a limited partnership (for federal tax purposes), it must lack at least two of the following four corporate characteristics:

1) Continuity of life
2) Centralization of management
3) Limited liability
4) Free transferability of interests

In practice, all existing limited partnerships lack free transferability of interests and continuity of life. Liquidity has never been a strong point of limited partnership investments. In order to qualify as a partnership and allow for tax benefit flow-through to the investors, IRS rulings require that transferability of interest must be restricted. Oil and gas public limited partnership units generally sell for $10,000. There is no formal secondary market for these units. Ominous warnings of a long term commitment (10-20 years) are required by the Securities and Exchange Commission to be covered in the offering prospectus. Nevertheless, major public programs offer a form of liquidity through the repurchase offer which may be made on an annual basis beginning approximately two

years into the program. Normally, the partnership will commit to repurchase only a percentage of the outstanding partnership units in any given year (National Tax Shelter Digest 1980). There is no guarantee however, as to the buy-back price. Due to the drop in oil prices, many limited partnership units can only be resold at steep discounts. For example, units in Damson Oil Corp.'s limited partnerships, purchased for $10,000 when the market peaked in 1981, were getting bids below $3,000 in 1985 (Laderman 1985). This was before the 1986 drop in oil prices.

The limited partnership also lacks continuity of life. A general partner may dissolve a limited partnership at will, although, if the dissolution is a breach of the partnership agreement, it may result in contract damages or may constitute a breach of fiduciary duty. Limited partners can also dissolve the partnership through provisions of Section 802 of the RULPA: "On application by or for a partner the [here designate the proper court] court may decree dissolution of a limited partnership whenever it is not reasonably practicable to carry on the business in conformity with the partnership agreement."

Corporations

The predominant form of business in the United States today is the corporation. Like the limited partnership, it

is a statutory creature. A charter is written authority given by the state or federal government for owners to organize and operate a business as a corporation. Every state has laws that govern the creation, operation, and termination of corporations. The corporation is a separate legal entity and has the same legal status as a person. It is a resident of the state that creates it and of the state(s) in which it operates. The business itself can buy and sell, enter into contracts in its own name, borrow money, extend credit, and sue or be sued in a court of law. A corporation can carry out the same activities that a partnership or a sole proprietorship does, but it does so in its own name--not in the name of its owners (Plunkett 1982).

Since its life is separate from those who own it, and since it has no physical existence, a corporation theoretically can last forever. In most instances, all that is required to obtain unlimited life is to state in the application for charter that the corporate life is to be perpetual. This continuous life or continuous succession, as it is called, makes the corporation the most stable of all business forms, for if chartered in perpetuity, it may conceivably go on forever (Bonneville and Dewey 1946). Although the corporation has a more stable life than the limited partnership, it may be dissolved by vote of the stockholders or through bankruptcy.

The laws of the federal government and the 50 states create business corporations. These laws place restrictions on corporate operations once the corporation is chartered. These restrictions vary from state to state and should be considered when choosing the state of incorporation. State regulations will affect taxes and fees, the powers permitted the corporation, reports required, the kinds of stock to be issued and its par value, the number and residence requirements of directors, etc. (Owens 1951). Legislative enactments in the various states have given the corporation many additional attributes, such as limited liability of the owners, the complete transferability of ownership of stock, the right to have several classes of stock, the right of owners to delegate the management to directors, and so on.

The stockholders own the corporation, but they do not have title to its assets because title is in the corporation. As a result, stockholders, like limited partners, enjoy limited liability. The most they can lose is their investment. A corporation's creditors must satisfy their claims out of the corporate assets and may not look to the individual stockholders. The only exceptions are if the claim is for wages or if the stockholder has not paid par value for his stock (Blackburn, Klayman, and Malin 1982).

Unlike limited partners, who are excluded from management involvement, stockholders participate by electing

those who run the corporation. The Model Business Corporation Act requires that the business and affairs of a corporation be managed by a board of directors. This regulation provides for centralization of management. If directors do not manage the affairs of the company to suit the wishes of the stockholders, the latter can show their superior power of control by electing new directors when terms expire. From a practical standpoint, it is frequently quite difficult for stockholders not on the board of directors to control the board, even by election, because in many corporations, board members are large shareholders and dominate the stockholder meetings and elections. The number of directors required may vary from state to state and will be specified in the corporate charter. Directors are the agents of the corporation, not the stockholders. They are in a sense trustees of the corporation. A director who exercises reasonable skill and judgment generally will not be held personally liable for losses to the corporation. In short, one is not held responsible for honest errors or good-faith errors in judgment. If a director is negligent, commits an illegal act, or has failed to do something that should have been done, he may be held liable for the resulting loss. The corporate entity protects the stockholders, but the directors are legally naked (Goodwin 1980).

Because corporate shareholders can sell their stock at any time to anyone, the liquidity problem of the limited partnership is overcome. The daily change of ownership through the sale of corporate stock does not affect the operations of the corporation. This is because of the separation of ownership and management that the corporation form provides.

The primary reason for choosing a corporate form of business ownership is to place limits on the liabilities that owners and managers have for the business's debts. This, along with the fact that ownership interests are highly liquid make ownership in corporations attractive to individuals and groups who want to share in a corporation's profits. By offering low cost and easily transferable shares, corporations can raise new capital easier than can limited partnerships.

The corporate form of organization may have drawbacks. The entrepreneur or promoter must share management decisions and loses the control over the operation that would accrue to the general partner of a limited partnership. Paperwork burdens and legal restrictions may increase. Corporations must make financial disclosures to their stockholders and to the public. Some important secrecy is lost. The costs connected with printing and selling stock and keeping records of stock and stockholders can be considerable

(Plunkett 1982).

The major disadvantage of the corporate form of organization is related to taxes. In general, corporations are taxed more heavily than other kinds of businesses. And, as previously mentioned, corporate income that is passed on to the stockholders is taxed twice; first at the corporate rate and then at the owner's marginal tax rate. The advantages of the corporate form of business (separation of ownership from management, limited liability, and liquidity of ownership interests) must more than offset these disadvantages for it to be attractive to the entrepreneur.

The advantages of limited liability, continuity of life, and transferability of ownership have made the corporation the dominant U.S. business form. This corporate dominance has persisted in spite of the significant disadvantage of double taxation on distributed earnings. Limited partnerships escape double taxation and have been able to offer limited liability and/or continuity of life. However, only recently have partnership organizations offered both limited liability and easily transferable ownership claims (Collins and Bey 1986). Because it offers most of the advantages of a corporation with a significantly lower tax rate on earnings, the master limited partnership has become an attractive organizational form.

Master Limited Partnerships

The master limited partnership is a limited partnership whose partnership interests (referred to as depository units) are traded on a recognized exchange. The MLP is organized under state law, modeled after the Uniform Limited Partnership Act. It generally consists of an "operating" partnership and a second tier "investor" partnership. The investor partnership will consist of a general partner and investor limited partners whose interests are publicly traded. Its sole investment will be its interest in the operating partnership. The operating partnership will also have a general partner and a single limited partner: the investor partnership. The operating partnership will hold and manage the oil and gas properties. This two-tier arrangement is used to simplify state information reporting requirements, (Adkerson and McKeene 1985).

MLPs should not be confused with royalty trusts, which are essentially passive entities. In a royalty trust, investors are assigned direct ownership of oil and gas royalties. Royalty trusts are permitted to operate only the properties assigned to them at creation and must pay out at least 90 percent of their cash flow to qualify for the tax advantages of grantor status. Thus, royalty trusts are self-liquidating as reserves deplete and cash flow declines. MLPs have all the operating latitude of a

corporation and may acquire additional properties to grow, or at least to maintain size. Because MLPs are more active than royalty trusts, they offer greater tax advantages (Hinckley 1985).

In the majority of cases (Dorchester Hugoton, Ltd. and Mesa Limited Partnership excepted) the general partner of an oil and gas MLP is a corporation. The use of a corporation as a general partner shifts third party liability from those operating the MLP to the corporation.

As in the case of the limited partnership, for federal tax purposes, the MLP must lack at least two of the four corporate characteristics. The MLP will have centralized management and free transferability of interests. However, by complying to the applicable state Uniform Limited Partnership Act, the MLP is able to avoid continuity of life. The MLP will also lack limited liability so long as the general partners have and maintain substantial assets other than their interests in the MLP.

Because they are classified as limited partnerships, earnings of MLPs are not taxed at the organizational level. Instead, earnings are allocated to the partners, each of whom pays tax on income from owned shares. MLP unit holders must pay taxes on all of the partnership's earnings, both distributed and retained. Because distributions are considered a tax-free return of partner's capital until they

exceed the cost basis, taxes are deferred until that point. This is a key concept of MLP investments. For example, the investor who buys a $20 unit in a partnership that pays out $2 per year in distributions will collect tax-free payments for ten years. Future distributions (less the investor's share of noncash costs) are taxed as regular income. But, at this point, the investor usually sells his unit (Norman 1986). Taxes are paid on the difference between amounts realized on the sale of the unit and the unit holder's adjusted cost basis. The cost basis is determined by reducing the original price by the amount of cash distributions, the net effect of partnership losses and credits, and increasing the basis to the extent of partnership income (Egertson 1985).

Although this was a more attractive feature when the sale of the unit was taxed as a capital gain, the deferment of taxes for 10 or more years is still very appealing. After taxes have been paid on the sale of the unit, the investor typically buys the unit back, thus reopening his capital account and starting the process over again

MLPs are required to provide more detailed records to partners and to the Internal Revenue Service than corporations are to their stockholders and the federal agency. Because of the need to prorate partnership gains and losses between unit sellers and buyers, records must be

kept for all ownership transfers. Also, some method for allocating intrayear gains and losses must be established. This requires, at a minimum, monthly income statements and ownership records. The volume and degree of detail of records for MLPs exceed those for publicly traded corporations. The complexity of record keeping administration is evidenced by the fact that the tax basis, percentage of noncash costs, and other elements of partnership taxation vary from one unit holder to another. Recent improvements in computer software have no doubt played an important role in the development of the MLP by helping to control record-keeping costs (Collins and Bey 1986).

Although the MLP contains two of the four corporate characteristics used by the IRS for tax classification purposes, many specific differences abound. Table 1 compares 10 ownership attributes of MLP depository units to corporate common stock.

The major advantages to the corporate general partner in using the MLP form of organization include making the stock market more aware of the value of oil and gas assets, using units as distributions to corporate stockholders and in acquiring properties in a tax-free exchange. By placing income-producing assets in an entity not subject to double taxation, the company can improve the prospects for cash

Table 1. Comparison of MLP Depository Units and Common Stock

	Common Stock	Depository Units
Personal Liability	No personal liability.	No personal liability for limited partners, except to the extent that return of capital contributions are wrongfully made or are necessary to meet obligations to creditors. General liability for partnership debts is imposed only on those limited partners who are, in effect, silent general partners.
Organizational Life	Infinite life.	Has finite life but can be structured to have infinite life. However, majority approval of unit holders is required to continue with a new general partner if and when the general partner withdraws, dies, or is declared bankrupt. The general partner may be a corporation. Must be reformed if over 50% of units are traded in one year.
Voting Rights	Each share entitles its owner to cast one vote in the election of directors and any other matter in which voting is permitted or required.	The general partner has total management responsibility; there is no board of directors. Limited partners have limited voting rights on matters relating to the partnership.
Cash Distributions	Each share entitles its owner to common stock dividends from funds legally available for that purpose as declared by the board. No cash distributions are specified in the corporate charter.	Each unit entitles its holder to distributions from available partnership cash flow legally available for that purpose as designated by the general partner. Intended cash distributions may be stated in the partnership agreement.
Liquidation Rights	Each share entitles its owner to receive a prorated share of any assets available for holders of common stock on liquidation of the corporation.	Each unit entitles its owner to receive a prorated share of any assets available for holders of units on liquidation of the partnership.
Liquidity	Liquid markets for publicly traded shares on organized exchanges and over-the-counter.	Liquid markets for publicly traded units on organized exchanges and over the counter.

Table 1. Continued

	Common Stock	Depository Units
Ability to attract funds	Established record of acquiring large levels of funding in financial markets attributed to divisibility of ownership into transferable shares, limited liability, liquid market for shares, and infinite life.	Expected to establish a record of acquiring large levels of funding based on attributes of divisibility of ownership into transferable units, limited liability, liquid market for units, and infinite life.
Reporting Requirements	Subject to the requirements of the Exchange Act of 1934 must file quarterly and annual reports. Must report net taxable income and dividends paid to shareholders.	Subject to the requirements of the Exchange Act of 1934 must file quarterly and annual reports. Must allocate income or losses among the partners, report on form K-1 to the partners their shares of income or loss in total by the state, allocate each partner's gain on the sale of partnership interests as to ordinary income or capital gain. If a Section 754 election is made, the MLP must prepare individualized computations for each transferee partner. Must report to partners any adjustments proposed by auditors.
Restrictions on Ownership	Citizens of some foreign countries are restricted from owning stock in firms in certain industries.	Citizens of some foreign countries are restricted from being partners in certain industries under U.S. or state statutes. Oil and gas leases are one example.
Taxation	Taxable entity with respect to income after allowable deductions and credits. Shareholders are not taxed with respect to company income, but are taxed on dividends from the company after allowable exclusions. Capital gain or loss based on the difference between shareholder's cost per share and amount realized per share is recognized on the sale of shares.	Not a taxable entity. Each unit holder includes his/her share of the income, deductions, and credits attributable to the partnership operations in computing his/her taxable income, without regard to the cash distributed to him/her. Cash distributions themselves are not taxable. Gain or loss based on the difference between unit holder's basis and the amount realized recognized on the sale of the units. Losses on unit sales are capitalized losses; gains may be a combination of ordinary income and capital gain.

Source: Collins and Bey. 1986. Financial Management 15: 5-14.

distributions to investors. In an MLP roll-up situation, economies of scale may provide opportunities for the general partner to realize operating efficiencies and reduced administrative burdens associated with the management of each individual partnership.

Owing to its yield characteristics and tax advantages, the MLP can be an attractive way for individuals to invest in the oil and gas industry. The MLP, while providing liquidity, fills a distinct product niche that allows for stock market recognition of the value of each component of the investor's total return: cash, tax shelter benefits, and underlying asset growth. This recognition has been critical to the MLP's success in raising capital for the oil and gas industry (Egertson 1985).

One reason for forming an MLP is to increase the value of the corporate general partner's stock. In many cases when a corporation rolls out a portion of its oil and gas reserves into an MLP, the securities market places a higher value on the sum of the parts than it did on the whole. Often, non-producing properties are undervalued when held by an operating company. However, by rolling these properties into an MLP, the corporation allows the market to recognize them at their full value. Because the corporate general sponsor retains the majority of partnership units, it too will receive a higher market valuation. This was the case

for Transco Energy Co. In 1982, Transco common stock was trading at a multiple of its earnings (6 times its price/earnings ratio) that basically reflected its pipeline operations. The market gave little value to its substantial oil and gas assets which, for financial reporting requirements, were only contributing a modest income stream. By forming Transco Exploration Partners (its MLP) and retaining 88 percent of the partnership units, Transco received a market valuation of $1 billion for these assets. Transco Energy's common stock rose from $25.62 to $39.00 between January and July, 1983 (Oelsner 1985).

Oil and gas properties held by MLPs are generally valued at premiums to properties held by corporations. This is primarily due to investor participation in tax benefits and high yields from return of capital distributions. In 1985, E.F. Hutton (Hinckley 1985) estimated the appraised net worth (ANW) of 17 MLPs and found that, on average, the partnerships were valued at 1.21 times ANW. By comparison, the equities of oil and gas corporations were trading in a range of 0.45 to 1.00 times appraised net worth. In 1987, figures from Robert A. Stanger & Co. show that, on average, 30 oil and gas MLPs are valued at 1.54 times appraised net asset value (The Stanger Register 1987).

Another reason for forming an MLP is that it creates a versatile new currency that can be used for varying

purposes. Transco has distributed units as dividends to Transco Energy stockholders. Apache Petroleum Co. and Mesa Limited Partners have used this currency to buy oil and gas properties on a tax-free basis to the seller. Mesa was able to acquire Pioneer Corp. in 1986 through an exchange for partnership units in the MLP. The merger demonstrated the clout that the MLP can wield in a depressed market. Pioneer merged with Mesa to sidestep a rival takeover bid by Minneapolis investor Irwin L. Jacobs. Where Jacobs would have had to raise money from oil-wary banks for his all-cash offer, Mesa merely pledged to issue new MLP units to Pioneer shareholders (Fortune 1986). Under Section 721(a) of the Internal Revenue Service Code, no gain or loss is recognized by a partnership or any of its partners in the case of a contribution of property in exchange for an interest in the partnership. Although corporations can also exchange stock for properties on a tax-free basis, Section 721 is a much looser test for tax-free treatment than is generally available for corporate acquisitions under Sections 351 and 368.

The MLP is frequently viewed as a means of defending against a hostile takeover. This factor may be a little over done. The MLP is defensive only because of the higher stock price placed on it by the market. Proponents argue that value is the only true defense. Spinning off valuable

properties into an MLP can dim a company's allure to a potential raider. One of the most publicized master limited partnerships, Union Exploration Partners Ltd., was formed through a roll-out of oil and gas reserves in an attempt to foil T. Boone Pickens's takeover of Unocal. The new MLP, with an aggregate value of about $5.7 billion at the time of formation, was the largest one ever formed. Diamond Shamrock took this step in 1985 when it spun off more than $550 million of its oil and gas properties (35 percent of U.S. production) into Diamond Shamrock Offshore Partners (Tracy 1985). Sun Co. was also able to reduce its takeover attractiveness by placing its oil and gas acreage into an MLP called Sun Energy Partners.

Individual investors in oil and gas MLPs also enjoy an array of benefits. The initial tax-free return of capital, cash distributions, and flow-through tax losses (if any) provide the investor with a yield generally in excess of corporate dividends. Even though they have been hit hard by the fall of oil prices, some MLPs give investors yields on their investments in excess of 20 percent.

Liquidity has been a particularly attractive feature for MLP investors. Market liquidity had not been available to partnership investors prior to the advent of the publicly traded partnership. Getting out of limited partnership investments has been difficult at best. The investor is

usually locked in for the life of the investment, which often ranges from 15 to 20 years. Although the return on these investments can be well in excess of the MLP, the success of the MLP supports the notion that the market is willing to pay for liquidity (Oelsner 1985).

Hand in hand with liquidity is the ability of the investor to participate without any size restrictions. With few exceptions (e.g. Petro-Lewis's $2,000 unit) the high cost of participation in limited partnership programs has restricted investment participation to the more affluent. MLPs, which typically trade for around $20 per unit, are available to a wider array of investors.

Methods of Formation

The master limited partnership concept was developed by Apache Corp. in 1981 when it rolled 33 of its oil and gas limited partnerships into one surviving MLP. To form the initial MLP (depicted in figure 1), approximately $200 million of oil and gas properties with 7,000 different limited partner participants were exchanged for 10 million $20 units in newly formed Apache Petroleum Co. The combination of numerous individual partnerships allows the managing general partner to reduce overhead. The increased size of the surviving MLP can provide the investor with greater diversification of his oil and gas holdings and

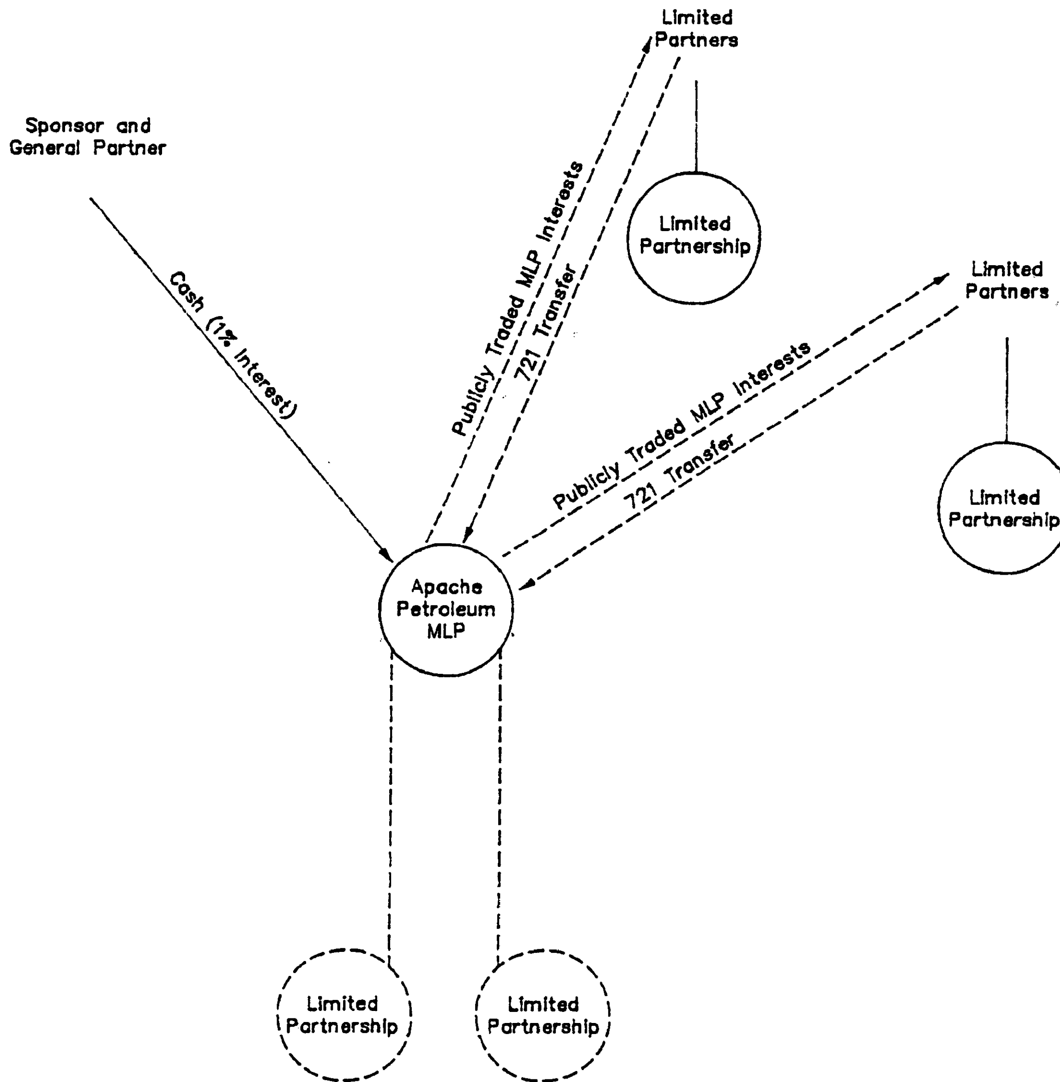

Figure 1. Formation of Apache Petroleum Company

Note: 721 transfer refers to IRS Code 721

Source: Adapted from Freeman, Louis S. 1986. Taxes 64 (December): 973.

reduce project risk by spreading it over a greater number of projects.

When creating a roll-up, the sponsor usually contributes cash to become the one percent or more managing general partner of the newly formed MLP. The exchange of partnership interests for MLP units does not result in a gain or loss for tax purposes. The unit holders retain the flow-through tax benefits of the original limited partnerships and now can enjoy unit liquidity.

Program partners who do not exchange their interests for MLP units either retain them or accept a purchase offer from the sponsor for cash or notes. The retention of interests, however, will not enable the partners to avoid the adverse effects of a technical termination if more than 50 percent of the MLP units are traded within a 12-month period. A program termination can result in gain recognition, income bunching, ITC recapture, less favorable depreciation deductions and basis allocations, and the permanent forfeiture of suspended losses. Also, the MLP's incentives are not always consistent with the nonexchanging partner's interests. Consequently, limited partners are best off if they exchange their interests for MLP units or sell them back to the general partner.

This method of formation may have drawbacks for both the investor and the general partner. From the investor's

standpoint, one drawback may be the quality of some partnerships in the pool. Although the MLP structure provides a greater diversity of investment properties, sponsors can unload problem partnerships by dumping them into the MLP. Of course, this is not viewed as an unattractive feature by those investors in the problem partnerships.

A second problem can arise for investors already in limited partnerships: their shares can be discounted by up to 40 percent in the roll-up process. When Damson Oil Corp. was besieged by its limited partnerships' unit holders threatening to redeem their interests, Damson gave them an unappetizing choice: Redeem for cash at around 30 or 40 cents per invested dollar or trade old units for $20 slices of a new master limited partnership, Damson Energy Co. This exchange would amount to around 56 cents on each invested dollar. To the horror of the investors who had agreed to the swap, the shares in Damson Energy opened at $13.50, not the promised $20.00. The price briefly rose to $15.75 before dropping to $6.62 (Rudnitsky 1985).

From the sponsor's perspective, the roll-up arrangement may not provide a critically sized organization with respect to cash flow and operating efficiencies. To function as designed, the MLP must have a sufficiently large number of unitholders to provide necessary liquidity in the units.

The second method of MLP formation is the roll-out (or spin-off). In a roll-out, an operating corporation spins off a portion of its assets (usually nonproducing properties) into a newly formed MLP. Initiated by Transco Energy Co. when it created Transco Exploration Partners in 1983 (figure 2), this method has been employed by numerous oil and gas corporations, including Sun, Unocal, and Diamond Shamrock, as a method of gaining full market value for their assets. The roll-out is used to reorganize corporate assets in a manner that seeks to maximize shareholder value. In terms of utilizing the MLP to conduct an active business operation, the roll-out is of greater importance than the roll-up. In a roll-out, the corporation conducting the business operations transfers assets to an MLP in exchange for both general and often the bulk of the limited partnership interests. The remaining limited partnership interests may be offered to the public in a primary exchange offering for cash (providing a source of equity capital), which is then injected into the MLP, distributed as dividends to corporate shareholders, or used to purchase additional properties (Freeman 1986).

Because the marketplace is willing to pay a premium for assets structured in the MLP form, the roll-out enables the sponsoring company to restructure its assets into a more valuable form for its shareholders. By retaining the

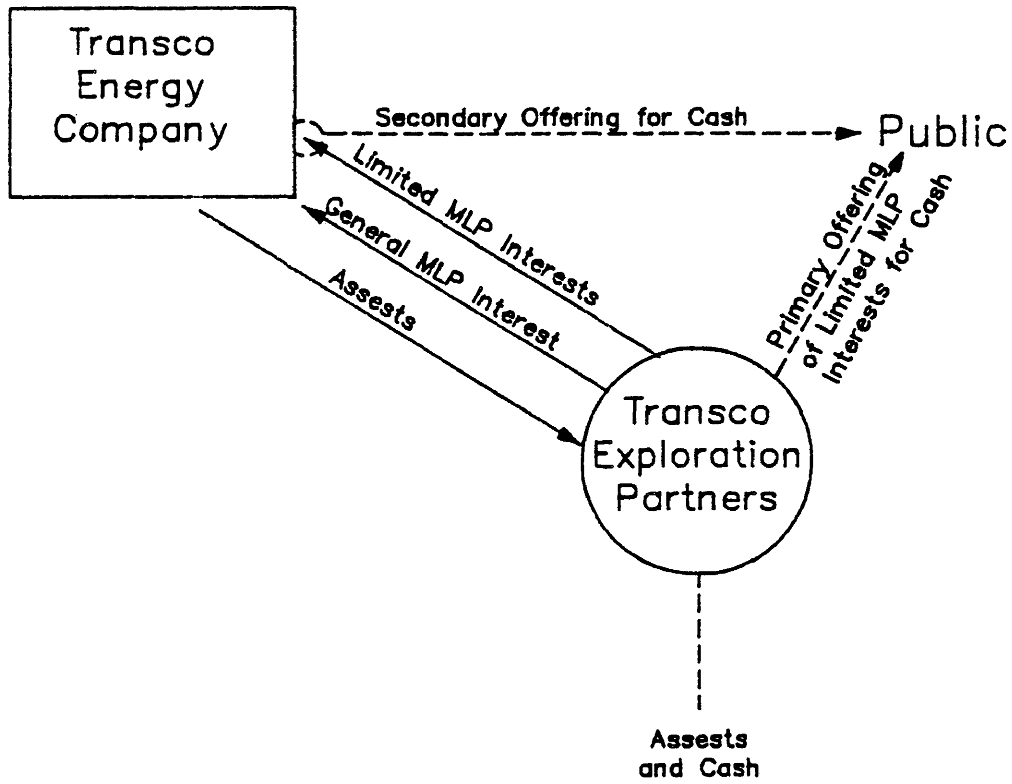

Figure 2. Formation of Transco Exploration Partners, Ltd.

Source: Adapted from Freeman, Louis S. 1986. Taxes 64 (December): 974.

majority of the partnership units, the corporate sponsor will receive a greater market valuation. By increasing their market values in this manner, both Sun and Unocal were able to fend off hostile takeover attempts. An additional benefit of this strategy is that it increases the likelihood that an MLP can be developed having the appropriate critical size; something that can be difficult to achieve in a roll-up (World Oil 1983).

The third method of formation is the complete corporate liquidation. This strategy is an extension of the roll-out technique. In a liquidation, all of the corporate assets are rolled into a surviving MLP. MLP units are exchanged for corporate stock. In the switch, capital gains (losses) may be realized by the shareholders. Under this plan, the MLP gradually liquidates its reserves and turns the surge of cash over to its limited partners.

Although the MLP concept has existed since 1980, it was not until T. Boone Pickens reorganized Mesa Petroleum into Mesa Limited Partners in 1985 (depicted in figure 3) that it became widely recognized. In this variation of the roll-out MLP, after contributing all of its assets to form the MLP under Section 721 of the Internal Revenue Service Code, the sponsor distributes its MLP units to its shareholders in a complete liquidation. Section 336 generally provides that no gain or loss will be recognized by the corporate sponsor

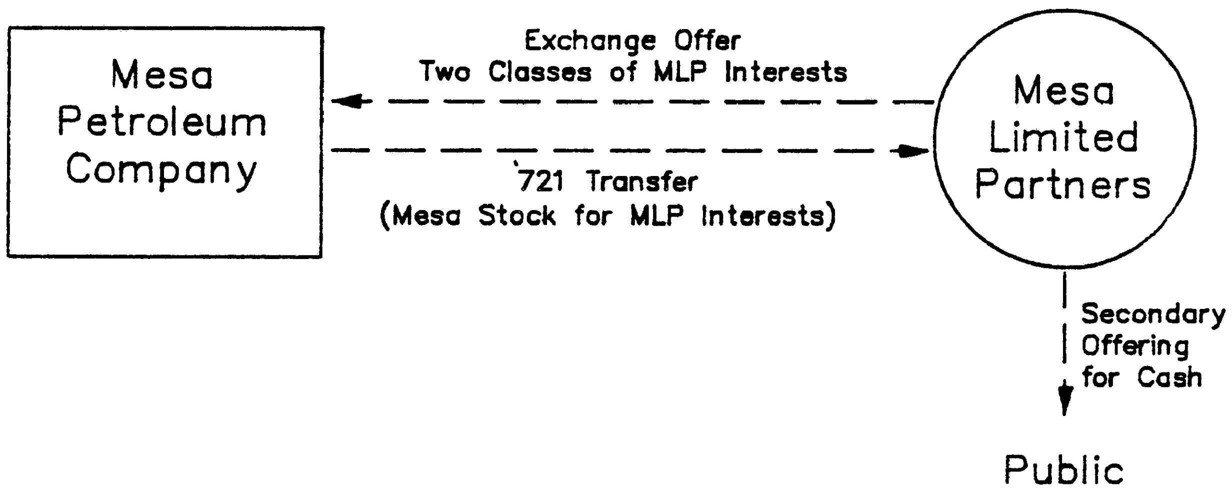

Figure 3. Formation of Mesa Limited Partners

Source: Adapted from Freeman, Louis S. 1986. Taxes 64 (December): 980.

upon the distribution of its property in complete liquidation. In Mesa's case, $170 million in depletion allowance recapture was owed. Mesa was able to offset this burden with over $300 million in losses it had realized when it unloaded its 14.8 million shares of Unocal.

Under the General Utilities doctrine, after the switch, Mesa was able to start a fresh round of cost depletion. The doctrine allowed a corporation that turned itself into an MLP to "write up" certain assets by the difference between their carrying value for tax purposes and their fair market value. The difference is charged off in subsequent years, sheltering the investors' cash flow from taxes. The 1986 Tax Act abolished this doctrine. Companies rushed to convert to master limited partnerships in 1986. Starting January 1, 1987, corporations that reorganize as MLPs will be taxed on the difference between the carrying value of these assets and their fair market value. Only corporations with substantial accounting losses will be able to make the switch (McFadden 1986).

The three methods of formation described above merely represent the MLP universe as it exists today. There are no legal requirements specifying how an MLP must be formed. The methods outlined have been employed because they result in an MLP that is large enough to take full advantage of the liquidity feature. Although it is conceivable that other

methods of formation may evolve in the future, any new method will most likely represent a variation of one of the three currently in use.

Chapter 3
MASTER LIMITED PARTNERSHIP HISTORY AND PERFORMANCE

We have examined the theory behind master limited partnerships, how they fit into the world of business organization, and the advantages and disadvantages that sponsors and investors may find in this hybrid form. A convincing argument can be made for the advantages of the MLP over both the limited partnership and the corporation. Closer examination of the recent history and performance of MLPs will provide the reader with a clearer understanding of the MLP's role as a capital raising vehicle for the U.S. oil and gas industry.

Although in existence since 1981, the MLP did not begin to raise new money for the industry until 1984 (table 2). In the early years of their existence, MLPs were formed through the transfer of limited partnership interests or corporate stock for MLP depository units. No new units were sold to the public. In 1984, the first secondary offerings hit the markets. Since then, the MLP has become an important source of funding for the oil and gas industry. In fact, in the two year period 1983-1985, the MLP has gone from raising no money for the industry to accounting for 51 percent of all limited partnership sales. This occurred in

Table 2. Oil and Gas Partnership Sales (millions of 1982 $)

Year	Drilling	Income	Subtotal	MLP	Public Total	Private	Total Oil
1987E	85	683	768	512	1,280	85	1,365
1986	159	466	624	450	1,074	88	1,162
1985	399	228	628	1,042	1,671	358	2,028
1984	444	933	1,377	196	1,573	1,555	3,128
1983	824	2,045	2,869	--	2,869	1,910	4,782
1982	1,087	1,312	2,399	--	2,399	1,599	3,998
1981	2,206	862	3,068	--	3,068	2,045	5,113
1980	1,543	537	2,079		2,079	1,386	3,466
1979	1,041	286	1,327		1,327	884	2,211
1978	940	--	940		940	627	1,568
1977	801		801		801	533	1,333
1976	569		569		569	379	948
1975	541		541		541	361	902
1974	615		615		615	398	1,013
1973	713		713		713	475	1,188
1972	830		830		830	553	1,383
1971	773		773		773	516	1,288
1970	690		690		690	460	1,150

Notes: E = estimated
-- = fund in existence but no new money raised
Values deflated using U.S. GNP implicit price deflator (1982=100)

Public Sales Source: Robert A. Stanger & Co.
Private Sales Source: Form D Filings with SEC, compiled by Robert A. Stanger & Co. Shrewsbury, N.J.

a period when other oil and gas partnership sales fell nearly 80 percent.

Despite the 1986 drop in oil prices, the use of the master limited partnership to raise exploration and refinancing capital has continued to be successful in what has otherwise been an adverse economic environment. Although, in absolute terms, 1986 MLP sales dropped 57 percent from their 1985 value, they still accounted for 39 percent of all limited partnership sales in that year (down from 51 percent in 1985). These figures suggest that MLPs have been more successful at raising funds for the U.S. oil and gas industry than the standard limited partnerships.

With the exception of income funds (up 104 percent from 1985 to 1986), other limited partnership fund sales dropped along with oil prices in 1986. The reasons for the increase in income fund sales during this period are unknown. Although MLP sales also suffered, the large disparity between 1985 and 1986 figures can be somewhat misleading. The year 1985 was an exceptional one for MLP formations. The MLP universe grew from a total of 12 companies in 1984 to 26 by the end of 1985. Because of this growth, it is difficult to determine exactly how the fall in oil prices between 1984 and 1987 affected MLP sales during this period.

This is not to say that the drop in oil prices has not taken its toll on oil and gas MLPs. Figure 4 shows the drop

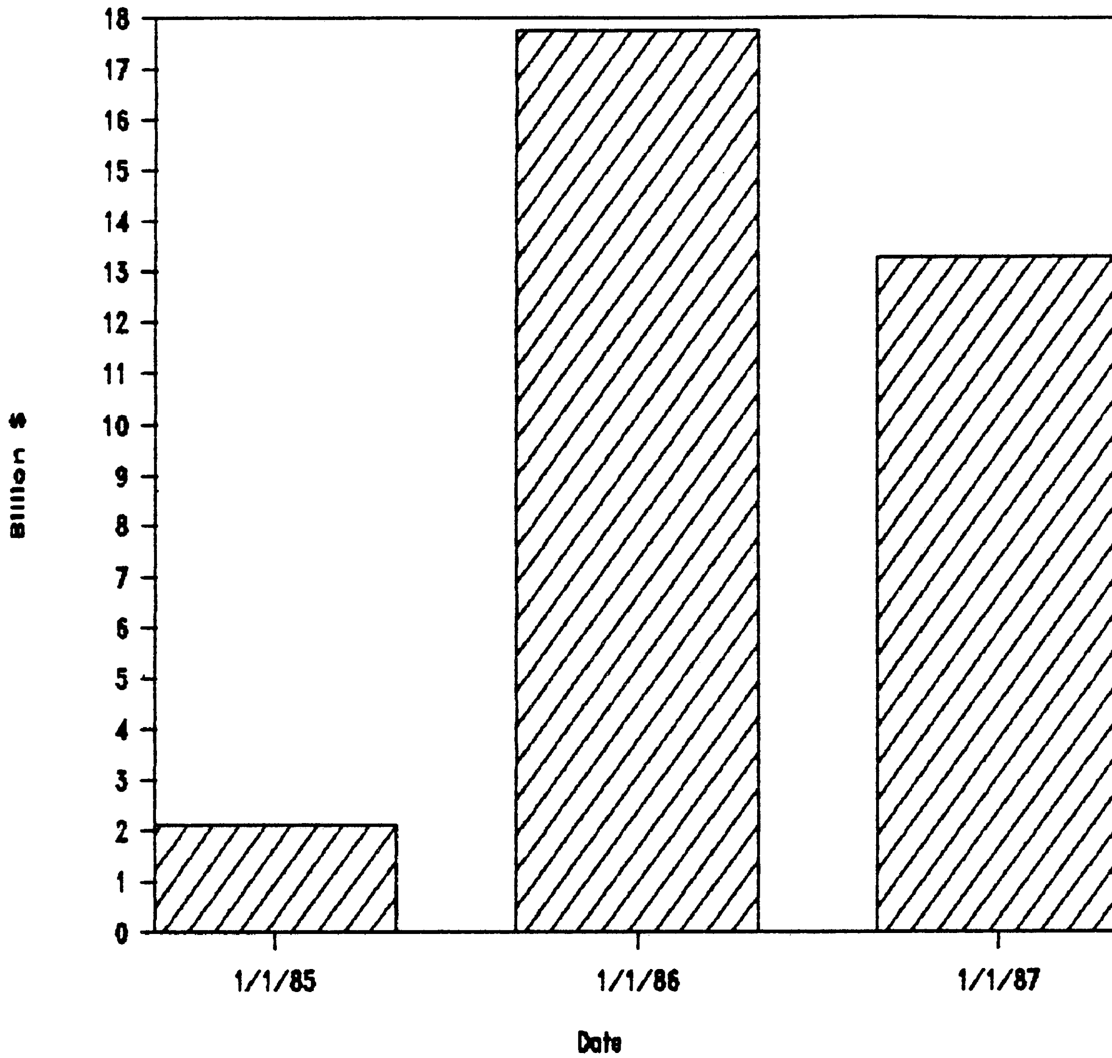

Figure 4. MLP Market Capitalization

Note: All values in 1982 constant dollars

Source: Adapted from information provided by John S. Herold, Inc., Greenwich, Conn., and Donaldson, Lufkin and Jenrette Securities Corp., New York

in MLP market value in 1986 corresponding to the drop in oil prices. A 25 percent drop in total MLP value was seen between December 31, 1985, and December 31, 1986, a period when oil prices fell 34 percent. The adverse effects were dampened somewhat by the formation of four new MLPs in 1986. If these companies are excluded, the drop in value becomes 29 percent. On average, a comparable group of 17 independent oil and gas exploration and production corporations (listed in Appendix B) dropped 23 percent in value between November 30, 1985, and December 30, 1986.

Even though the MLP has evolved into a major source of funding for the U.S. oil and gas industry, its history is brief. The past seven years have seen a flurry of activity relating to the formation and performance of MLPs. Having established the importance of the MLP as a capital raising vehicle, it now is important to examine; (1) how and why this form of organization developed, and the direction in which it has evolved, and (2) its performance relative to corporations in light of the recent collapse of oil prices.

The heightened sense of concern for the dwindling U.S. domestic oil and gas supplies after the 1973-1974 Arab oil embargo caused a dramatic increase in the flow of investment capital into the U.S. oil and gas industry. These dollars were often invested in limited partnership drilling programs. Once the initial capital raised by these programs

was expended on exploration and development, their continued operation created burdensome administrative problems for the program sponsors. The oil companies that operated these programs needed ways to minimize the resulting overhead. Quite often, economies of scale were achieved by exchanging partnership units for stock in an existing or newly formed corporation. In the exchange, the former limited partners became stockholders. This consolidation approach was virtually abandoned when the stock prices of oil and gas companies fell precipitously in the early 1980s (Adkerson and McKenne 1985).

Another option for the sponsor seeking to reduce overhead was to roll up existing limited partnerships into one super partnership. This method was popularized by Petro-Lewis Corporation as a way to minimize operating costs associated with each of its individual limited partnerships.

One method being utilized to enhance shareholder value in this period of depressed stock prices was the publicly traded royalty trust. The oil and gas royalty trust was developed by Mesa Petroleum Co. in 1979. In a royalty trust, a corporation carves out a royalty or other nonoperating interest in its oil and gas properties, contributes it to a newly formed grantor trust and distributes the units on a pro-rata basis to its shareholders. The trust is then self-liquidating. The

development of the royalty trust and the corporate roll-up set the stage for the creation of the first publicly traded master limited partnership by Apache Corp. in January, 1981.

Tax law changes in 1981 eliminated many benefits of the royalty trust and encouraged corporations to seek a new vehicle to enhance shareholder value. Their dilemma was that only a swap for common stock could deliver liquidity and ongoing growth, while only the illiquid super partnership could retain the cash flow and tax-shelter benefits of the limited partnership.

The solution was to create a separate, publicly traded master limited partnership. The trouble was that no partnerships had ever been traded on a public exchange. Apache Corp. approached this problem in 1981 when, in an attempt to combine the benefits of the limited partnership with the liquidity of corporate stock, it decided to roll up its limited partnerships into one master one. Apache Petroleum Co. was formed through an exchange offer of partnership interests for MLP units. Thirty-three public oil and gas partnerships sponsored by Apache Corp. between 1959 and 1978 were involved in the roll-up. When Apache Petroleum Co. received a favorable tax ruling from the Internal Revenue Service to be considered a partnership, legal and tax barriers were cleared for it to become the first publicly traded MLP. The success of Apache Petroleum

Co. encouraged others to look toward the MLP as a means of raising exploration and development capital during a period of depressed market conditions.

There appears to be no particular reason that the first MLP was formed in 1981. Although changes in the tax law created the Accelerated Cost Recovery System (ACRS depreciation) and Investment Tax Credits (ITC), none were especially favorable to limited partnerships. Most likely, the first MLP was formed in 1981 because someone at Apache Corp. decided to take a chance on a creative new finance scheme. Conditions were right and there were no laws specifically prohibiting publicly traded limited partnerships.

The next application of the MLP concept was in the area of complete corporate liquidation. OKC Corp. first utilized the MLP form in this manner when, in 1981, it commenced a tax-free corporate liquidation under IRS Code 337. During the liquidation, a discovery was made off the coast of Louisiana and the company determined that its stockholders' interests would best be served by the distribution of these properties through either a limited partnership or a royalty trust. OKC chose the royalty trust but because of legal problems with the grantor when the full potential of the discovery was realized, it later opted for an MLP formation. Thus, OKC Limited Partnership was formed.

Liquidation-formed MLPs are often developed in situations where oil and gas properties cannot be sold for an acceptable price within the time frame available for a tax-free corporate liquidation. When this happens, properties are contributed to an MLP and the partnership units distributed to the shareholders in a complete liquidation of the corporation. Mesa Limited Partners is the largest liquidation-formed MLP to date with a market value of $2.79 billion in 1986 (the year it was formed).

The final phase of the MLP evolution to date involves the use of a master limited partnership to reorganize corporate assets. Most often, nonproducing reserves are spun off from a corporation into an MLP so their value can be fully realized in the market. By retaining a large percentage of the MLP depository units, the corporate "parent" benefits by receiving a higher market valuation on its own stock. These roll-outs have become quite popular and account for a large percentage of the total capitalized value of the thirty oil and gas master limited partnerships in existence at the beginning of 1987.

The formation of Transco Explorations Partners, a roll-out of Transco Energy Co., in 1983 was the first such use of the MLP concept in this manner. The two largest MLPs, Union Exploration Partners and Sun Energy Partners, added $4.9 billion and $7.5 billion, respectively, to the

total MLP market capitalization when they were formed in 1985. Both consist of oil and gas properties that were spun off from their parent corporations to reduce the corporations' takeover attractiveness.

Table 3 lists the 30 oil and gas MLPs in existence at the beginning of 1987. The companies are listed by year of formation and information is provided as to their methods of formation and the market value of the public float (that portion of total units not held by the general partner) at the time of formation (in 1982 constant dollars). Figure 5 shows the cummulative value of the public float through 1986. One is immediately struck by the apparently cyclical nature of additions to MLP float. The random formation of three large MLPs coupled with a flurry of activity in 1985 (largely for tax purposes) is the reason for this cyclicality. The 1981 value is due mainly to Apache Petroleum Co. entering the scene in a big way. In 1983, the formation of Transco Exploration Partners accounted for 67 percent of new float contributions in that year.

The biggest year of growth for MLPs was 1985, with 14 new companies formed. The 1985 increase of $2 billion in MLP public float represented a 31-fold surge over the additions to public float in 1984 and was greater than the $1.6 billion of MLP public units created during the first four years (1981-1984) of the MLPs' existence (Oil Industry

Table 3. Method of MLP Formation and Market Value of the Public Float at Time of Formation (1982 constant dollars)

Year	Method	Value ($ million)
1981		
Apache Petroleum Company	roll-up	728
OKC Limited Partnership	liquidation	255
1982		
Dorchester Hugoton, Ltd.	liquidation	23
May Energy Partners	roll-up	43
Petroleum Investments, Ltd.	roll-up	33
1983		
Graham-McCormick Oil & Gas Partnership	liquidation	41
Great American Partners	roll-up	5
Newhall Resources, Ltd.	liquidation	35
Snyder Oil Partners	roll-up	85
Transco Exploration Partners	roll-out	339
1984		
Belden & Blake Energy Company	roll-up	12
Entex Energy Development, Ltd.	roll-out	52
1985		
ConVest Energy Partners, Ltd.	roll-up	49
Damson Energy Company	roll-up	37
Diamond Shamrock Offshore Partners	roll-out	75
Devon Resource Investors	roll-up	17
Energy Development Partners, Ltd.	roll-up	44
Ensearch Exploration Partners, Ltd.	roll-out	156
Freeport-McMoRan Energy Partners, Ltd.	roll-out	90
Lear Petroleum Partners, L.P.	liquidation	7
Mesa Limited Partners	liquidation	949
NRM Energy Company, L.P.	roll-up	141
Saxon Oil Development Partners, L.P.	liquidation	22
Sun Energy Partners, L.P.	roll-out	160
Union Exploration Partners	roll-out	183
Walker Energy Partners	roll-up	49
1986		
Kaneb Energy Partners, Ltd.	roll-out	18
Kelley Oil & Gas Partners, Ltd.	roll-up	28
Samson Energy Company, L.P.	roll-up	17
Santa Fe Energy Partners, L.P.	roll-out	82

Source: Adapted from information provided by John S. Herold, Inc., Greenwich, Conn.

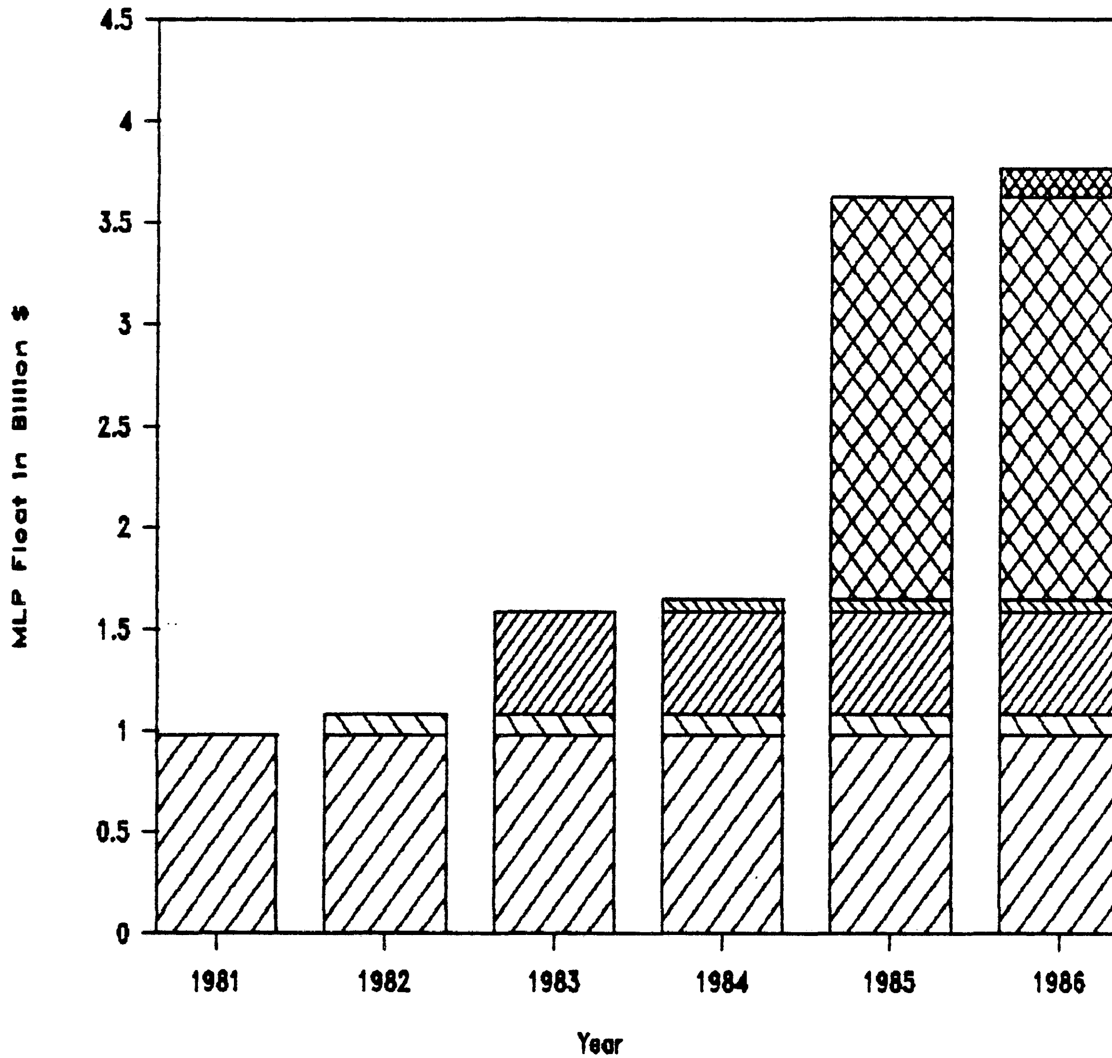

Figure 5. Cumulative Market Value of MLP Public Float

Note: Top blocks represent additions to public float (1982 constant dollars)

Source: Adapted from information provided by John S. Herold, Inc., Greenwich, Conn.

Comparative Appraisals II 1986). The success of earlier attempts and the increased market value put on assets held by MLPs made this form of organization very attractive to corporations looking to increase shareholder value. Perhaps the greatest reason for the rapid growth in MLP formation in 1985 was a rush to go public before January 1, 1986, in an attempt to slide under a potential deadline for grandfathering tax benefits under the proposed new tax act (Cooper 1986). Also, the formation of Mesa Limited Partners contributed nearly $1 billion to the public float in 1985.

There has been no pattern or trend over time as to the number or value of MLPs being formed or to the method of formation. In the future, we should expect to see fewer companies of this nature being formed, due to tax law changes affecting liquidation-formed MLPs.

If the MLP has been so successful in raising exploration and development capital for the U.S. oil and gas industry, is it to the advantage of oil corporations to liquidate all or a portion of their assets into an MLP? To answer this question, we must examine the performance of both MLPs and their corporate counterparts. Because the MLP is a relatively new phenomenon, the period of analysis will necessarily correspond with the oil-price fall of 1986. Specifically, the period in question is June 1985 to June 1987. The briefness of the time period may hinder any trend

analysis; consequently, only general conclusions will be drawn.

Although changes in distributions and yield are often cited in the literature as measures of MLP performance, their use as such is inadequate. Although most MLPs have drastically cut or totally eliminated distributions to unit holders, those with strong ties to corporate parents have continued their high yield distribution programs. For example, although it posted a $268 million loss in 1986, Freeport McMoRan Energy Partners, with the support of Freeport McMoRan Inc., continued its quarterly cash distributions of 55 cents per unit. One can hardly rely on changes in distributions to reflect company performance in cases such as this.

The following analysis examines market performance and changes in net income and cash flow positions for a group of 18 MLPs and 17 corporations. The MLPs examined are those in existence prior to June 1985 and represent nearly 60 percent of all MLPs in existence at the beginning of 1987. The 17 corporations are independent exploration and/or production companies that are equivelent in size to the MLPs.

MLP unit and corporate stock indexes were constructed from the weighted averages of the 1985 and 1986 market values of the companies. By using the averages of the 1985 and 1986 market values, biases that may have resulted from

the drop in oil prices are avoided. Appendix A lists the MLPs included in the index, their market values, and the weights assigned to each. Appendix B lists the same information for the oil and gas corporations.

The indexes were constructed by multiplying the weight by the stock price of the company and summing the group. Table 4 shows these index values plus the unit prices of a group of representative MLPs. Also included in this table is the spot price of oil (West Texas Intermediate Cushing) and the New York Stock Exchange Industrials Index (an indicator of general market performance). The MLP index is broken into the three representative groups: roll-up, roll-out, and liquidation.

Figure 6 charts the MLP index, the corporate index, and oil price. During the period of September 26, 1985 to March 27, 1986, oil price dropped 61 percent. Both corporations and MLPs were adversely affected. MLPs lost 27 percent of their market value and corporations, 17 percent. As oil prices firmed, corporate stock prices leveled off and began to rise in the first quarter of 1987. MLP units, on the other hand, continued to slide, losing 42 percent of their value before leveling off in 1987. Between June 27, 1985 and June 30, 1987, the corporation index posted a modest gain of 8 percent while MLPs lost some 43 percent of their unit price. This occurred in a period when the New York

Table 4. MLP Unit and Stock Indexes ($/share or barrel)

Date	Roll-up	Roll-out	Liquid-ation	MLP	Corp.	Ratio	Oil
6/30/87	5.02	12.16	5.48	9.92	21.09	2.13	17.32
3/30/87	5.81	14.38	4.99	11.55	21.37	1.85	16.03
12/30/86	4.51	12.02	3.79	9.55	16.12	1.69	15.36
9/29/86	6.96	12.58	3.89	10.47	16.08	1.54	12.99
6/30/86	8.17	13.04	8.30	11.50	16.46	1.43	11.79
3/27/86	8.38	13.55	9.03	11.96	15.54	1.30	10.14
12/30/85	11.92	15.35	11.81	14.23	18.41	1.29	23.35
9/26/85	13.56	17.84	13.73	16.49	18.80	1.14	25.90
6/27/85	14.89	18.80	14.71	17.54	19.60	1.12	24.46
3/28/85					20.82		25.70

Date	Apache	Transco	OKC	Union	Sun	Mesa	NYSE
6/30/87	6.29	11.83	4.37	16.21	15.89	13.75	208.75
3/30/87	7.54	15.07	4.52	16.15	16.15	14.53	197.62
12/30/86	5.22	12.51	4.61	13.92	14.90	14.79	160.81
9/29/86	9.91	13.40	3.92	13.62	14.82	15.04	151.44
6/30/86	11.65	14.40	3.84	14.07	15.83	13.41	165.39
3/27/86	11.29	19.47	5.76	12.62	17.38	11.74	157.43
12/30/85	14.90	16.34	10.45	16.24	19.23	11.45	139.04
9/26/85	16.24	18.70	11.87	20.61			120.67
6/27/85	17.03	19.29	10.83				125.57
3/28/85							119.46

Notes: All values are in 1982 constant dollars
Oil price is the spot price of West Texas Intermediate Cushing
NYSE--New York Stock Exchange Industrial Index

Source: The Wall Street Journal

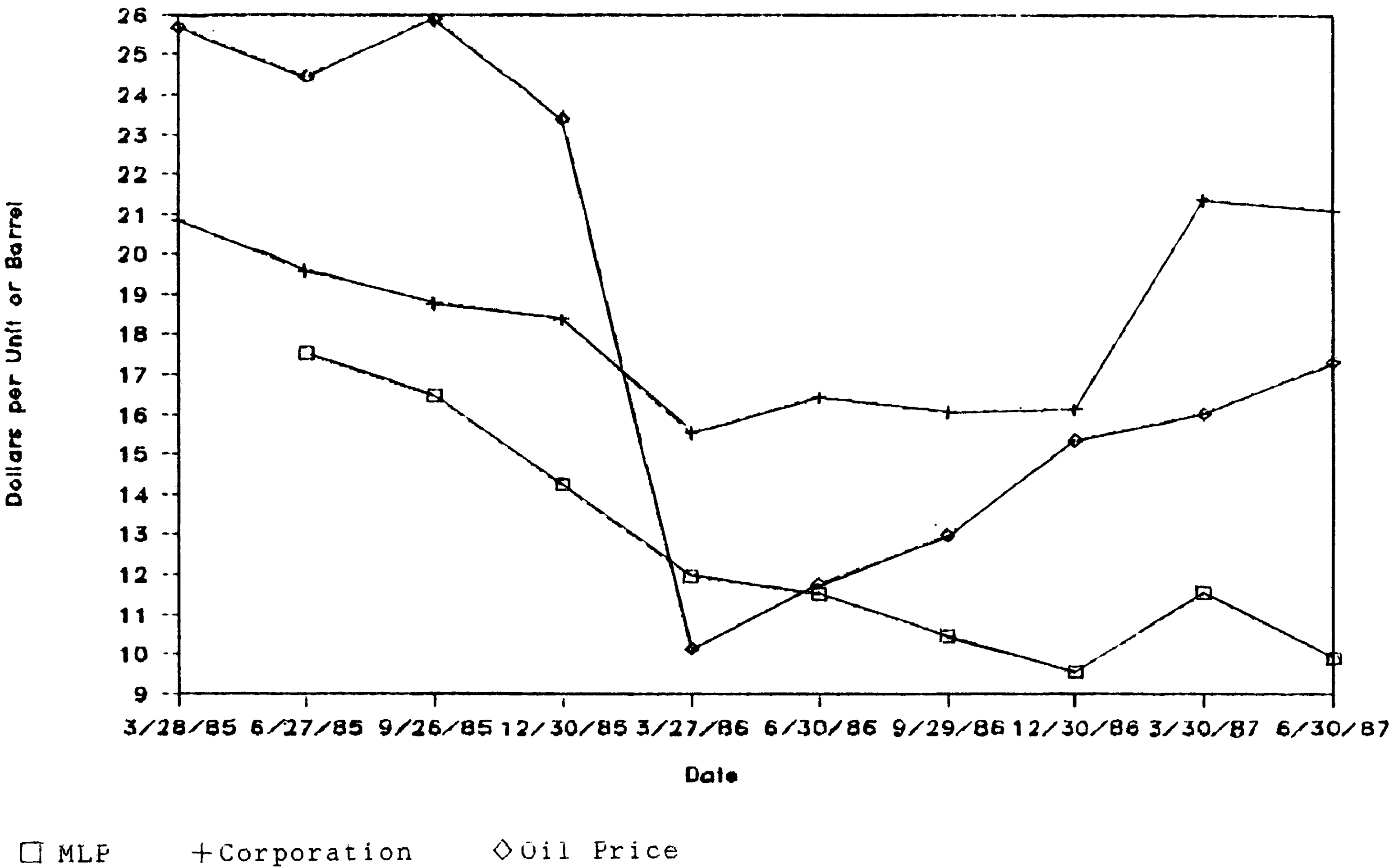

Figure 6. Market Performance of the MLP and Corporation Indexes against Oil Price and the New York Stock Exchange Industrial Index

Notes: NYSE Industrials = NYSE Industrial Index/10
All values in 1982 constant dollars

Stock Exchange Industrial Index rose by nearly 60 percent. The drop in oil prices had taken its toll.

Figure 7 shows the disparity between the corporation and MLP indexes and adds to the analysis the ratio of corporation to MLP prices. Its steady growth only serves to highlight the diverging indexes. Figure 8 charts this ratio, oil price, and the New York Stock Exchange Industrial Index (NYSE Industrials).

Figure 9 examines the situation in greater detail, breaking the MLP index into its three component parts. It is easy to see that the poorest performances were posted by MLP roll-ups and liquidations, losing 70 percent and 74 percent of their respective market values between June 27, 1985 and December 30, 1986. Roll-outs (the best performer of the group) lost only 36 percent of their market value in this period. The corporate index lost 18 percent of its market value during the same period. All groups tend to level off or rise in 1987, almost a nine month lag behind oil prices.

The strong tie of roll-outs to their corporate parents is perhaps the most plausible explanation of the reasonably stronger performance. Because of the premium the market places on MLP units, corporate parents have added incentives to maintain distributions, etc. Also, because the roll-out's corporate general partner owns the majority of

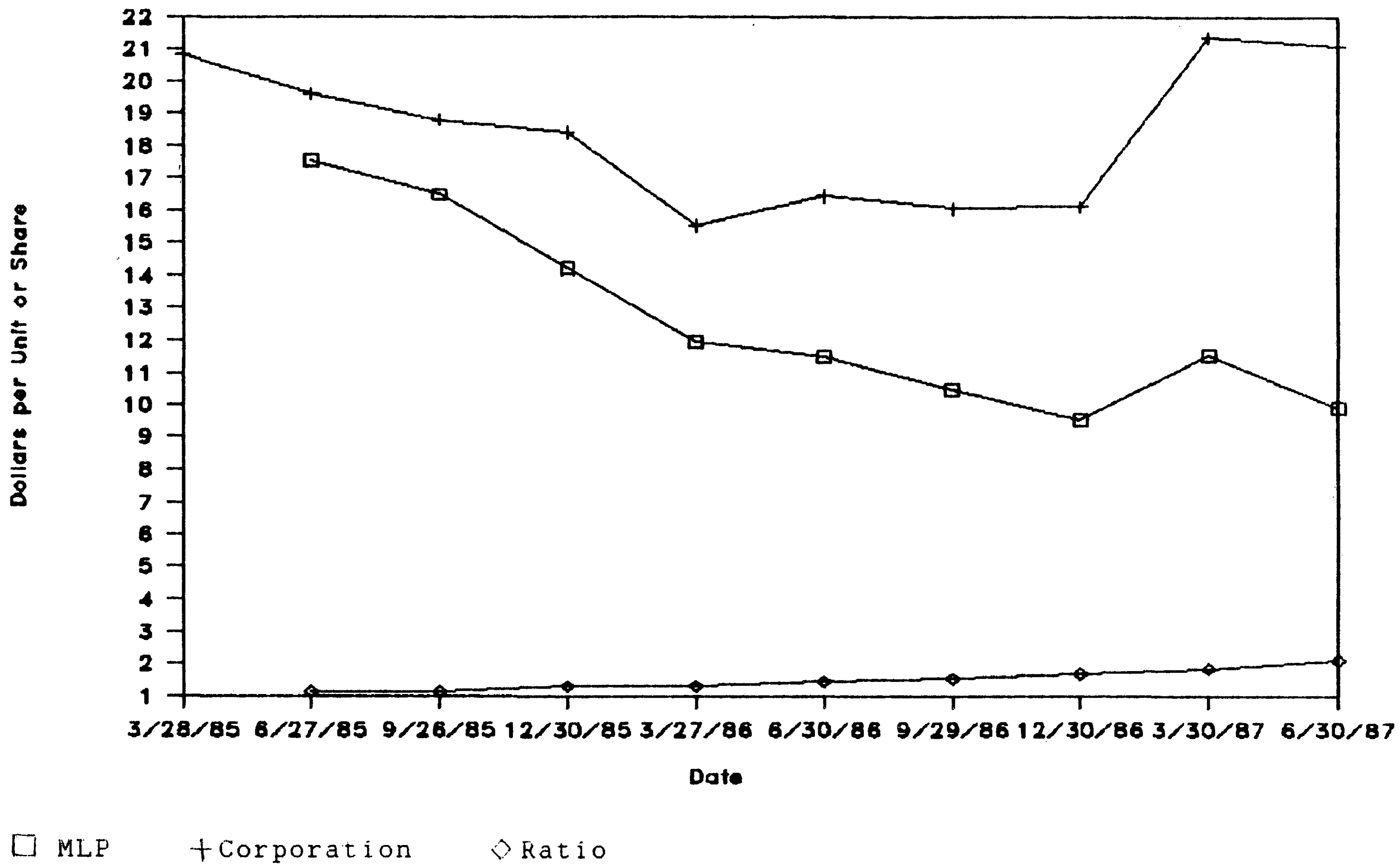

Figure 7. Corporation and MLP Indexes along with the Corporation/MLP Ratio

Note: All values in 1982 constant dollars

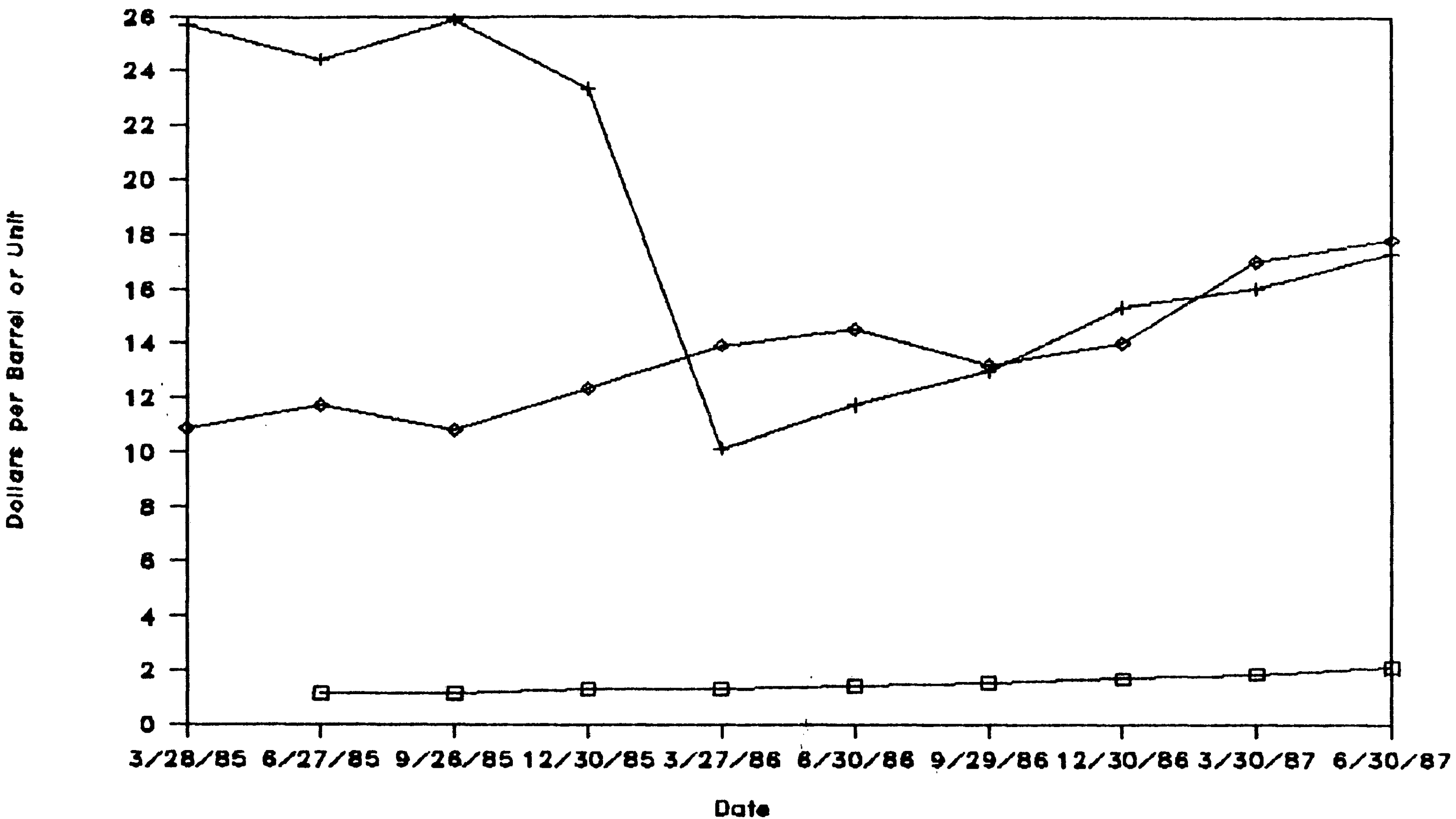

Figure 8. The Corporation/MLP Ratio, Oil Price and the New York Stock Exchange Industrial Index

Notes: NYSE Industrials = NYSE Industrial Index/10
All values in 1982 constant dollars

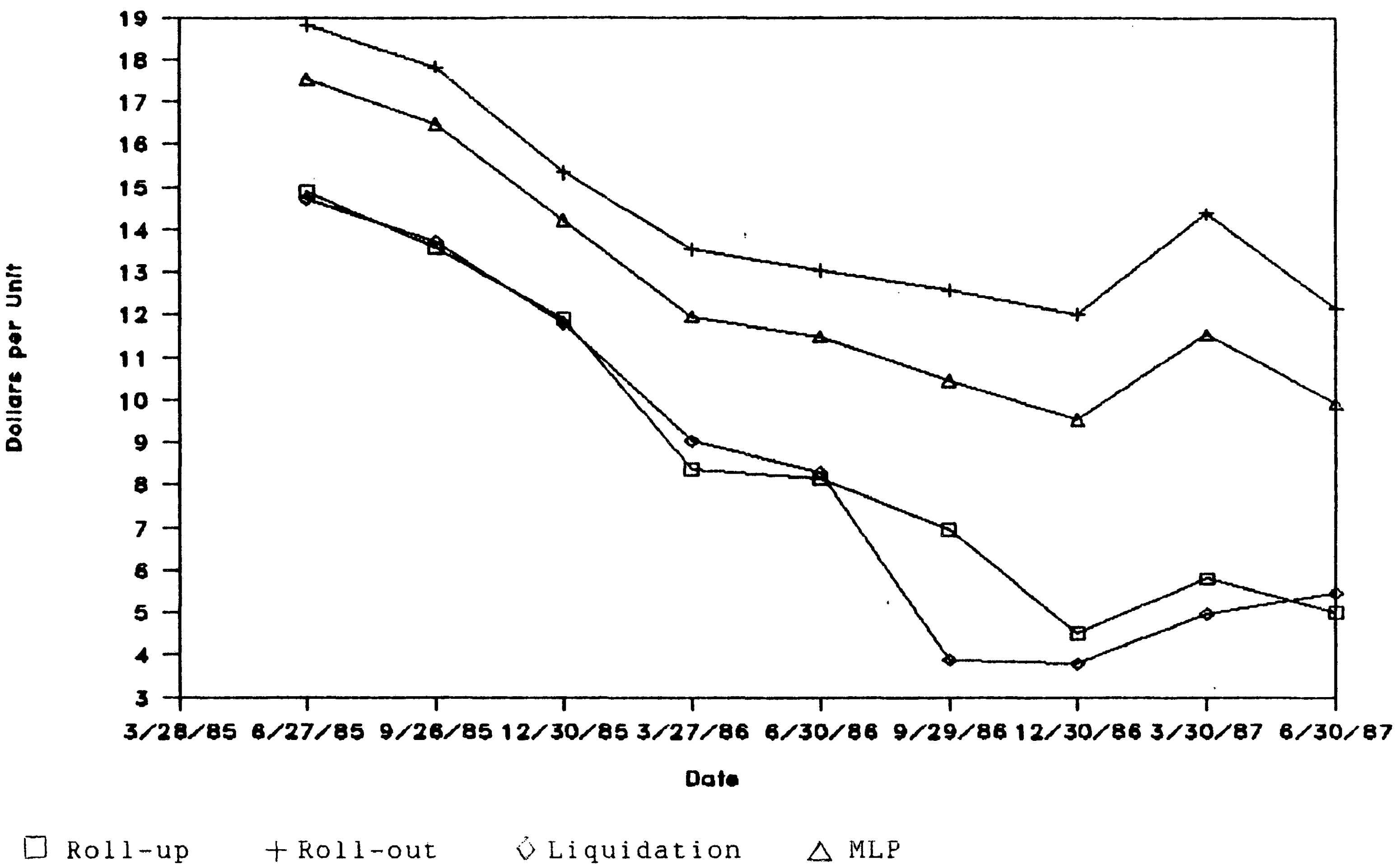

Figure 9. Roll-up, Roll-out, Liquidation and MLP Indexes

Note: All values in 1982 constant dollars

limited partnership units, it may do more to maintain the value of these units than will the general partners of roll-ups and liquidation-formed MLPs (whose major concern may be the collection of management fees).

If the MLP group as a whole has not performed as well as corporations, have selected MLPs been better able to out-perform the MLP and corporate indexes? Figure 10 examines the market performance of Apache Petroleum Co. against the MLP, roll-up and the corporation composite indexes. A 69 percent drop in value between June 27, 1985 and December 30, 1986, left Apache posting a poorer performance than any of the composite indexes. As with the indexes, Apache rebounded and leveled off somewhat in 1987.

Figure 11 charts the unit value of Transco Exploration Partners with roll-outs, MLPs and corporations. Transco has generally followed the trend of all MLPs, losing 35 percent of its market value between June 27, 1985 and December 30, 1986, compared with 36 percent for roll-outs and 45 percent for MLPs. For an unknown reason, the market reacted favorably to Transco in the first quarter of 1986, boosting its price to $19.47 per unit on March 27, 1986. This rally was not sustained and Transco's unit price continued to fall through 1986.

MLP liquidations posted the poorest market performance during the period of examination. The first liquidation-

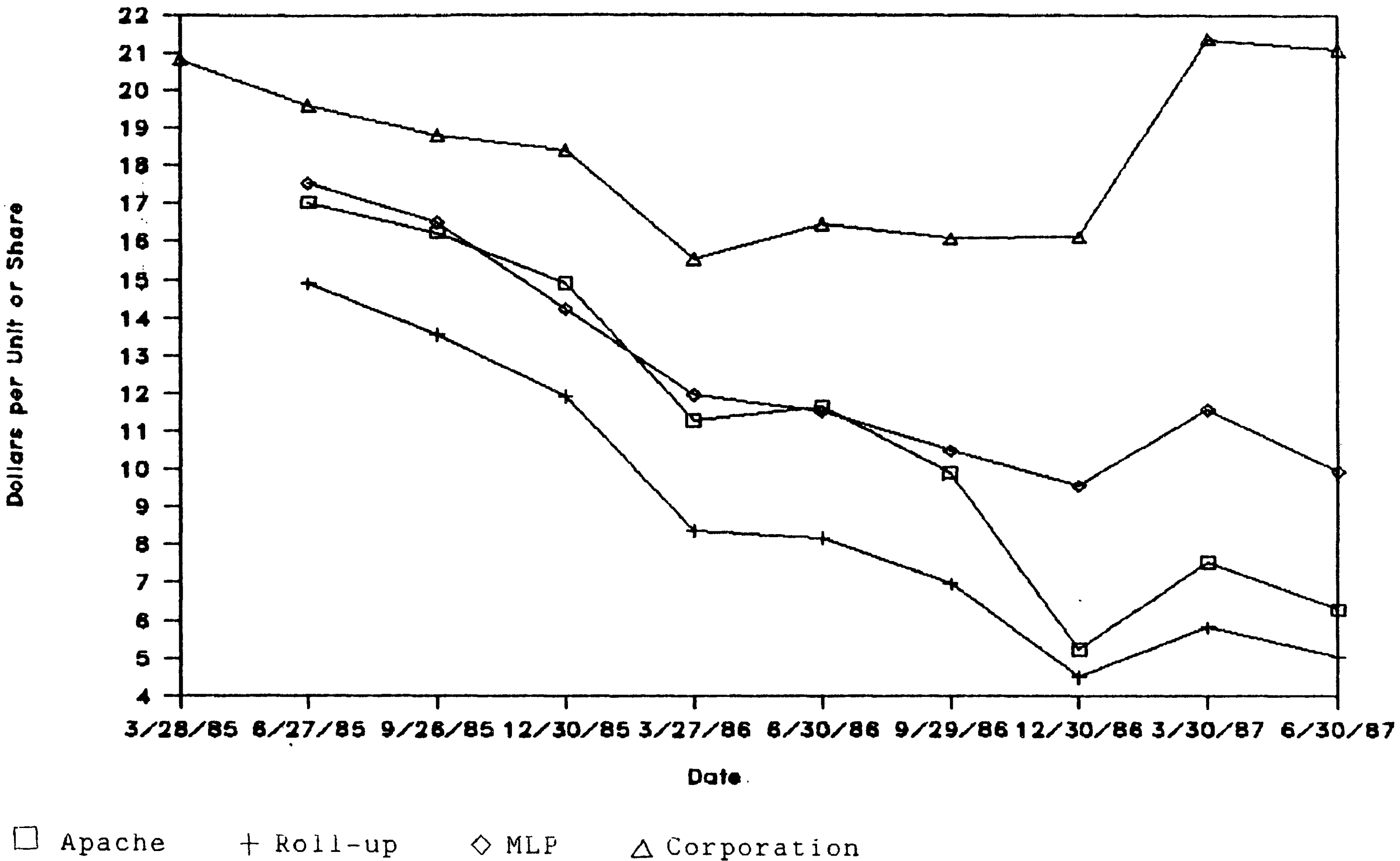

Figure 10. Market Performance of Apache Petroleum against the Roll-up, MLP and Corporation Indexes

Note: All values in 1982 constant dollars

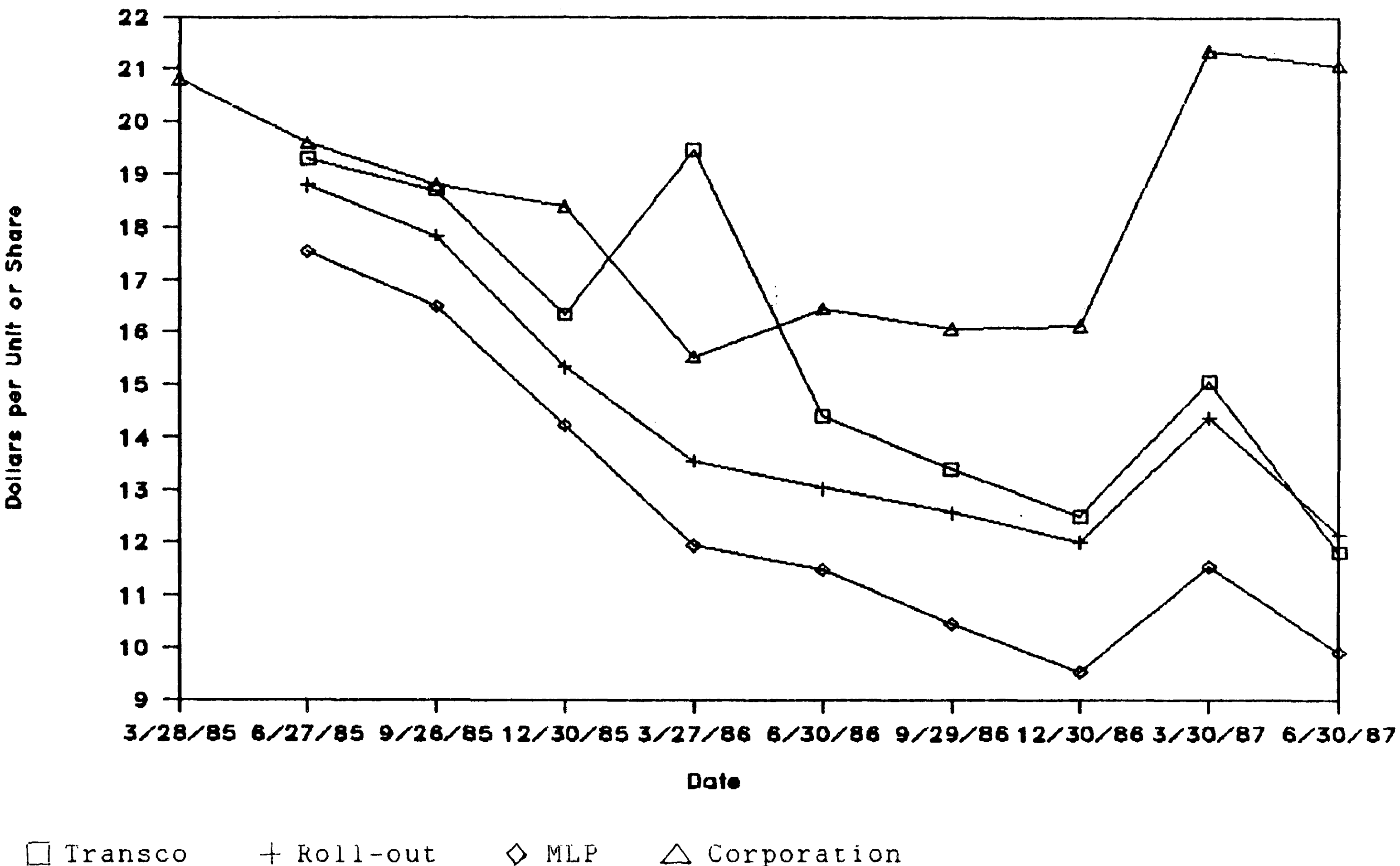

Figure 11. Market Performance of Transco Exploration Partners against the Roll-out, MLP and Corporation Indexes

Note: All values in 1982 constant dollars

formed MLP, OKC Limited Partners, was a better performer than the group. Figure 12 compares the market performance of OKC with the liquidation-formed, MLP and corporation indexes. While liquidation-formed MLPs lost 74 percent of their value between June 27, 1985 and December 30, 1986, OKC lost only 57 percent. OKC's unit price stabilized approximately three months before the liquidation group and six months before the MLP index.

The three largest MLPs, Mesa Limited Partners, Union Exploration Partners, and Sun Energy Partners were excluded from the MLP index because they were formed very late in 1985. Because of difficulties associated with pricing new issues, unit price may not adequately reflect market value in the early life of the issue. Initial price movements reflect market expectations and are not necessarily related to the performance of the company. For example, the initial loss in value of Union Exploration Partners' units (figure 13) may be an adjustment of the market to the true value of the issue rather than an indication of poor performance. The same may be true for Sun Energy Partners. Even though Union lost 34 percent of its value in the first six months of its existence, it quickly rebounded. In the period of September 26, 1985 to December 30, 1986, Union lost 32 percent of its value compared to 33 percent for the roll-out index. During the period of December 30, 1985 to December

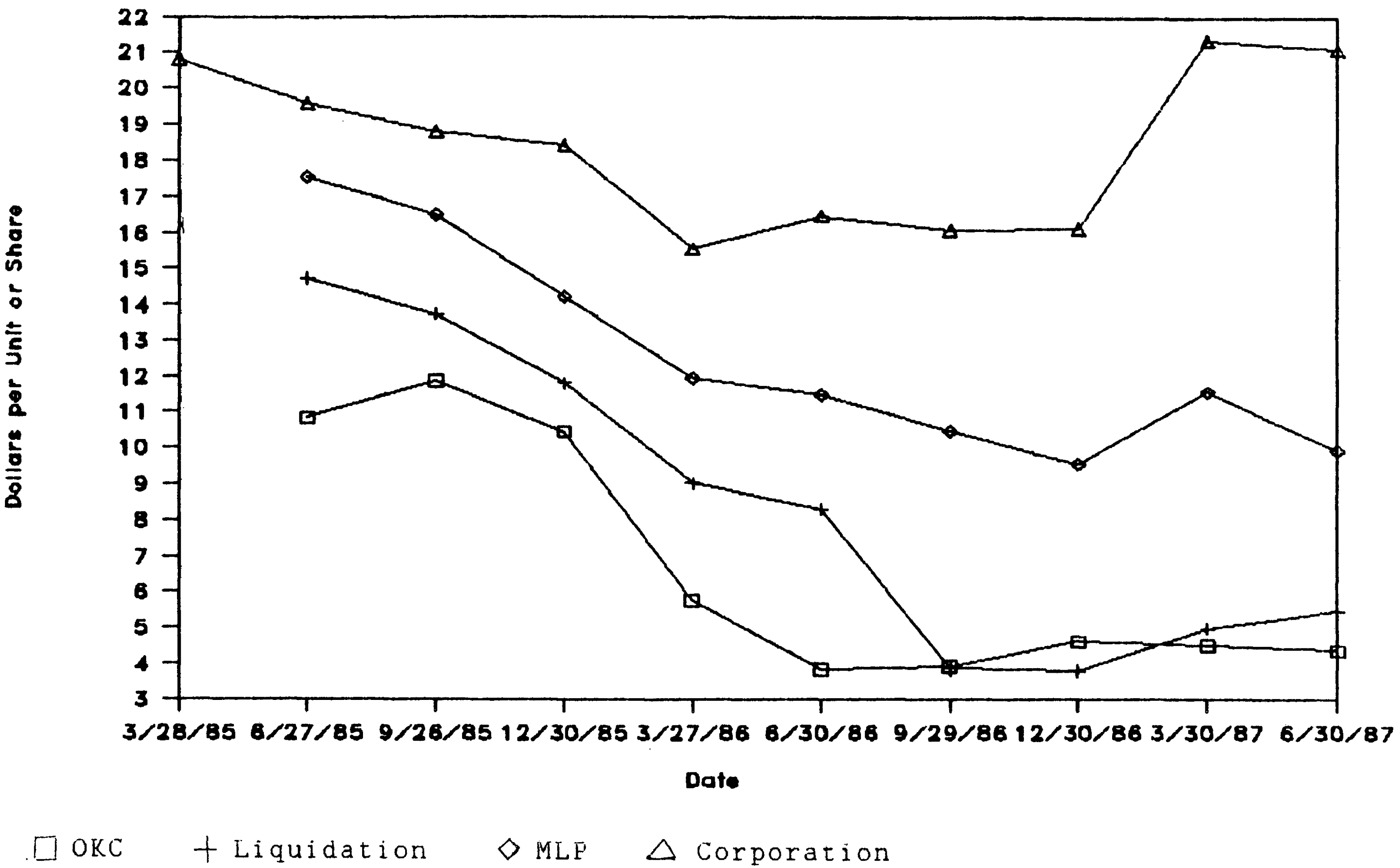

Figure 12. Market Performance of OKC Limited Partners against the Liquidation, MLP and Corporation Indexes

Note: All values in 1982 constant dollars

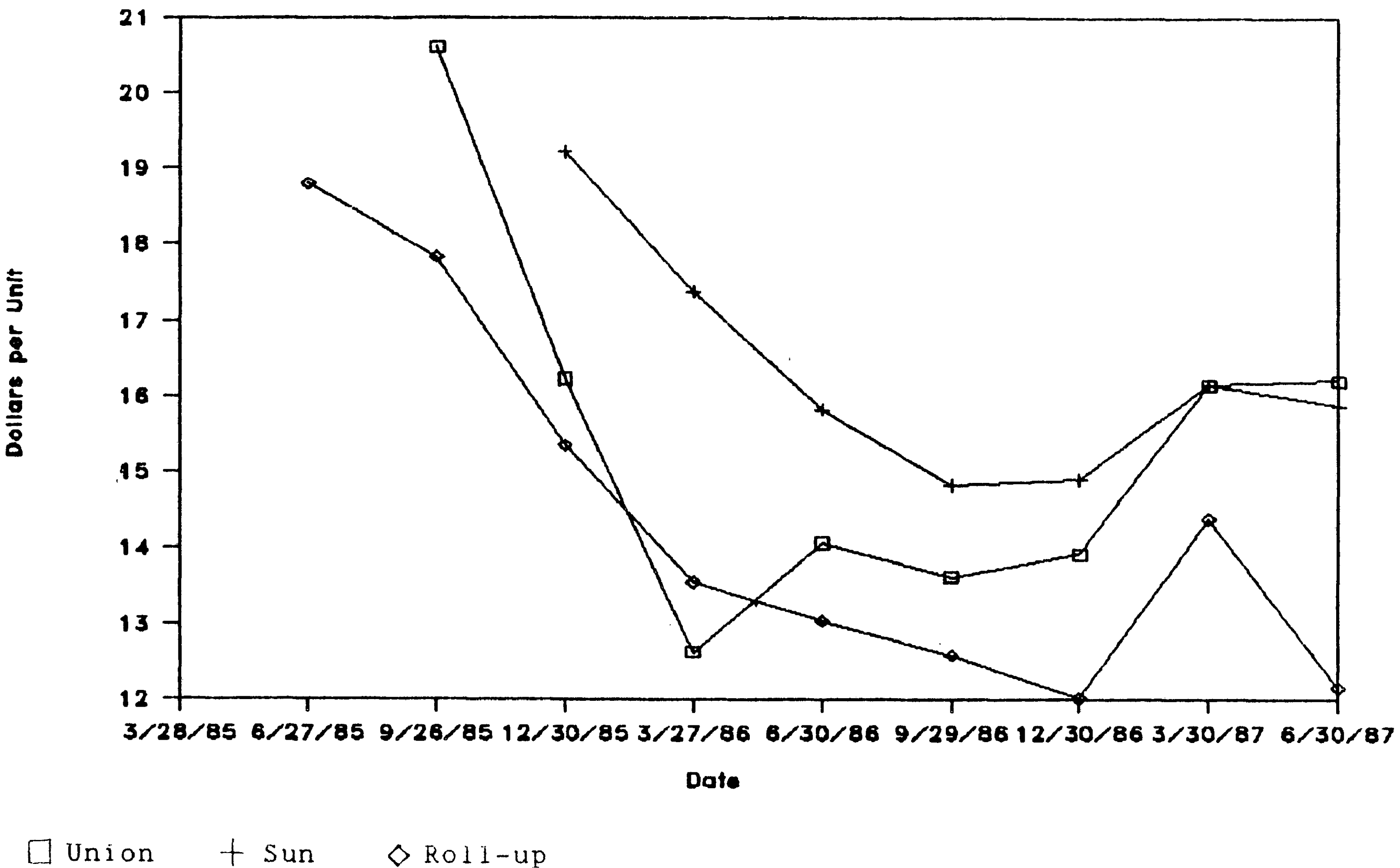

Figure 13. Market Performance of Union Exploration Partners and Sun Energy Partners against the Roll-up index

Note: All values in 1982 constant dollars

30, 1986, Sun lost 23 percent of its market value compared to 22 percent for the roll-out index. The performance of these two large MLPs parallels the roll-out index and lends support to the contention that the index is an adequate representation of the MLP roll-out universe.

Mesa Limited Partners, the largest liquidation-formed MLP to date has been able to out perform the MLP, liquidation and corporation indexes. Between December 30, 1985 and June 30, 1987, Mesa posted a 20 percent gain in unit value compared to a 15 percent gain in the corporation index, a 30 percent loss in the MLP and a 54 percent loss in the liquidation indexes (figure 14). Again, this increase in value may have been the result of market expectations rather than a reflection of company performance. T. Boone Pickens attributes Mesa's success to "a willingness to compete, no matter how difficult the environment" (Pickens 1987). In any event, Mesa has performed well. Although the actual price received for crude oil and condensate averaged $14.35 per barrel, Mesa recorded an average price of $21.44 per barrel during 1986 as a result of hedging its crude oil production on the futures market. This strategy enabled Mesa to weather the worst of the oil price crash and may account for its increased market value since the conversion.

Based upon the market value of MLP units and corporate stock, preliminary findings suggest that corporations out

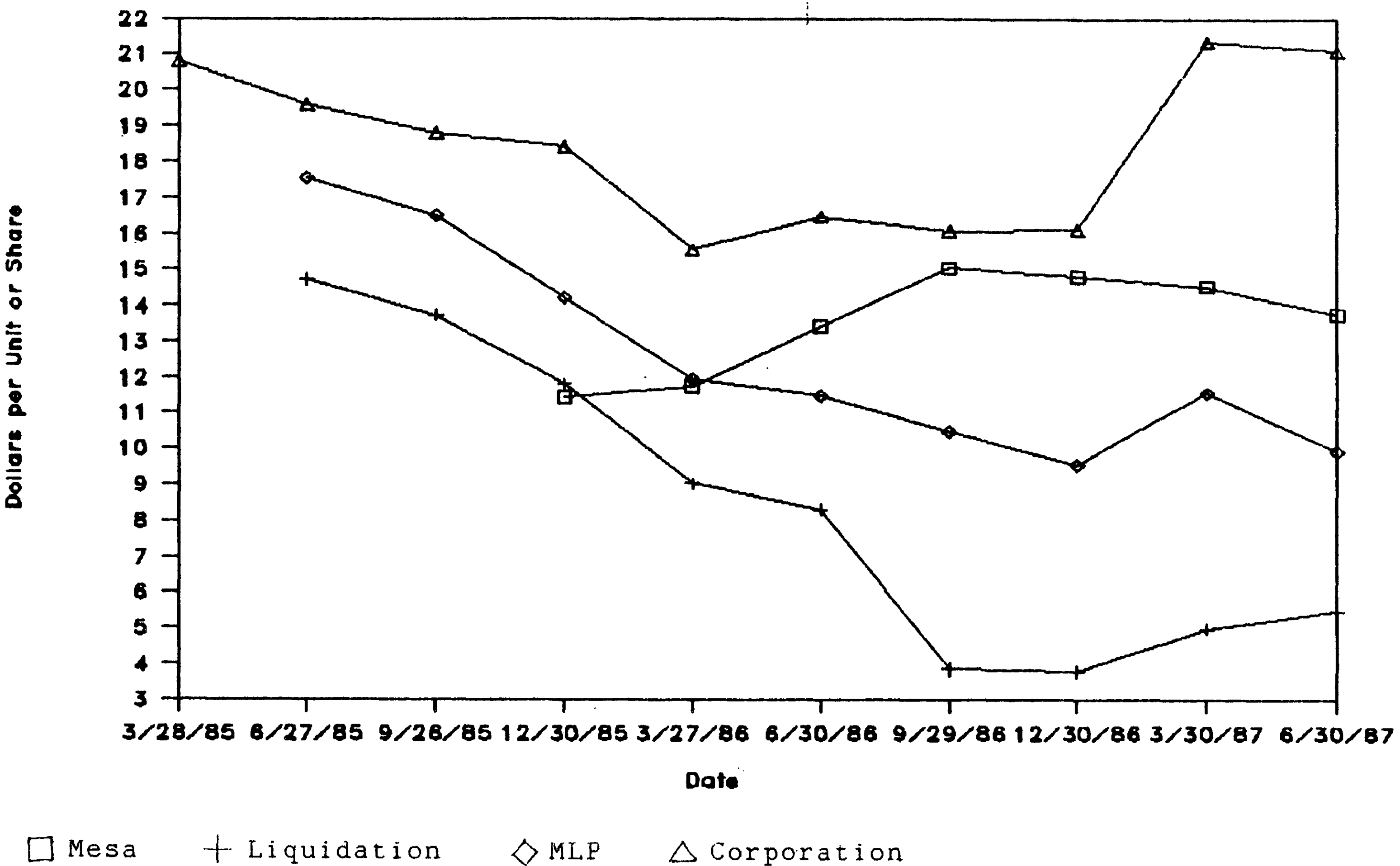

Figure 14. Market Performance of Mesa Limited Partners against the Liquidation, MLP and Corporation Indexes

Note: All values in 1982 constant dollars

performed MLPs during the oil price crash of 1986. Will an analysis of changes in net income support these findings?

Table 5 lists the 18 MLPs analyzed, their 1985 and 1986 net incomes, and the difference between the two figures. The data suggest that roll-outs were the poorest performers, dropping over $608 million in net income in 1986. Liquidation-formed MLPs doubled their losses in 1986, and roll-ups increased their already high losses by 26 percent. The combined group suffered increased losses in 1986 of nearly 3.5 fold over the 1985 value. The comparative group of corporations (table 6) saw an increase in losses of nearly 9.3 times their 1985 value. This directly contradicts the market performance findings.

Not only do net income results have MLPs outperforming corporations, but within the MLP group, net income figures suggest that roll-outs are the poorest performers. Because investors are able to participate in the tax related benefits of the MLP, it may be more appropriate to examine changes in cash flow position (taking into account noncash costs) rather than net income for this group. Table 7 shows the 1985 and 1986 cash flow values for the MLP group. The results support the market performance findings of the roll-out being the best performer (27 percent drop in cash flow) followed by the roll-up (down 49 percent) and the liquidation-formed MLP (down 75 percent). As a group, the

Table 5. MLP Net Income ($ million)

	1985	1986	Net Change	% Change
Roll-up				
Apache	-103.50	-160.18	-56.67	
Belden & Blake	0.39	-9.46	-9.85	
Damson A	-71.38	-70.35	1.02	
Damson B	-64.35	-60.33	4.02	
Great American	-8.77	-5.49	3.28	
May Energy	-17.87	-6.57	11.30	
NRM	-42.11	-21.30	20.81	
Petroleum Investments	-2.44	-12.94	-10.51	
Snyder	5.58	-36.39	-41.96	
Subtotal	-304.46	-383.02	-78.56	26
Roll-out				
Ensearch	77.52	46.51	-31.01	
Entex	-29.57	-32.79	-3.22	
Freeport-McMoRan	15.39	-268.64	-284.03	
Transco	-5.48	-295.47	-289.78	
Subtotal	57.85	-550.19	-608.04	1,151
Liquidation				
Dorchester Hugoton	0.69	0.74	0.05	
Graham McCormick	0.66	-24.01	-24.68	
Lear Petroleum	-83.48	-71.10	12.38	
Newhall Resources	5.17	1.69	-3.48	
OKC	27.20	-6.82	-34.12	
Subtotal	-49.76	-99.61	-49.85	100
TOTAL	-296.36	-1,032.81	-736.45	348

Note: All values in 1982 constant dollars

Source: Annual reports

Table 6. Corporate Net Income ($ million)

	1985	1986	Net Change	% Change
Apache Corp.	8.36	-8.76	-17.13	
Cenergy	-57.01	-5.61	51.40	
Conquest	-15.37	-8.59	6.78	
Ensource	-31.38	-2.98	28.40	
Forest Oil	8.81	-3.24	-12.06	
Global Nat. Res.	1.88	3.56	1.68	
Louisiana Land	-9.35	-18.05	-8.70	
McFarland Energy	3.64	-12.39	-16.04	
Murphy Oil	71.67	-170.73	-242.40	
Noble Affiliates	10.61	-56.27	-66.88	
Pogo Producing Co.	-73.47	-51.00	22.46	
Quaker State	41.28	44.08	2.81	
Sabine	4.86	-31.02	-35.88	
Templeton	-0.88	0.63	1.51	
Wainoco	-10.52	-17.44	-6.92	
Wilshire	3.33	1.75	-1.57	
Wiser	7.55	1.40	-6.15	
TOTAL	-36.01	-334.68	-298.67	929

Note: All values in 1982 constant dollars.

Source: <u>Moody's Handbook of Common Stocks</u>. Summer 1986 and 1987 editions.
<u>Moody's Handbook of OTC Stocks</u>. Summer 1986 and 1987 editions.

Table 7. MLP Cash Flow ($ million)

	1985	1986	Net Change	% Change
Roll-up				
Apache	142.1	70.1	-72.0	
Belden & Blake	3.6	1.0	-2.6	
Damson A	28.1	5.7	-22.5	
Damson B	24.8	5.0	-19.8	
Great American	11.7	16.7	5.0	
May Energy	76.3	45.0	-31.4	
NRM	33.5	14.5	-19.1	
Petroleum Investments	6.9	3.5	-3.4	
Snyder	16.1	12.2	-3.9	
Subtotal	343.3	173.5	-169.7	49
Roll-out				
Ensearch	177.2	97.6	-79.5	
Entex	16.3	5.7	-10.6	
Freeport-McMoRan	16.2	74.8	58.7	
Transco	187.6	112.0	-75.6	
Subtotal	397.2	290.2	-107.0	27
Liquidation				
Dorchester Hugoton	1.1	1.2	0.1	
Graham McCormick	8.3	2.6	-5.6	
Lear Petroleum	20.4	5.5	-14.9	
Newhall Resources	9.2	6.3	-2.9	
OKC	43.8	5.3	-38.5	
Subtotal	82.7	20.9	-61.8	75
TOTAL	823.2	484.7	-338.5	41

Note: All values in 1982 constant dollars

Source: Adapted from information provided by John S. Herold, Inc., Greenwich, Conn.

drop in cash flow in 1986 was 41 percent.

Although changes in net income may reflect company performance, differences in accounting methods, asset write-downs and charges, etc., make intercompany comparisons of net income figures difficult at best and often lead to erroneous conclusions. Even though the percentage change in net income was greater for the corporate group as a whole, in absolute terms, net losses were considerably larger for the MLPs. These losses support the contention that MLPs fared worse than corporations during the recent oil price slump.

It is doubtful that there is a difference in motivation between managements of corporations and MLPs with regard to income reporting. While corporations will want to postpone income to defer corporate taxes, the MLP general partner may want to do the same. Although taxes are not a direct expense for the MLP, the conscientious general partner will postpone income so its limited partners can avoid paying taxes on passed-through earnings.

It is difficult to state with any confidence one particular reason for the relatively poorer performance of MLPs from mid-1985 to mid-1987. One can only suggest an array of possible market influences. The erosion of MLP high yields (due to reduced cash flow) in 1986 and 1987 has no doubt been partially responsible. To the individual

investor, high cash yield of MLPs was one of its most attractive features. The tax act of 1986 may have indirectly influenced the market performance of oil and gas corporations and MLPs in a number of ways. The new tax rules especially hurt MLPs whose yields depend on sheltering income. The allowance for net loss from passive activities will be reduced from 65 percent to zero between 1987 and 1991. As corporate tax rates are lowered, corporate net income will rise, increasing the stockholder's return to equity. This will have the effect of increasing the corporation's attractiveness in relation to the MLP (which will not be affected by the change). This, coupled with the fact that a lower personal tax rate will lessen the tax shelter attractiveness of the MLP could help explain the increasing spread between the unit prices of the two investments. Although these changes will occur gradually, the expectations of future events will undoubtedly influence the market. Also, the fear of a tax-rule change hangs over MLPs. The Reagan administration has asked Congress to consider taxing MLPs as corporations. This would effectively reduce payouts to limited partners since the companies would have to start paying corporate income tax. Such worries have worsened the blow dealt to investor confidence in oil and gas MLPs by the plunge in oil prices.

According to Lysle Brinker (telephone interview

September 14, 1987), analyst with John S. Herold, another possible reason for the lagged performance of MLPs may be the fact that their production tends to lean more heavily toward natural gas. Because gas prices have not picked up to the extent of oil, the market values of gas-producing companies will be less than oil producers. If this is indeed the case, it could be another reasonable explanation for the poor MLP market performance.

The value of these suggestions in explaining the difference between MLP and corporation performance is substantial. However, they are not meant to be exhaustive. Other reasonable explanations exist.

Chapter 4
CONCLUSIONS

The year 1986 proved to be a most discouraging one for the U.S. oil and gas industry, in particular for small exploration and production corporations and master limited partnerships. The unprecedented fall in oil and gas prices coupled with continued lackluster demand for natural gas ravaged operating margins and cash flows. Companies were further plagued as the price collapse triggered noncash writedowns on oil and gas reserves, plunging net earnings into the red and lambasting shareholder equity. The impact was particularly severe for companies with historically high finding and development costs and companies collateralizing loans with reserves (Oil Industry Comparative Appraisals II 1987).

Stock market prices and market capitalization declined sharply in response to the industry-wide slump. MLPs, the hot new equity investment in 1985, suffered the greatest losses as total market capitalization for 26 MLPs in existence prior to 1986 dropped 29 percent to about $13.2 billion on December 31, 1986. On average, a comparable group of 17 independent oil and gas exploration and production corporations dropped 23 percent in value in 1986.

The MLP has certainly played a major role in financing oil and gas exploration and development projects. In the two-year period of 1983 to 1985, the MLP went from raising no money for the industry to accounting for 51 percent of all limited partnership sales. This occurred in a period when other oil and gas partnership sales fell nearly 80 percent. In the world of oil and gas limited partnerships, the MLP is now a major source of investment capital and perhaps the best way to raise money in a depressed market.

Due largely to the corporate characteristic of liquidity, the MLP may prove to be a more attractive investment vehicle than the standard limited partnership for those seeking the tax related benefits of this form of organization. However, the lowering of the personal tax rate may reduce investor need to shelter income and dull the attractiveness of all limited partnership programs.

The characteristics of liquidity and low unit costs draw the MLP closer to the corporate world than any previous limited partnership investments. Because of its clarity of purpose, tax benefits and high yield characteristics, investors place a higher value on assets held by the MLP than they do on those held by corporations. The market still values oil and gas MLPs at an average of 150 percent their appraised net worth. By contrast, integrated oil companies trade at only 70 to 80 percent of their net worth.

MLPs however have not fared as well as independent oil and gas corporations (of approximately equal size) through the oil-price crash of 1986. A group of 18 MLPs lost 27 percent of their depository unit value between September 26, 1985, and March 27, 1986. During this period, oil prices fell 61 percent. A comparable group of 17 independent oil and gas corporations lost only 17 percent of their stock value.

MLPs continue to perform more poorly than corporations, in the market. Corporation stock prices have rebounded somewhat and the group as a whole gained 8 percent in value between June 27, 1985, and June 30, 1987, while the MLP group lost 43 percent of its depository unit value. The uncertainty over MLP tax treatment, the lowering of both corporate and personal tax rates, the gradual elimination of allowances for passive losses and production skewed more heavily toward natural gas may all have contributed to the poorer MLP market performance.

Within the MLP universe, roll-outs lost the least ground in the market. Between June 27, 1985, and December 30, 1986, roll-outs lost 36 percent of their unit value compared to 70 and 74 percent, respectively, for roll-ups and liquidation-formed MLPs. Their close ties to corporate parents may have enabled roll-outs to better weather the drop in oil prices. This notion is supported by an analysis

of changes in cash flow position. MLP roll-out cash flow fell only 27 percent in 1986 compared to 49 and 75 percent respectively for roll-ups and liquidations.

Although, on a percentage basis, corporations posted greater net income losses, MLP losses were more than three times greater than corporations in 1986. Although differences in accounting methods make comparisons of net income figures difficult at best, the substantial losses of MLPs may have contributed to their poor market performance.

Although MLPs have fared worse than corporations in the market over the past two years, their existence in the oil and gas industry will persist as long as Congress and the Treasury Department allow them to operate. From the corporate general partner's standpoint, the MLP is still attractive as an efficient and flexible capital-raising tool as well as a valuation vehicle and a form of financial currency. Although, due to the repeal of the General Utilities Doctrine, the future will undoubtedly see fewer corporate liquidations, the use of the MLP will continue. The MLP roll-up should continue to be popular among limited partnership sponsors as a way of reducing administrative overhead and unloading problem partnerships. And, because of the liquidity feature, the MLP should continue to be a major source on new partnership sales. Corporations, especially those diversified companies with substantial oil

and gas holdings, seeking higher market values for their energy assets, will continue to look to the MLP roll-out. It has been demonstrated that the formation of a closely held MLP (as in the case of Transco Exploration Partners) may significantly increase the market value of the corporate general partner's stock. This may prove to be the most significant reason for forming an MLP in the future.

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Appendix A

MLP MARKET VALUE
(million $)

Name	1/1/86	1/1/87	Ave.	Wt.
Roll-up				
Apache Petroleum Co.	781.5	297.4	539.4	.50
Belden & Blake Energy Co.	27.3	15.4	21.3	.02
Damson Energy Co. A	126.3	15.8	71.0	.08
Damson Energy Co. B	107.0	12.9	60.0	.05
Great American Partners	17.2	12.6	14.9	.01
May Energy Partners	41.3	7.5	24.4	.02
NRM Energy Co.	304.1	71.4	187.7	.17
Petroleum Investments	35.4	18.6	27.0	.02
Snyder Oil Partners	144.6	130.9	137.7	.13
Total			1083.4	1.00
Roll-out				
Ensearch Exploration	1617.6	1275.2	1446.4	.42
Entex Energy Develop.	85.7	26.0	55.8	.02
Freeport-McMoRan Energy	857.1	785.7	821.4	.24
Transco Exploration	1257.3	983.6	1120.4	.32
Total			3444.0	1.00
Liquidation				
Dorchester Hugoton	26.4	40.3	33.3	.07
Graham McCormick	84.2	11.5	47.8	.10
Lear Petroleum Partners	390.7	26.2	208.4	.42
Newhall Resources	36.2	27.4	31.8	.06
OKC Limited Partnership	239.6	109.6	174.6	.35
Total			495.9	1.00

Source: Adapted from information provided by John S. Herold, Inc., Greenwich, Conn.

Appendix B

CORPORATION MARKET VALUE
(million $)

Name	11/30/85	12/30/86	Ave.	Wt.
Apache Corp.	260	190	225	.05
Cenergy Corp	80	51	65	.01
Conquest Exploration Co.	160	76	118	.03
Ensource, Inc.	80	20	50	.01
Forest Oil Corp.	110	60	85	.02
Global Natural Resources, Inc.	90	101	95	.02
Lousiana Land	1010	860	935	.21
McFarland Energy, Inc.	55	45	50	.01
Murphy Oil Corp.	1200	880	1040	.23
Noble Affiliates, Inc	690	510	600	.13
Pogo Producing Co.	230	100	165	.04
Quaker State Corp.	530	600	565	.12
Sabine Corp.	240	200	220	.05
Templeton Energy	32	42	37	.01
Wainoco Oil Corp.	79	65	72	.02
Wilshire Oil Co.	49	39	44	.01
Wiser Oil Co.	150	124	137	.03
Total			4503	1.00

Source: Adapted from information provided by Donaldson, Lufkin & Jenrette Securities Corp., New York