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OIL AND GAS SECURITIES

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RECENT TRENDS IN OIL

Since May 1, 1957, oil shares have lost their rank of leadership with investors. Until recently, the public had invested more money in oil than in any other industry - but today, oil shares have slipped to third place behind utility and chemical stocks. The current value of oil common stocks approaches \$43 billion, approximately the same value they had over $2\frac{1}{2}$ years ago in May, 1957. In contrast, utility stocks moved from \$33 to \$50 billion, and chemical stocks moved from \$30 to \$46 billion over the same period. Over the past $2\frac{1}{2}$ years, oils were one of the major groups showing a decline in their market price, dropping from 20 per cent of the total value of all common stocks on the New York Stock Exchange to today's figure of approximately 15 per cent of total value.

An investor should not be too alarmed at these statistics because the oil industry has undergone a period of tremendous expansion during its first 100 years, an expansion accelerated particularly by the invention of the automobile in the early part of the century. Much of the gain in petroleum demand can be credited to displacement of other fuels. The exact extent of this displacement is not known, but in 1920 oil and gas accounted for slightly less than 18 per cent of the total energies used in this country. By 1943 this rate had climbed to 40 per cent, and in 1956 it had reached 67 per cent. Today, oil and natural gas supply 72 per cent of the energy used in the United States.

A consensus of various petroleum economists indicates that oil and natural gas will supply 75 per cent of the energy used in the United States by the year 1967 and that the growth in demand in the U. S. will approximate 4 to 5 per cent/year over the next decade. It is estimated that demand will approach 14 million B/D by 1967 compared with approximately 9.5 million B/D today; it is further estimated that the Free World oil consumption will increase at an average rate of approximately 7 to 8 per cent/year, nearing 30 million B/D in 1967 compared with approximately 17 million B/D today.

EXPENDITURES

According to the Chase Manhattan Bank, capital outlay to meet the expansion needs of the Free World petroleum requirements over the next decade will reach \$140 billion. This is almost double the \$72 billion spent for property, plants and equipment during the past 10 years. The majority of future outlays will be spent in foreign countries because the rise in cost for finding oil in the U. S. is sending the major oil companies abroad in search for new oil. Foreign expenditures will rise 140 per cent over that of the past 10 years while domestic expenditures will rise 70 per cent.

Over the past twelve years, capital expenditures to find and develop oil in the U. S. have consumed 75 per cent of the Free World's total oil development cost, but this source has yielded only 15 per cent of the new oil. Four times as

much oil was found in the Middle East with only 1/25th of the money spent in the U. S.

Because of the rapidly increasing cost of finding and developing oil in the U. S. and the accelerated expansion which the domestic industry has undergone during recent years, domestic oil companies have not been able to meet their financial needs through internally generated cash. Since 1954, the domestic companies have had to go outside the industry for 15 per cent of their total expenditures, and it can be expected that it will be necessary to raise an even greater percentage of capital in this manner to meet the requirements of the industry's future expansion.

A look at a study prepared by McGraw-Hill Publishing Co. of the capital expenditures planned throughout the petroleum industry indicates that the industry is taking further steps to narrow the margin between supply and demand. The study indicates that the petroleum industry, in contrast to all other major industries, plans a reduction in capital spending in future years, going from an estimated total industry expenditure of approximately \$5.2 billion in 1959 to \$5.1 billion in 1960 to \$5.0 billion in 1961. The major portion of these cuts will come in drilling and production, which reflects the industry's abundant supply situation.

In the future, companies will concentrate on modernizing refining processes, expanding petrochemical facilities, endeavoring to make markets more profitable and streamlining overall operations. This outlook was recently reflected in a speech by Mr. Rathbone of Standard Oil Co. of New Jersey when he said, "Until recently it has been essential for companies to concentrate a major portion of capital expenditures on projects designed to assure the long-term growth of the companies. However, because of the industries already established strength for the long-term pull, they will be concentrating a greater part of their spending on projects to produce immediate profits".

WORLD SUPPLY AND DEMAND PICTURE

Over the last decade, the Middle East and Venezuela have become predominate sources of the Free World's oil, which currently approximates 260 billion bbl with a demand of only 6.1 billion bbl/year. Reserves are unevenly distributed in relation to the consuming areas. Today, the U. S. accounts for more than one-half of the Free World's demand but has only 15 per cent of the reserves, whereas the Middle East with approximately 70 per cent of the reserves represents less than 1 per cent of the consumption. Middle East reserves could actually supply the world's demand for the next 10 years, assuming proper facilities and political stability.

I am sure that you are familiar with the oil industry's oversupply. This oversupply did not just happen - it has been building up over a period of 10 years. A few years after World War II, the reserves-production ratio of the Free World was 20:1 and since then has increased to over 40:1. The ratio of the Free World outside the U. S. now stands at 66:1, while the U. S. ratio is 12½:1.

Today, the Free World's shut-in capacity is approximately 6 million B/D, of which one-half exists in the U. S. Some industry men believe that this excess supply could be reduced by 3 to 3.5 million B/D (which would be a more desirable level for the industry) if total Free World demand continues to increase at a rate of just 6 per cent yearly over the next five years and if new oil over the same period is absorbed by the increase in demand.

Canada (with 500,000 B/D), Venezuela (with 2.5 million B/D) and the Middle East (with over 4 million B/D) are areas which could double their current production rates over the next 10 years to supply the bulk of the world's future oil markets. These areas can be expected to accomplish this because of the anticipated increases in Free World demand and because they have more rapidly developed their reserves at lower cost, by comparison to the U. S.

RUSSIA

In the future, Russian intervention in the world petroleum market will be felt. It is not causing any worry now, but Russia has more oil than it needs; its exports of crude oil should be expected to rise from the present 362,000 B/D to a point where the Soviet will eventually become an important factor in the export market. Russian oil production is approximately 2,580,000 B/D, compared to U. S. production of approximately 7.1 million B/D.

It is possible that Russia may replace Venezuela as the world's second-ranking crude-producing country this year. The Soviet Union predicts production of over 2.8 million B/D for 1960. This goal is an 11.6 per cent gain over the 1959 output.

One of the advantages existing today for other export nations is that Russia will not guarantee a firm, continuous supply on a scheduled basis. This situation may be expected to change as more Soviet production becomes available.

NORTH AFRICA - FRENCH SAHARA

Another area that will eventually have to be reckoned with is North Africa. In the French Sahara region, oil and vast amounts of natural gas are now being discovered and developed.

Many engineers believe that this area some day will supply Western Europe with a major portion of its Petroleum requirements. Over the past few years, approximately 4.5 billion bbl of oil and $10\frac{1}{2}$ trillion cu ft of gas have been found. This does not compare with the Middle East as yet, but exploration of the Sahara has barely begun.

Lack of sufficient market outlets for Sahara crude and gas will be a problem for a while, but the French Government is rapidly approaching the solution. They have recently completed a pipeline to the Mediterranean Sea which will be carrying over 100,000 B/D and is expected to increase to over 150,000 B/D by 1961. An additional pipeline to the Mediterranean is expected to be completed by the end of this year, a fact which prompts France to predict that over 300,000 BOPD will be flowing to the Mediterranean from the Sahara region by a year from this Spring.

Sahara oil production will eventually have far-reaching effects on the world oil industry, especially on Middle East production and revenues, because some 90 per cent (or 300,000 B/D) of the present French crude imports comes from the Middle East. The present plan of the French Government is to take 80 per cent of the Sahara output for its own refinery needs over the next 10 years.

For a few years this plan of the French Government will work out, but, due to the high gasoline content of Sahara crude, it cannot be expected that it will entirely supplant all of the Middle East crude. If this should happen, France would have much more gasoline than it needs - but not enough heating oil. Therefore, some companies are thinking of shipping part of their Sahara allotment to the U. S. and Canada in place of Middle East and Venezuela oil and shipping corresponding amounts of heavier Middle East crude to the French refineries to come up with a more suitable crude mixture for French consumption.

LIBYA

The list of Libyan discoveries is continually mounting. A great deal of oil has already been found in this country, and indications are that a vast amount of reserves will ultimately be discovered. It will require considerable capital expenditures and much time to develop the important fields of central and western Libya, so that it should be three to five years before Libyan crude has any effect on our world oil markets.

NATURAL GAS

UNITED STATES

Natural gas is an expanding commodity and one of oil's biggest competitors. Growth in domestic consumption should continue to rise from approximately 11.2 trillion cu ft in 1958 to 17.2 trillion cu ft in 1967. The outstanding growth in natural gas demand has been a prime factor in the sharp decline in oil production since the end of the Suez crisis in mid-1957. Actually, domestic oil production between 1947 and 1958 lost 1.2 billion B/D because of the influx of natural gas into oil markets. Natural gas will continue to compete directly with petroleum to fill the demand for energy in this country. Over the past 10 years gas has almost doubled its share in the domestic market for both residual and industrial fuels, with an average annual rate of increase of $9\frac{1}{2}$ per cent; it is estimated that the future growth rate will continue at approximately 5 to 6 per cent/year in the U. S. For this reason, common stocks of natural gas-producing and pipeline companies have become increasingly popular with the investing public.

The question of federal regulation always must be considered when looking at the growth prospects for this industry. Undoubtedly, without any controls expansion could be somewhat more rapid, but because the growth has apparently proceeded at a fairly accelerated rate even with the governmental regulations, there is no reason to believe that it will not continue. At the moment, it would appear that the government will maintain its restrictions on the industry for an indefinite period.

Since World War II, the gas transmission industry has expanded to such a degree that today, along with the distributing companies, it has become the fifth largest business in the U. S. It is estimated that the transmission companies had record outlays in 1959 of approximately \$810 million. This will be approximately \$100 million over the 1958 transmission company expenditures.

For the investor, the real significance of this expansion program is two fold - (1) it signifies that natural gas will continue its pattern as one of the nation's major growth industries, and (2) it clearly illustrates the confidence and optimism of management for the long-term outlook despite the annoying regulatory problems.

At the present time, the wellhead price of natural gas is approximately 20 per cent of the price of crude oil on an equivalent energy basis. This price disparity between natural gas and oil exists in part because of the regulated status of the natural gas industry and in part from the

competition that exists for today's fuel market. Not long ago, income from the sale of natural gas was merely considered as additional revenue to oil. Oil was the primary objective in drilling; but, since the advent and growth of long-distance transmission pipelines, natural gas--a cleaner, cheaper and easier handling fuel--is now being brought into all of the major populated areas. This growth in natural gas is further brought out in statistics recently made available by the Gas Appliance Manufacturers Association. These statistics indicate that the 32 million utility customers now receiving gas today will increase to some 44 million by 1970 and that the industry's pipeline system which now extends some 572,000 miles will increase to over 850,000 miles by 1970.

CANADA

I cannot conclude this discussion of natural gas without mention of the Canadian gas industry. This segment of the petroleum industry offers the investor many opportunities for future expansion. In 1958, Western Canada's natural gas production increased 54 per cent, reaching 925 million Mcf/D. In 1959, gas production increased some 30 per cent to approximately 1.2 billion Mcf/D, and this year another 30 per cent gain is expected. With the inevitable expansion of markets in the U. S. and Canada, further wide gains in Canadian gas production should continue. To obtain the high rate of production which is forecast, a great deal of capital will be required, much of which will come from outside of Canada. For these reasons, favorable decisions from the Canadian authorities should continue to prevail over future years.

LOOKING AT OIL AND GAS COMPANIES TODAY

At the present time, the majority of the oil and gas companies are selling below their appraised value. In fact, many experts believe that, based on today's market prices, oil and gas securities have more value behind them than any other group of securities. Today more than ever before, investors are endeavoring to appraise oil and gas securities themselves. Therefore, before discussing the different groups within the oil industry, I would like to bring out two factors that are important when evaluating securities in this industry.

In the appraisal of any oil or gas stock (especially a growth situation) the cash generation or cash flow should be particularly significant to the investor--in fact, usually more significant--than net income. Cash flow, which is the net income plus all of the non-cash charge-offs against current income, shows the investor how much money the company generates each year and how much capital it has available to put back into the business for growth and expansion. In comparison, net income is a figure which

represents the amount of money left after the yearly expenditures and can be increased or decreased by raising or lowering these yearly expenditures.

In some cases, it is conceivable that high net income or earnings might indicate that a company was not actually operating in a manner conducive to continued growth because, to show a better earnings figures, the company might be sacrificing additional expenditures toward further exploration and expansion--a situation which could be far more harmful in the long run than a temporary dip in current net earnings.

Quite often, the book value of an oil or gas company is only a fraction of the market price or of its appraised value. I will not go into detail on how to arrive at a fair market value for oil and gas reserves because most of you are familiar with the procedure. You should know that this value is dependent upon many things and may vary from area to area depending upon the time it takes to deplete the reserves, the operating costs, the price of crude and gas and the risks involved.

APPRAISALS

As you know from being in the industry, it is a very complex one. It is an industry that has undergone many changes over the past years. There still remain many uncertainties which continue to exist, but I believe that definite patterns are taking shape which make it possible to appraise the different groups within the oil industry--the domestic producers, the integrated companies and the international oils.

DOMESTIC PRODUCERS

The domestic producer's primary objective is to find more reserves and to find them at costs competitive with other world crude-oil sources. Rising discovery and development costs, restricted production rates and imports now mean longer payouts and decreased profit margins for today's producers. One possible way for domestic companies to increase future profits and decrease development costs is for the industry to undertake a program of wider wellspacing on future leases. Oklahoma took the first step in this direction when it recently passed a law requiring that maximum spacing on oil wells producing from depths of 5,000 to 9,900 ft be increased from 40 to 80 acres. I believe that during the next few years we will see this happen in more and more producing areas. This will benefit not only the domestic producer but, in fact, the entire industry. There is little hope for an increase in the price of crude because of our ample crude reserves and our present production capacity. Last year the domestic producers had the benefit of an approximate 8 per cent increase in production and an increase in net earnings of about

6 per cent over 1958. For the short term, the domestic producers should show better earnings in 1960 than in 1959. This will be caused by an anticipated increase in domestic oil demand of from 4 to 5 per cent, a continued low level of imports, a better inventory position, streamlined operations and in some instances a decrease in capital expenditures. In the future, domestic producers will continue to expand into more and more foreign areas where low-cost reserves can be found. If successful in their search for foreign crude, some of the producers may eventually be forced by lack of refineries and markets to merge with larger integrated companies.

REFINING AND MARKETING

We have had a year of intense competition in oil markets. We have seen Aurora Gasoline, Western States Refinery, Eastern States Refinery, Bankline, International Refineries, Lake Superior Refining and Leonard Refining merge with larger integrated companies. These mergers (and future mergers) come from the tremendous competition among companies, trying to obtain a larger position in a slowly growing market. Over the past years, companies could show good earnings because of increased oil sales large enough to make up for any lost markets; but, today and in the future, consumption will grow at a slower pace and it will be more difficult for companies to maintain the markets they already hold.

There are several successful independent marketers who continually take a large portion of the markets in many areas by under-pricing the larger companies. This is a major problem in the industry today which larger companies will have to work on, and it seems logical to expect a series of consolidations between the independents and the larger, integrated companies. Now and in the future, the industry will be concentrating on increasing profits in marketing operations.

Today, the refining capacity of the U. S. is approximately 9.2 million B/D, which is over four times as much as that of our nearest competitor, the Soviet Union; the average daily crude-put in 1959 was around 8 million B/D. It is felt that this amount of excessive refining capacity is necessary in case of emergencies where we would be called upon to have a sharp increase in production. Because mandatory imports have come into being and because we have this excessive capacity existing today, the present high runs to refineries frequently cause an unrealistic build-up in inventories. This build-up, in turn, has caused price cuts and has made the refiner cut back his runs.

The refiner derives his profits from the difference between the cost of his crude oil and the average wholesale price of his refined products. This difference is commonly known in the

industry as "the refinery spread". During the period from 1947 to 1958, the refinery spread averaged 90¢/bbl.

In the early months of 1958, it declined to a low of 52¢/bbl, but it rose to approximately 75¢/bbl by December of 1959. During this 10-year period, there were two general crude-price advances amounting to a total of approximately 50¢/bbl, but with the increased costs of labor and improved operations necessary to keep up with the octane race, the refinery spread remains depressed.

Sharp shifts in the refinery spreads will constitute a problem. Profit margins will vary from company to company depending upon the location of refineries and the distance between the refineries and the wellhead. One way that the refiner has been able to protect his profits is by diversifying into petrochemicals, where a larger profit margin is enjoyed and where demand has been steadily rising until now.

Some of the integrated companies, which are refineries on balance, will show improved earnings for 1959. The average of the group's earnings will be approximately 8 to 10 per cent over that of 1958.

I believe that in the future we can expect refineries which lack their own domestic crude supply to seek mergers with companies that have domestic reserves--particularly those with reserves close to their refining operations. This will help to keep costs down and maintain as wide a refinery spread as possible.

In my opinion, the sharp curtailment in new refinery construction planned by the industry for this year is definitely a step in the right direction.

INTERNATIONAL OILS

With the anticipated increase in yearly foreign demand and the long-term outlook, the international oils should fare better than the domestic companies. As we have indicated, the Middle East is likely to supply much of the world's oil needs for years to come. The international oil companies control most of these reserves and also own the refining, transporting and marketing facilities necessary to turn this oil into money.

Because of the present unstable political situation in the Middle East, the international oils have begun to search elsewhere for additional reserves. The majority of these companies have supplemented their high-cost American production with lower-cost foreign crude and have improved their profit and earnings by so doing.

It is also interesting to note that, whereas the international oil companies have concentrated a great deal of effort and expense on foreign countries, they have also been the fastest growing crude-oil producers in the U. S. during the past eight years. Estimated 1959 earnings for the international oils should show an improvement of approximately 8 per cent over 1958.

CONCLUSIONS

Anyone analyzing the petroleum industry realizes that the industry has gone through two of its most difficult years. I believe that the worst is over. The industry recognizes the problems that exist and is taking steps to correct them.

Even though the growth in oil and gas demand will not be so great over the next 10 years as it was over the past decade, enough growth element still remains in the industry at the present time, and oil and gas stocks would appear to be depressed. With values present and earnings and dividends apparently safe, an investor should have some portion of his portfolio in the more attractive oil and gas securities.