February 24, 1942

Mr. Farioletti

Mr. Prewitt

This memorandum was completed February 17, 1942 but in view of the rapidly changing situation such as:

a. The possibility of the complete loss of the Dutch East Indies;

b. The destruction of additional tankers by submarines;

c. The possible destruction of important oil refineries in the Caribbean;

d. The conjectural nature of future rubber supplies;

e. The continuous changes in the transportation problem; and

f. The possibility of general rationing of gasoline in the near future

may necessitate revisions in the memorandum at an early date. It should not in any sense of the word be considered as final because the conditions in the petroleum industry at present are extremely dynamic.

AB hearing 1 cc
Shea - 1 cc
Campbell 1 cc

An investigation of pertinent facts concerning gasoline, lubricating oil, fuel oil, kerosene, and oil pipe line transportation relevant to increases in tax rates on some and levying new taxes on others

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An investigation of pertinent facts concerning gasoline, lubricating oil, fuel oil, kerosene, and oil pipe line transportation relevant to increases in tax rates on some and levying new taxes on others

I. Introduction

Petroleum products are extremely important to the Nation's economy. They are not only basic to normal civilian life but are absolutely necessary in these days of mechanized warfare. Therefore, it is essential that the supply of petroleum products be maintained in sufficient quantity to meet all military and naval requirements. That our supply of petroleum reserves is not unlimited is well known, and it may be necessary to limit the consumption of certain petroleum products to the most essential civilian uses in order to carry on the war effort. Thus, the objective of excise taxes on petroleum products might possibly be twofold: (a) to encourage the conservation of rubber and petroleum products and (b) to raise additional revenue.

It is the purpose of this memorandum to bring together information concerning the present situation with respect to certain petroleum products and oil pipe line transportation, to appraise the effects of proposed increases in taxes and to consider the feasibility of levying new taxes on previously untaxed petroleum products.

II. Gasoline

A. Estimate of consumption

The general outlook for 1942 with respect to the total demand for gasoline is largely dependent upon the extent to which rubber is available for retreading tires, the curtailment in the production of automobiles, and the shortage in transportation facilities, especially tankers.

1. Impact of the rubber shortage

The Office of the Petroleum Coordinator estimates that the rubber shortage will result in a 35-percent reduction in the consumption of motor fuel. The estimates of the petroleum industry, however, are not in agreement with those of the OPC. The industry estimates vary from an 8-percent decrease to a 7½-percent increase in 1942 demand for gasoline. 1/

1/ From Oil & Gas Journal, January 22, 1942.

Another estimate is that if rationing is not extended to retreaded tires the total consumption of gasoline in 1942 would be from 5 to 8 percent below 1941, with the former figure the more probable one. 1/ However, in view of the fact that camelback rubber for retreading purposes is to be restricted, this estimate need not be considered further.

In 1941 about 65 million casings were shipped, of which about 40 million were replacements. About 18 percent of the total casings shipped in 1941 were for trucks. Deducting this sum (approximately 11,750,000) from the 40 million replacements leaves 28,250,000 casings as the number of replacements for passenger cars in 1941. This, of course, is assuming that the ratio between truck casings shipped to total casings shipped applies as well to replacements. Since truck tires will be supplied under the rationing order, it can be said that about 28 million casings will need to be replaced by retreading in 1942. It requires, on the average, about 6.2 pounds of camelback for recapping an average passenger car tire; about 4.8 pounds 2/ of the camelback is reclaimed rubber. If the capacity for reclaiming rubber remains at about 350,000 long tons a year 2/ and if only reclaimed rubber is used in camelback, only about 11 million tires can be retreaded in 1942. This is less than one-half of the normally expected replacements. From this one would conclude that many cars will be idle or be driven fewer miles in 1942, either of which would reduce the consumption of gasoline.

Factors which tend to offset the initial shortage of rubber are the proposal to expand the production of synthetic rubber to 400,000 tons per year and the imports of rubber which average from 25,000 to 40,000 tons per month. 3/ In weighing these factors it must be remembered that the demands for the Army and Navy will be larger in 1942 than in 1941 and that the United States consumed between 750,000 and 800,000 tons in 1941. Therefore, the 400,000 tons of synthetic rubber and the 350,000 tons of reclaimed rubber would not meet ordinary demands, when allowance is made for the quantities needed to conduct the war.

Early estimates for January indicate that motorists are consuming the usual amount of gasoline, in spite of the rubber shortage; but this estimate is not a reliable indicator of demand for the year. Even though a liberal amount of rubber is available for the retreading of tires, there will be a great reduction in vacation travel

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1/ Confidential source.
2/ Wall Street Journal, January 26, 1942.
3/ Statement by Secretary of Commerce Jones, February 4, 1942.

during the summer months and, consequently, less gasoline consumed. States which cater to the tourist trade will likely find their revenue from gasoline taxes greatly reduced.

In view of the above circumstances, it seems reasonable to conclude that on balance the rubber shortage may reduce the demand for gasoline in 1942 by as much as 25 percent and will perhaps bring about a more drastic cut in 1943 unless new sources of rubber are made available.

2. The transportation problem

The extent to which transportation facilities continue to be available for the transporting of crude and refined products has an important bearing upon the consumption of gasoline. The East Coast and the Pacific Northwest normally receive a large proportion of their petroleum and petroleum products by tanker.

If the forty tankers are transferred from the Atlantic to the Pacific, as has been proposed, it will mean a more drastic reduction of consumption in the East Coast area than for the country as a whole. Fifteen tankers have already been transferred and the remaining twenty-five may follow soon. 1/

Petroleum stocks in the eastern area for the week of January 24 were 19,812,000 barrels as compared to 20,360,000 barrels for the week of January 17. It should be noted that this was an unseasonal decline.

More and more petroleum products are being shipped to the East Coast by tank car. It is doubtful, however, that even the increased shipments by tank car and the most efficient use of pipe lines could supply the East with more than two-thirds of its normal supply. Seven new tankers are expected to be completed during the year but these may no more than offset losses due to sinkings. Even if the number of tankers supplying the East Coast is not reduced, stocks of crude and refined products on the East Coast may decline if submarine hazards are such that convoys are necessary. Convoys would appreciably slow up and hamper deliveries. As Japan takes over more and more of the oil supplies in the Pacific, the U. S. Army and Navy will require more tankers for military needs because the bulk of the petroleum supplies would have to be moved from this country. In view of these possibilities, it is probable that some form of rationing of gasoline will be required in the East Coast area and the Pacific Northwest.

1/ Oil & Gas Journal, January 22, 1942.

3. Rationing

Rationing, of course, implicitly means restrictions on consumption. Rationing of gasoline would be a tremendous administrative problem if done on an equitable basis. The problems of bootlegging and evasion would have to be met. If it is necessary to restrict the consumption of gasoline or have rationing, and the necessary restriction can be brought about by a substantial increase in the tax on gasoline, then it would be prudent to increase the tax in preference to rationing.

B. Refining capacity

The refining industry is operating at near full capacity. Production of crude is ample to meet all present needs. The present bottleneck is in supplying high-test aviation gasoline. Additional facilities for the production of high-test gasoline are being constructed and a number of independent refiners on the Gulf Coast have adjusted their plants so as to supply the maximum volume of those blending agents necessary for the production of high-test gasoline. Therefore, it is believed that the bottleneck in the production of aviation gasoline will be broken in a short time. However, the attempt to greatly expand the production of synthetic rubber has a bearing on the problem because the production of synthetic rubber requires those crude base materials which are now sought for the production of high-octane aviation gasoline. In view of these circumstances, additional quantities of crude will be demanded, but there is no indication as yet that crude production and refining cannot cope with the situation.

C. Motor fuel production, stocks of gasoline, demand, retail distribution and prices, by months, 1940-41

The following table gives some pertinent data on the gasoline situation. The retail price of gasoline has advanced almost 2 cents per gallon during the past year. This is an unweighted average price in 50 cities and therefore should be considered with reservations. It does, however, indicate a general upward movement - a seller's market. Production of motor fuel was almost 10 million bafrels larger during October 1941 than for the same period in 1940. Domestic demand and stocks of finished gasoline were also larger in October 1941 than in 1940. These facts are an indication of the increased pressure upon the petroleum industry for more products.

Data on motor fuel production, stocks of gasoline, demand, retail distribution, and prices, by months 1940-1941

Month	Total production motor fuel 1/	Total stocks of finished gasoline (end of mo.) 1/	Domestic demand for motor fuel 1/	Retail distribution of motor fuel 2/ (millions of gals.)	Prices of gasoline (In cents per gallon) Wholesale refinery, Oklahoma 3/	Wholesale tank wagon, New York 3/	Average retail service station price in 50 cities 4/
	(In millions of barrels)						
1940							
October	52.9	73.3	53.8	2,191	.045	.122	.122
November	50.9	73.4	49.0	2,020	.045	.120	.121
December	52.5	77.9	46.4	1,947	.045	.123	.122
1941							
January	52.5	83.3	45.3	1,848	.044	.125	.122
February	48.3	88.6	42.0	1,732	.044	.127	.123
March	53.4	91.5	48.8	2,019	.045	.129	.124
April	53.7	88.4	55.2	2,220	.049	.135	.131
May	58.2	85.4	59.3	2,383	.053	.143	.137
June	56.9	82.4	58.4	2,327	.058	.149	.138
July	59.6	77.4	63.1	2,543	.060	.149	.139
August	60.7	73.1	62.9	2,584	.060	.149	.140
September	60.1	72.8	59.0	2,330	.060	.149	.140
October	62.2	74.7			.060	.149	.140
November					.060	.149	.141
December							

1/ Compiled by U. S. Department of Interior, Bureau of Mines.
2/ " " American Petroleum Institute.
3/ " " U. S. Department of Labor, Bureau of Labor Statistics.
4/ " " Oil & Gas Journal.

D. Impact of proposed increases in the Federal tax on gasoline

1. Proposal to increase tax by 1½ cents

To increase the present Federal tax on gasoline from 1½ cents per gallon to 3 cents would probably raise the price of gasoline by approximately the amount of the increase in the tax. Assuming that automobile users are able to get retreaded tires, it is doubtful if such an increase in the tax would restrict the demand for gasoline. If the use of automobiles is restricted to the most essential uses, the tax would not act as a deterrent to the use of automobiles for these essential purposes. Restricting the use of automobiles to the most essential uses probably would mean a curtailment of between 25 and 30 percent, and if this procedure is followed it will mean more than the 5 or 8 percent reduction in the demand for gasoline (previously referred to). This would not, however, be an effect of the tax but would be an important consideration from the viewpoint of raising revenue.

2. Proposal to increase tax by 2½ cents

The proposal to increase the present tax on gasoline of 1½ cents per gallon by 2½ cents per gallon, making a total Federal tax of 4 cents, would raise the price by about the amount of the tax and would perhaps restrict the consumption of gasoline. Apparently the elasticity of demand for gasoline is such that a large increase in the tax would restrict demand whereas a smaller increase would not. This, however, is assuming the same degree of elasticity of demand throughout the demand curve; and if transportation by auto is restricted to essential uses, the most elastic part of the demand curve is eliminated and the result would be practicslly no decrease in the demand for gasoline.

E. Proposal to place a differential tax of 2½ cents per gallon on high-test gasoline

To place a differential tax of 2½ cents per gallon on high-test gasoline is not feasible due to the difficulty of distinguishing grades and also because there is a general reduction now being made in the octane rating of gasoline sold to the general public. Furthermore, octane ratings are not reached by the same method by all refineries and a differential tax might result in discrimination as between refineries. The volume of premium grade gasoline

distributed in the United States totals only about 200,000 barrels annually. The 2½ cent tax on premium grade gasoline would therefore yield only a small amount in revenue.

F. Conclusions

In view of the preceding analysis of the gasoline situation, certain conclusions may be drawn with respect to taxes on gasoline.

The differential tax on high-test gasoline has little to offer and may be dismissed without further consideration.

It seems apparent that an increase in the tax by 1½ cents would not reduce the demand for gasoline. If the consumption of gasoline is greatly reduced because of transportation difficulties or because of rubber shortages, the 1½ cent increase would not appreciably add to the revenue now received from a 1½-cent tax. If the demand for gasoline is inelastic with an increase of 1½ cents in the tax, there would be no incentive for the general public to conserve rubber or transportation, simply because of the tax. Since it is necessary to conserve rubber and transportation during the war, it might be argued that the tax should be high enough to restrict consumption of gasoline. Furthermore, it might be said that if the tax were high enough to restrict consumption of gasoline it would be an alternative to possible rationing. Any increase in the tax will of course affect the costs of those who are large consumers of gasoline. A 1½-cent increase in the tax amounts to about 10.7 percent of the present average retail service station price. This percentage, however, is not deemed sufficient to cause serious maladjustment in the cost-price relationship of gasoline users. The basic points in favor of the 1½-cent increase seem to be (a) that it would raise additional revenue and (b) that it would not raise prices as much as a 2½-cent increase in the tax. The latter is of course a negative point.

It was previously stated that a 2½-cent increase in the tax might possibly affect price to the extent that demand for gasoline would be restricted. If only essential transportation is permitted, such an increase would not only maintain present revenue but add an additional sum which is needed to pay for the war. (See appendix for estimates of revenue.) On the other hand, an increase in the tax by 2½ cents constitutes about 18 percent of the present average retail service station price. Such an increase would adversely affect the cost-price structure of those consumers of gasoline which

cannot readily raise prices to the consumer. Bus lines and interstate truck lines would be an example. However, they could make adjustments in time, but during the period of the lag their profit margins would be reduced.

A further consideration is that if the 2½-cent tax raises appreciably the cost of essential transportation, it might reverberate throughout the economy by increasing the cost of living and bring about demands for increased wages and prices. Since agricultural prices are related to a parity base demands would likely come from agricultural groups to increase farm prices because the increase in the price of gasoline due to the tax would increase the index of prices paid by farmers. This, however, is not an argument against this specific tax increase, for the same demands would be made if the index of prices paid by farmers increased regardless of cause. If farm prices should increase because of the 2½-cent tax increase, it would be inflationary. On the other hand, the tax would absorb some purchasing power and this would tend to counteract the inflationary aspects of the tax.

If the Japanese take over all the oil supplies in the Western Pacific and force the United States to supply its armed forces (as well as the English, Dutch and Chinese forces) in the East with oil from Continental United States, there is a possibility that it would require all our petroleum production in order to satisfy the demand. At the present time the Office of the Petroleum Coordinator is launching a nation-wide program of oil conservation. 1/ As has been stated heretofore, the extent to which consumption of gasoline will be decreased by the rubber shortage is problematical. There is a possibility that the decrease will be drastic. On the other hand, the decrease may be nominal, at least for a year. The shortage of automobiles will probably not have an important bearing on the consumption of gasoline, at least for a year or two. Old cars will likely remain in efficient working order longer than they normally would because owners will take better care of them and because there is as yet no particular shortage of spare parts for making repairs.

Rationing of gasoline is, of course, a further possibility. If there should be rationing the argument for an increase of 2½ cents is weakened but not completely nullified. If there is to be rationing of gasoline in specific areas because of the shortages in

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1/ Journal of Commerce, February 10, 1942.

transportation, then the increase in the tax by 2½ cents is no alternative to rationing. On the other hand, if there is the possibility that gasoline may be rationed throughout the country, because of excessive war demands, then a case can be made for the 2½-cent tax increase, on the grounds that it is an alternative to rationing.

It is not exactly correct, however, to say that a 2½-cent increase in the tax would be an alternative to rationing because the elasticity of demand for gasoline is not definitely known. To say that an increase in the tax by 2½ cents is an alternative to rationing impliedly assumes that the 2½-cent increase in the tax will restrict the demand for gasoline by the same amount as would be necessary under a rationing plan. This may or may not be true. But it is believed that a substantial increase in the tax would decrease demand and therefore act as a substitute for rationing.

It has heretofore been stated that if the rubber shortage should make it necessary to restrict transportation to only essential forms, the demand for gasoline would be reduced by 25 to 35 percent. This would still leave a substantial base for taxation, and the 2½-cent tax would raise several added millions in revenue. (See appendix for estimates.)

It is possible, of course, to condemn the tax increase of 2½ cents on equity grounds. This argument, however, does not meet the issue at this time because the increase must be considered in the light of alternatives, and the alternatives may be general rationing of gasoline or a shortage for the armed forces. Even on equity grounds the tax increase might be chosen in preference to a rationing system, depending of course on the equitability of the rationing plan. Therefore, in view of the possibility that the Nation may be forced to conserve gasoline in order to conduct the war and in view of the further possibility that the rubber shortage and the curtailment of automobile production may not reduce demand for gasoline to the extent required, the safest policy to pursue would seem to be to increase the tax by 2½ cents per gallon.

Such an increase in the tax, however, would encroach upon a source of revenue whibh is very important to the States. To increase the Federal tax on gasoline might also encourage the States to increase their gasoline taxes. Such considerations are important counterweights against increasing the gasoline tax and certainly must be recognized, but States as well as individuals must shape

their fiscal policies in the light of the war. In all probability the Federal Government will make more and more grants to States. More and more services now performed by the States will likely be financed or taken over by the Federal Government. The financial policies of the Federal Government are more flexible and more susceptible to change than are those of the States. In view of these circumstances it seems that while the adverse effects upon the States of an increase of 2½ cents in the gasoline tax is certainly a valid argument against an increase, it is not of sufficient importance to offset the arguments for an increase, when one considers the critical situation that could ensue in the petroleum industry because of the war.

1. Proposed increase in tax of 1½ cents per gallon

a. Considerations for the tax

(1) Extracts income from a large segment of the population.

(2) Payment of tax has some relation to the benefits received if Federal Government continues grant for roads.

(3) Low cost of administration and collection.

(4) Raises a substantial amount of revenue.

(5) Probably will not appreciably restrict consumption because tax is imposed during a period when consumer incomes are increasing.

(6) Creates no serious maladjustments in the petroleum industry.

(7) Rationing of gasoline, shortages of rubber, and curtailment of automobile production may greatly reduce revenues from gasoline tax unless rates are increased.

(8) If transportation is restricted to essential uses, the demand for gasoline will become more inelastic and an increase in the tax would raise additional revenue without decreasing consumption of gasoline.

b. Considerations against the tax

(1) Tax is paid by consumers of gasoline and burden would not conform to concept of ability to pay.

(2) Demand is fairly inelastic (as shown by gasoline consumption during the depression) so consumers will have less to spend for other things, unless incomes are increased.

(3) Gasoline tax is a multiple tax. States and municipalities get a substantial amount of their revenue from gasoline taxes.

(4) Would probably raise the price of gasoline and if demand is restricted the result would be a burden on many retail outlets.

2. Proposal to place a differential tax of 2½ cents per gallon on high-test gasoline in addition to the present 1½-cent tax

a. Considerations for the tax

Might encourage conservation of high octane gasoline for the Army and Navy.

b. Considerations against the tax

(1) Would raise only a small amount of revenue.

(2) No definite yardstick by which high-test gasoline is distinguished from other kinds.

(3) Could possibly be a tax on efficient refining methods.

(4) Industry is already reducing the octane rating of gasoline sold to the public.

3. Proposal to increase tax by 2½ cents per gallon

a. Considerations for the tax

(1) Would raise a substantial sum in revenue.

(2) Would not increase present cost of collection.

(3) Would be paid by a large segment of the population.

(4) Would tend to conserve rubber and transportation by restricting demand for gasoline.

(5) An increase in the tax of less than 2½ cents probably would not reduce consumption and it may be necessary to conserve gasoline and petroleum products; therefore, the 2½-cent tax increase is necessary.

(6) If demand for gasoline is not reduced by other means, rationing may be necessary, thus the 2½-cent tax increase might be a substitute for rationing.

(7) Increase in tax would not hamper the war effort.

(8) If motor transportation is limited to essentials, there probably would be a reduction of 25 or 30 percent in demand for gasoline. Such a reduction would greatly reduce revenues if the rate were not increased. The demand, however, for gasoline necessary to maintain essential transportation services would be quite inelastic and an increase in the tax of 2½ cents would probably not decrease the demand for gasoline. Furthermore, those individuals or groups who continued to demand gasoline would in all probability have sufficient income to pay the increased tax without difficulty.

b. Considerations against the tax

(1) Possibly restrict consumption.

(2) Divert demand to other things which, if scarce, might encourage inflation.

(3) Possibly affect adversely the price and cost structure of users who cannot readily shift tax forward into price.

(4) Might create demands for increased wages and prices by wage-earners and farmers. Thus encourage inflation.

(5) Is an additional step in the multiple taxation of gasoline and would encroach upon an important source of State revenue.

(6) Might encourage States to increase their taxes on gasoline.

III. Fuel oil and kerosene

A. Fuel oil

1. Uses

Heavy fuel oil is used by railroads, public utility power plants, manufacturing plants, and as bunker oil for vessels. The light fuel oil is used mostly for heating purposes and as range oil for cooking and water heating. Distillate oil refers to the lighter fuel oil and residual oil to the more heavy grades.

Table I shows fuel oil sales by uses on a percentage basis for the year 1940.

2. Prices and stocks

Table II gives some relevant data on fuel oil prices and stocks. Stocks on the East Coast have continued to decline and there is a possibility that heavy fuel oil will be rationed unless more transportation facilities are made available. The price trend for fuel oil has been upward. The present tank-wagon price at New York is 7.2 cents per gallon for No. 2 oil. Refiners' price in New York harbor is 5.2 cents.

3. Impact of tax

A tax on fuel oil of 1 cent per gallon would in all probability raise the price by the amount of the tax. In general, the production of fuel oil is not a profitable operation for refiners. It is believed that the price quoted by Gulf Coast refiners for fuel oil is below the cost of production. Fuel oil being a joint product of petroleum refining has not contributed much, if any, to the profits of the refineries. To produce more fuel oil would require a substantial increase in the price; however, there is nothing in the tax of 1 cent per gallon that would cause an increase in the demand for fuel oil. In fact, the effect of the tax is likely to decrease the demand for fuel oil. Since there is, however, the possibility of rationing fuel oil in certain areas, the tax might be considered a good thing because it would tend to decrease demand and avoid rationing. However, this argument is weakened by the fact that the tax is nation-wide while rationing is expected only in certain areas.

Table I: Fuel oil sales by uses on a percentage basis, 1940

Railroads	13.7%
Vessels	15.0
Gas and electric power plants	6.6
Smelters, mines and manufacturing	14.8
Heating oils	32.2
Fuel oil (No. 1) sold as range oil	.8
U. S. Army, Navy, and Coast Guard	3.4
Oil company fuel	10.4
Miscellaneous	3.1
Total	100.0

Source: Compiled by U. S. Department of Interior, Bureau of Mines.

Table II; Data on fuel oil stocks, prices, and sales by uses

Week ended --	East Coast stocks (In thousands of barrels)	
	Distillates at refineries, bulk terminals, in transit and pipe lines	Residual fuel oil at refineries, bulk terminals, in transit and pipe lines
12/13/41	21,146	12,809
12/20/41	19,693	12,598
1/3/42	19,132	11,933
1/17/42	15,742	10,109

Source: Statistical Bulletin, American Petroleum Institute

Month - 1941	Price, fuel oil (Penn.) (Dollar per gallon)
January	$ .044
February	.044
March	.044
April	.045
May	.048
June	.053
July	.057
August	.058
September	.059
October	.058
November	.056

Source: Compiled by U. S. Department of Interior, Bureau of Mines.

Some manufacturing plants have shifted from coal as a source of power to fuel oil without a drastic change in equipment, and it is believed that some would shift back to coal if fuel oil were taxed. It is usually believed that from 3½ to 4 barrels of fuel oil will equal one short ton of coal. Thus a tax on fuel oil of 1 cent per gallon would mean an increase of 42 cents a barrel in the cost of fuel oil and for 4 barrels an increase of $1.68. 1/ Therefore, unless coal also advances in price, the tax on fuel oil would likely divert some demand to coal. On the basis of the New York tank wagon price of 7.2 cents per gallon, a tax of 1 cent per gallon would be, on an ad valorem basis, about 14 percent. This is a substantial percentage and it might be sufficient to induce many firms to shift to other sources of power. If many industrial plants shifted to coal it might have serious repercussions on the national defense program, as the expanding defense program of 1940 was reflected in increased demands for fuel oil by smelters, mines and manufacturing plants. 2/ There is the further possibility that if the tax diverted demand from fuel oil to coal it might create a complicated problem of transportation. It is entirely possible that there may be a shortage of cars for carrying coal and if this should occur it might have a more serious effect than the rationing of fuel oil would have, especially on our production effort.

It might be argued that a tax on fuel oil would encourage refineries to increase their yields of gasoline and more highly refined products. Such an argument is not convincing because refineries have concentrated their efforts on producing more gasoline and highly refined products. They make their profits from gasoline and the more highly refined products. Therefore, the tax would not be much of an inducement to extend output of those profitable products much beyond what they have been.

4. **Possible revenue**

It has been estimated that a tax of 1 cent per gallon on fuel oil would yield about $100 million in revenue. 3/

1/ U. S. Department of Interior, Bureau of Mines, Division of Petroleum Economics.
2/ Bureau of Mines.
3/ Estimated by Mr. Bogan, Bureau of Internal Revenue.

5. Conclusions

A tax of more than 1 cent per gallon would likely cause a large shift in the demand for fuel oil to coal. Also, during the period when the maximum industrial output is desired, it would not be wise to increase the tax such as to force industry to make wholesale shifts from fuel oil to coal, since such shifting requires some slowing up in production. For these reasons it is recommended that the tax be not more than 1 cent per gallon at the present. If other sources of revenue can be found, it would be more appropriate to exploit those sources before taxing fuel oil. One must also keep in mind that whatever action is taken with respect to taxes on fuel oil is dependent upon what is done with kerosene because these products are competitive.

a. Considerations for the proposed tax of 1 cent per gallon

(1) Might divert some demand to coal and therefore conserve petroleum; however, this is questionable.

(2) Possibly would encourage refineries to increase yields of more highly refined products, but not probable.

(3) Tax could easily be shifted forward in price of fuel oil.

(4) Would raise some additional revenue.

(5) Tax is on a commodity not previously burdened with taxes.

b. Considerations against the tax

(1) May possibly cause some maladjustments because of incentive to shift from fuel oil to coal as a source of power.

(2) Could possibly increase demands for electrical energy, the latter being scarce in some areas.

(3) Tax becomes an important item in the cost of fuel oil.

(4) Fuel oil may be rationed in certain areas and tax would become of less importance as a means of encouraging conservation of petroleum products and as a source of revenue.

(5) Possibility that tax would slow down production in plants that attempted to shift from fuel oil to coal.

(6) If there is a shortage of coal cars and many plants shifted to coal, the effect on industrial output would be serious.

(7) Tax would be a penalty on all users, when there are prospects of rationing only in two areas of the country.

(8) Not likely to conserve petroleum products.

(9) Probably would not encourage refiners to increase yields.

(10) Must also tax kerosene if fuel oil is taxed.

B. Kerosene

1. Uses

Sales of kerosene are principally for range oil (for cooking and water heating), tractor fuel, and, in some areas, for lighting.

2. Prices, stocks, production and consumption

The following table gives domestic consumption, production, stocks and prices of kerosene for 1940-1941, by months:

Month	Domestic consumption 1/	Production 1/	Stocks, refinery (end of mo.) 1/	Price 2/ wholesale, water white, 47° refinery (Penn.)
	(In thousands of barrels)			(Dollar per gal.)
1940				
October	5,608	6,496	11,000	.049
November	6,768	6,431	10,473	.050
December	7,808	6,894	9,512	.052
1941				
January	7,769	6,661	8,312	.053
February	6,484	5,888	7,634	.054
March	6,778	6,033	6,724	.054
April	5,549	6,068	7,063	.054
May	4,504	6,033	8,421	.054
June	3,918	5,218	9,609	.057
July	4,270	5,406	10,635	.059
August	4,449	5,850	11,636	.062
September	5,624	5,949	11,662	.063
October		6,355	11,670	.063
November				.064

1/ Compiled by U. S. Department of Interior, Bureau of Mines.
2/ Compiled by U. S. Department of Labor, Bureau of Labor Statistics.

Domestic sales of kerosene in 1941 were about 70 million barrels. Wholesale price of kerosene increased about 30 percent from October 1940 to October 1941. Stocks are even larger than a year ago. Production is ample to meet all requirements and there is no prospect of rationing in the near future. In recent years the consumption of kerosene has increased rather rapidly. Domestic consumption in 1940 was 14 percent over 1939, and 1941 sales were somewhat greater than in 1940.

3. Impact of the tax

A tax of 2 cents per gallon on kerosene would probably raise the price by about the amount of the tax. On January 20, kerosene tank-wagon prices ranged from a low of 7 cents a gallon in Dallas, Texas, to 16.5 cents in Boise, Idaho. The general average is about 10 cents per gallon. Thus a tax of 2 cents per gallon would mean an increase in the tank-wagon price of about 20 percent. The increase in price might induce some users of kerosene to shift to a lower grade of kerosene which, in fact, is fuel oil. Assuming a tax on fuel oil of 1 cent per gallon and a tax on kerosene of 2 cents per gallon, there would likely be some shifting of demand from kerosene to fuel oil. Another fact to be considered is that there is no sharp line of demarcation between kerosene and fuel oil. Light fuel oil or range oil is in fact kerosene. Thus, because of their competitive nature, whatever action is taken with respect to taxes on kerosene is dependent upon what is done with fuel oil. On the basis of the present wholesale refinery price, a 2-cent tax on kerosene would, on an ad valorem basis, be about 33 percent of the wholesale price. This is a substantial sum and probably would divert demand appreciably.

4. Possible opposition by agricultural groups and effect on cost of living

Any tax on kerosene is likely to meet with opposition from agricultural groups. The tax on kerosene of 2 cents per gallon could possibly create demands for higher prices of agricultural products which would increase the cost of living. Increases in the cost of living would likely result in demands for wage increases which would mean further increases in the cost of living. If this be true, then the tax would encourage inflation, rather than retard it.

5. Conclusions

On the basis of the above analysis, it is suggested that the tax on kerosene be no more than 1 cent per gallon. This would equalize

the tax as between fuel oil and kerosene and prevent shifting from one fuel to another. It is believed, however, that the 1-cent tax on kerosene should be levied only if other sources of revenue are exhausted. There is no problem of conservation connected with kerosene. There is a plentiful supply. Conservation, when applied to the petroleum industry, must be thought of in terms of all products and not just one or two. Kerosene and fuel oil are residuals of the refining process and if large quantities of aviation gasoline are required there will be residuals left which will need to be used and it would be of little value to attempt to conserve them.

A tax on kerosene would also fall heavily on the incomes of middle and lower income groups. A tax of 1 cent per gallon on kerosene would yield in 1942 about $28.5 million. Thus a tax on kerosene would not be a large producer of revenue.

a. Considerations for the proposed tax of 2 cents per gallon

(1) Could be shifted to consumers in higher prices.

(2) Would not be difficult to administer.

(3) Collection costs probably would not be high.

(4) Would reduce incomes of individuals who perhaps do not in general pay large sums in Federal taxes.

(5) It is not a multiple tax.

b. Considerations against the tax

(1) Would tend to raise price of kerosene.

(2) Would in general fall on lower income groups.

(3) Probably would divert demand from kerosene to fuel oil.

(4) Distinction between kerosene and fuel oil is not clear-cut.

(5) Tax would be a substantial percentage of the price of the product.

(6) Would not encourage conservation.

(7) Would be approximately 33 percent of present wholesale refinery price.

(8) Does not conform to ability to pay.

c. Opinion as to proper rate

It is recommended that the tax on kerosene should be no more than 1 cent per gallon, and this only in case other sources of revenue cannot be found.

Reasons: (1) Tax of more than 1 cent would shift demand to fuel oil unless tax on fuel oil is increased.

(2) A tax of 1 cent per gallon would be a large percentage of sale price.

(3) A tax of 1 cent per gallon would be a burden on consumers of kerosene.

(4) Would add only about $28.5 million to revenue in 1942.

(5) Would absorb some purchasing power which might otherwise be spent for scarce articles. Thus the tax would be deflationary to the extent that it diverted purchasing power.

(6) Tax might be so burdensome as to seriously reduce standard of living.

(7) Tax is not one of a multiple of taxes on kerosene.

(8) Would fall more heavily on the lower income groups.

IV. Lubricating oil

A. Data on production, consumption, stocks, and prices of lubricating oil for 1940-1941, by months

The following table gives some relevant data on lubricating oil.

Month	Domestic consumption 1/	Production 1/	Stocks, refinery (end of mo.) 1/	Wholesale price, cylinder, refinery (Penn.) 2/
	(In thousands of barrels)			(per gallon)
1940				
October	2,443	2,945	8,464	.090
November	2,449	3,021	8,365	.090
December	1,875	2,865	8,767	.090
1941				
January	2,367	2,943	8,809	.090
February	1,798	2,522	8,790	.094
March	2,263	2,813	8,637	.099
April	2,712	3,213	8,363	.100
May	2,732	3,322	7,835	.103
June	3,171	3,520	7,353	.123
July	3,074	3,563	7,107	.140
August	2,562	3,561	7,206	.143
September	2,638	3,427	7,415	.154
October		3,494	7,487	.160
November				.160

1/ Compiled by U. S. Department of Interior, Bureau of Mines.
2/ Compiled by U. S. Department of Labor, Bureau of Labor Statistics.

The wholesale price increased from .09 cents per gallon in November 1940 to .16 cents per gallon in 1941. Production in October 1941 was almost 20 percent above what it was a year ago. Even though stocks at refineries were lower in October 1941 than a year ago, there is no shortage in refining capacity. Domestic consumption has been high but refineries have been able to adjust their yields sufficiently to take care of the increased demand.

B. Transportation

Since the number of barrels of lubricating oil consumed is much less than that of gasoline, it is not likely that transportation difficulties will develop, such as is anticipated in the transportation of gasoline.

C. Effect of gasoline restrictions

Any restrictions on the use of gasoline, whether it be rationing, rubber shortage, or curtailment in the use of automobiles, will be reflected in the demand for lubricating oils. However, since more than 50 percent of the domestic demand for lubricating oil is by industrial users, 1/ a curtailment of automobile mileage would not decrease demand for lubricating oils as much as it would decrease demand for gasoline. On the other hand, it would decrease revenue more because less than 60 percent of the lubricating oil sold for industrial uses is taxable, while more than 90 percent of the amount sold for automotive uses is taxable.

D. Possible effects of tax proposal

The proposal to increase the present Federal tax on lubricating oil from 4½ cents per gallon to 10 cents, or an increase of 5½ cents, would increase the price to the consumer by about 1½ cents per quart. This would not deter the use of oil for essential purposes. It is possible that it would encourage some to use the cheaper grades, but this would leave more of the better grades for the Army and Navy. On the other hand, the tax would be a larger percentage of the price of the cheaper grades and it is possible that some users might shift to the better grades. The over-all effect would certainly not deter the use of lubricating oils to the extent that the general public would be burdened.

E. Revenue possibilities

The actual revenue raised from the tax on lubricating oil was $38.2 million in 1941. It is believed that a tax of 10 cents per gallon could be expected to yield about $92.9 million in 1943, after allowing for a general reduction in demand of 5 percent. If transportation is restricted to essential uses, which would mean a cut of between 25 and 30 percent in the demand for lubricants from cars, trucks, and buses, the expected revenue from a tax of 10 cents per gallon would be about $73 million in 1943.

1/ Minerals Yearbook, U. S. Department of Interior, Bureau of Mines.

F. Conclusions

1. Considerations for the tax increase of 4½ cents per gallon

a. Probably would not restrict demand so as to deter the use of oil for essential purposes.

b. Would perhaps encourage conservation of lubricants.

c. Increase in price to consumer would be so small that buyers would not be burdened.

d. Tax would fall on practically all segments of the economy.

e. Decrease in the demand for gasoline will also mean a decrease in the consumption of lubricating oil. Therefore, current revenues from present tax may decrease unless rate is increased.

f. If the war effort results in a restriction upon the use of automotive transportation to the extent that only essential facilities are used, the tax could be increased without decressing consumption.

2. Considerations against the tax increase of 4½ cents per gallon

a. Probably would increase price to consumer.

b. Shifting is uncertain as between the different grades of lubricants.

c. Would not raise a large amount of revenue.

d. Demand of gasoline and demand for lubricants are to some extent joint demands.

e. Burden might be greater on owner of second-hand or used equipment.

3. Opinion as to proper rate

A tax of 10 cents per gallon would seem appropriate.

Reasons: (1) Probably would not restrict demand sufficiently to discourage the use of oil for essential purposes.

(2) Would not increase appreciably price to consumer.

(3) Tax would fall on a large proportion of the population.

(4) Would probably encourage conservation of lubricants.

(5) Would raise an appreciable sum of revenue.

(6) If the demand for lubricating oil for automotive uses should decrease by 25 percent, the effect on revenue would be serious because even though about 50 percent of the demand for lubricating oil is for industrial uses, only about 60 percent of the industrial consumption is taxable while about 95 percent of the automotive consumption is taxable. Therefore, it may be argued that if a 25-percent decrease in automotive demand should occur the tax should be increased in order to sustain revenues and, furthermore, that the demand for lubricating oil would be very inelastic after such a decrease and able to bear a substantial increase in the tax without decreasing sales.

(7) Because of the necessity of keeping all essential forms of transportation in efficient working order and the need to promote industrial and agricultural output, it is believed that any greater increase in the tax would not be appropriate at this time. An increase in the tax of appreciably more than 5½ cents might react in such a way to interfere with the efficient use of transportation facilities and industrial equipment.

V. Oil pipe-line transportation

A. Pipe-line operating revenues and receipts of crude at refineries by method of transportation

By reference to the table which follows it can be seen that transportation of crude oil and refined products by pipe line has consistently increased for a number of years. Even though operating revenues of oil pipe lines have not increased as consistently as the volume of oil transported, they have not shown any appreciable tendency to decrease. Although operating revenues were lower in 1938-1939 than in 1937, it is no indication that the pipe lines were not making substantial earnings in those years. The decrease in revenue in those years is perhaps a reflection of rate reductions. The maintenance of stable revenues and the absence of failures in the industry indicate that the present 4½ percent tax on the amount paid for pipe line transportation has not been a burden upon the pipe-line companies.

B. Regulation of oil pipe lines

Interstate pipe lines are common carriers under the law and their rates are under the supervision of the Interstate Commerce Commission. Prior to 1934 no attempt was made by ICC to determine a reasonable rate. Proof that their rates were high is the enormous profits paid out as dividends by the pipe-line companies to their parent companies. Since 1934 the ICC has attempted to make a valuation of the pipe lines and determine what is a reasonable rate. In December 1940, the ICC issued a "show cause" order asking the pipe lines to give reasons why their rates should not be reduced to the extent that operating revenue would yield no more than an 8 percent return on the value of their property. The pipe lines asked for a rehearing and to date no final disposition has been made of the case.

In December 1941, the Department of Justice obtained a judgment under the Elkins Act against 20 major oil companies, 7 subsidiaries, and 52 pipe-line companies. The judgment, which was to begin January 1, 1942, limits the dividends which can be paid to a shipper-owner on the owners' share of the pipe-lines' common carrier property to 7 percent. Any excess earnings are retained in a special surplus account. This surplus account may be used to extend existing lines, construct new lines, retire outstanding debt or to supply a reasonable amount of working capital.

Pipe line transportation operating revenue, 1936-1940, by years

Year	Operating revenue (In millions of dollars)
1936	$219
1937	248
1938	228
1939	212
1940	226

Source: Statistics of Income, Interstate Commerce Commission.

Receipts of crude oil at refineries by method of transportation

(In millions of barrels)

Year	Pipe line	Boat	Tank car, truck
1937	846	280	37
1938	854	257	30
1939	902	261	40
1940	940	278	39

Source: Petroleum Facts and Figures, authority: Bureau of Mines, U. S. Department of Interior.

C. Pipe-line earnings and dividends

Unless the Interstate Commerce Commission reduces the rates which the pipe lines charge, there is every reason to believe that this surplus will become exceedingly large. It is a well known fact that the earnings of the pipe lines have been extraordinarily large in the past and unless some unforeseen contingency arises, it is reasonable to believe that they will continue to be large in the future. Some of the lines have earned as much as 50 percent on their net investment. The average return for the major trunk oil lines has been between 20 and 30 percent.

Not only have pipe line companies paid large dividends but these dividends have been used by the parent companies to offset losses in the marketing phases of the business. Independent companies have protested against this practice; they say that the large integrated companies in order to get the business take losses in marketing and make up the losses from profits in pipe line operations. Such a practice makes it difficult for the smaller companies to remain in business.

D. Tax proposal and its effect

The proposal was made that the present tax of 4½ percent of the amount paid be increased to 8 percent. However, in view of the profitableness of pipe lines and also in view of the fact that the ICC has made no final decision on the 8 percent return, it is believed that the tax on pipe-line transportation should be increased to 10 percent. The facts do not indicate that such a levy would be a burden. If eventually the ICC should decide on a maximum return of 8 percent, the rates of the pipe lines could be adjusted so as to take care of the additional tax.

A tax of 10 percent on the amount paid might mean that the integrated companies would make some adjustment in their operations as between different divisions. They possibly could not have losses in one division and hope to make up the losses from profits on pipe-line operations. The tax also might adjust the general level of competition so as to make the field more free and fair.

E. Revenue from the tax

The actual revenue received in 1941 from the present 4½ percent tax was $12.5 million. A tax of 10 percent on the amount paid for pipe-line transportation would yield roughly about $31.5 million in 1943.

F. Conclusions

As a measure of public policy it would be preferable to control the rates of the pipe lines rather than allow them to make monopolistic earnings, but if they are not to be regulated, the next best alternative is to tax as much of their excess earnings as possible, and a 10-percent tax is a substantial increase in the present rate of taxation.

1. Considerations for increasing the tax to 10 percent

a. Could not appreciably raise price of gasoline and petroleum products to consumers.

b. Will not likely cause shipments to be diverted to other forms of transportation.

c. Earnings of pipe lines have not been reduced by existing taxes.

d. Pipe lines are monopolies in their respective areas.

e. Pipe lines are common carriers but rates have not been regulated.

f. On the basis of past earnings, pipe lines pay for themselves in about five years.

g. Taxation of profits is an alternative to rate regulation.

2. Considerations against the tax increase

a. May cause some companies to readjust their operations as between different divisions where companies are integrated.

b. Some pipe lines which share a joint rate probably will raise the rates charged for transportation service.

c. Probably deter the building of new lines, but priorities will control this situation.

d. Regulation is a better solution to the problem than taxation.

RAP-DF
2/16/42

APPENDIX

Actual and estimated revenue from taxes on gasoline, lubricating oil, kerosene, fuel oil, and pipe-line transportation

I. Gasoline

A.	Actual revenue in 1941	$ 343 million
B.	Estimated in 1942 (official) with no rate change...	372.5 "
	Net over 1941	+ 29.5 "
C.	Estimated revenue in 1943 (official) with no rate change	385.4 "
	Net over 1941	+ 42.4 "
	Net over 1942	+ 12.9 "
D.	Estimated revenue in 1943 with no rate increase, assuming a 5-percent decrease in 1942 official estimate	353.0 "
	Net over 1941	+ 10.0 "
	Net over 1942 (official estimate)...	-19.5 "
	Net over 1943 (" ")...	-32.4 "
E.	Estimated revenue in 1943 with no rate increase, assuming a 25-percent decrease in 1942 official estimate	279.4 "
	Net over 1941	-63.6 "
	Net over 1942 (official estimate)...	-93.1 "
	Net over 1943 (" ")...	-106.0 "
F.	Estimated revenue in 1943 with rate increase of 1½ cents, assuming a 5-percent decrease in 1942 official estimate	706.0 "
	Net over 1941	+363.0 "
	Net over 1942 (official estimate)...	+333.5 "
	Net over 1943 (" ")...	+320.6 "

G. Estimated revenue in 1943 with rate increase of 1½ cents, assuming a 25-percent decrease in 1942 official estimate ..... $ 558 million

Net over 1941 ..... +215.0 "
Net over 1942 (official estimate)... +185.5 "
Net over 1943 (" ")... +172.6 "

H. Estimated revenue in 1943 with a rate increase of 2½ cents, assuming a 5-percent decrease in 1942 official estimate ..... 942.0 "

Net over 1941 ..... +599.0 "
Net over 1942 (official estimate)... +569.5 "
Net over 1943 (" ")... +556.6 "

I. Estimated revenue in 1943 with a rate increase of 2½ cents, assuming a 25 percent decrease in 1942 official estimate ..... 744.0 "

Net over 1941 ..... +401.0 "
Net over 1942 (official estimate) ... +371.5 "
Net over 1943 (official estimate) ... +358.6 "

II. Lubricating oil

A. Actual revenue in 1941 ..... 38.2 "

B. Estimated revenue in 1942 (official) with no rate change ..... 44.0 "

Net over 1941 ..... + 5.8 "

C. Estimated revenue in 1943 (official) with no rate change ..... 45.0 "

Net over 1941 ..... + 6.8 "
Net over 1942 (official estimate)... + 1.0 "

D. Estimated revenue in 1943 with no rate change, assuming a 5-percent decrease in 1942 official estimate ..... 41.8 "

Net over 1941 ..... + 3.6 "
Net over 1942 (official estimate)... - 2.2 "
Net over 1943 (" ")... - 3.2 "

E. Estimated revenue in 1943 with no rate change, assuming a 25-percent decrease in 1942 official estimate ..... $ 35.2 million

Net over 1941 ..... - 3.0 "
Net over 1942 (official estimate).... - 8.8 "
Net over 1943 (" ").... - 9.8 "

F. Estimated revenue in 1943 with a tax increase of 5½ cents, assuming a 5-percent decrease in 1942 official estimate ..... 92.9 "

Net over 1941 ..... + 54.7 "
Net over 1942 (official estimate).... + 48.9 "
Net over 1943 (" ").... + 47.9 "

G. Estimated revenue in 1943 with a tax increase of 5½ cents, assuming a 25-percent decrease in 1942 official estimate ..... 73.3 "

Net over 1941 ..... + 35.1 "
Net over 1942 (official estimate).... + 29.3 "
Net over 1943 (" ").... + 28.3 "

III. Pipe-line transportation

A. Actual revenue in 1941 ..... 12.5 "

B. Estimated revenue in 1942 (official) with no increase in rate ..... 13.9 "

C. Estimated revenue in 1943 (official) with no increase in rate ..... 14.2 "

D. Estimated revenue in 1943 with a rate increase of 3½ percent of amount paid (total 8 percent) used on official estimate for 1943 ..... 25.2 "

Net over 1941 ..... + 12.7 "
Net over 1942 (official estimate).... + 11.3 "
Net over 1943 (" ").... + 11.0 "

E. Estimated revenue in 1943 with a rate increase of 5½ percent of amount paid (total 10 percent) based on official estimate for 1943 ..... $ 31.5 million

Net over 1941 ..... +19.0 "
Net over 1942 (official estimate).... +17.6 "
Net over 1943 (" ")..... +17.3 "

F. Estimated revenue for 1943 with no increase in rate, assuming a 10-percent increase in 1943 official estimate ..... 15.6 "

Net over 1941 ..... + 3.1 "
Net over 1942 (official estimate).... + 1.7 "
Net over 1943 (" ")..... + 1.4 "

G. Estimated revenue for 1943 with an increase of 3½ percent of amount paid (total 8 percent), assuming a 10-percent increase in the 1943 official estimate ..... 27.7 "

Net over 1941 ..... +15.2 "
Net over 1942 (official estimate).... +13.8 "
Net over 1943 (" ")..... 13.5 "

H. Estimated revenue for 1943 with an increase of 5½ percent of the amount paid (total 10 percent), assuming an increase of 10 percent in the 1943 official estimate ..... 34.7 "

Net over 1941 ..... + 22.2 "
Net over 1942 (official estimate).... + 20.8 "
Net over 1943 (" ")..... + 20.5 "

IV. Fuel oil

A. Actual revenue in 1941 0

B. Estimated revenue in 1943 with a tax of 1 cent per gallon, after making allowance for tax exemptions, amount used by Army, Navy, and Coast Guard, and a 20-percent reduction in demand by mines, smelters, and manufacturing industries..... 100.0 million

Net over 1941 ..... 100.0 "

Appendix-5

V. Kerosene

A. Actual revenue in 1941	0	million
B. Estimated yield in 1943 with a tax of 1 cent per gallon (assuming no decrease in demand).....	$28.5	"
Net over 1941	28.5	"
C. Estimated yield in 1943 with a tax of 2 cents per gallon (assuming no decrease in demand).....	57.0	"
Net over 1941	57.0	"

Lee Campbell