PIRINC

Telephone: (212) 867-0052

Petroleum Industry Research Foundation, Inc.

122 EAST 42nd STREET

New York, N. Y. 10168

THE WINDFALL PROFIT TAX:

OBSOLETE AND

COUNTERPRODUCTIVE

May 1987

I. OVERVIEW

A. Introduction

There is currently a debate over maintaining or abolishing the Windfall Profit Tax (WPT) on U.S. crude oil production, an excise tax imposed by Congress in March 1980. President Carter, who had proposed the WPT, described it as "the largest tax ever levied on any industry in the history of the world," yet no payments have been due since the beginning of 1986 because oil prices since then have been consistently below the thresholds which activate the WPT.

However, the current debate is more than an academic exercise over whether to maintain an inactive special tax on the oil producing industry. The price of crude oil in the U.S. outside of Alaska, (the so-called "lower-48 region") has recently moved quite close to the $19/bbl base price in the Tier One category of the WPT. Any increase over this base price would reactivate the tax, requiring oil producers to pay 50%-70% of the increase to the government, making the latter the principal beneficiary of the increase. Currently, 2.0-2.5 million B/D, or about one third of lower-48 crude production, is in this Tier One category.

The Windfall Profit Tax, which despite its name is a function of price and not of the producer's profit or loss, had not lived up even before the price collapse of 1986 to the revenue projections calculated at the time of its passage. For the period 1980-85 the projection was for a gross tax collection of $170 billion. Actually only $78 billion were collected during this period.

The discrepency reflects the sharp contrast between the expectation and the reality of world oil prices in the post-1981 period. The expectation was that OPEC would be able to raise prices faster than the U.S. inflation rate throughout the 1980's. Part of the cartel-enforced price increase, it was argued, should go to the Treasury. The reality was that world oil prices peaked in 1981 and have declined in every year since. Not surprisingly, WPT collections followed the same pattern as the oil prices. So did U.S. oil and gas drilling activities which peaked in 1981 at an annual rate of nearly 4,000 active rigs, dropping to just under 2,000 by 1985 and to less than 1,000 in 1986. Given the observed close relationship between drilling activities and oil prices, it is reasonable to assume that any oil price increase at this time would bring about a growth in drilling activities. The question then is whether reactivation of the WPT would inhibit this growth and, if so, whether this would be counter to the public interest.

B. <u>The Debate</u>

The advocates for ending the WPT include the Administration, legislators from the oil producing states as well as some law makers, public opinion leaders and academics outside the "oil patch" or the oil business. Their principal arguments are as follows:

> -**What "windfall"?** World oil prices have fallen so low and the oil producing industry's economic state has been so bad for the past 18 months that there is no justification to continue singling this industry out for a special excise tax which was passed at a time when prices were substantially higher and were expected to keep rising in real terms.

-**Development drilling is vulnerable.** Development and extension wells drilled into Tier One property (where there was commercial production prior to 1979) will result in production subject to the WPT. Since development and extension wells lead to a larger share of U.S. reserve additions, overall, than wildcat exploratory wells, the U.S. cannot afford to impair the economics of development drilling.

-**The WPT's drain on cash flow will hamper exploration.** Since the low price environment has constrained the industry's access to capital, the need to finance exploration activity out of cash flow is critical. Taxing away up to 70% of incremental unit revenue, even if only applied to Tier One volumes, reduces the cash flow available for this purpose.

-**Only a price increase will brake the U.S. production decline.** In 1986, production decreased by about 700,000 B/D between the first and the fourth quarter. Price uncertainty and prices too low to justify drilling and support maintenance activities were generally the major factors. Thus, to stop or at least slow down the decline in oil production requires an increase in oil prices from the present level. Hence any reasonable price increase should not be largely offset by the WPT.

-**The accelerated production decline since 1986 is not in the national interest.** A recent study by the U.S. Department of Energy, whose findings were endorsed by the White House, pointed to the national security threat of the resulting inexorable increase in U.S. dependency on imported oil. The study found that if prices did not rise significantly and no other measures were taken, the decline in production would continue at an undesirable rate.

Of course, advocates for continuing the WPT have their own arguments which are summarized below, together with the relevant counter-arguments:

-**A deal's a deal.** A bargain was made in 1980 under which all price control on domestic oil would be removed in return for a WPT on the resulting price increase. There is no justification now to abrogate the side of this bargain which made decontrol politically acceptable at the time. (The counter-argument is that a law based on a specific set of circumstances and assumptions can and should be reviewed and altered when the circumstances have basically changed and the assumptions proven wrong.)

-**The threshold price for newly discovered oil is too high to affect exploration activities.** The world oil price will likely not exceed the Tier Three base -- now about $28.50 and scheduled to rise 2% faster than inflation -- before WPT enters its statutory phase-out period, January 1991 to September 1993. (The counter-argument: more oil is found through revisions and extensions than through new discoveries. Increases in development and extension drilling in response to a price rise will be inhibited if the WPT is reactivated for Tier One production.)

-**The Tier One threshold is above the cost of production.** With the lowest Tier's threshold at $19 and remaining constant in real terms, the cost of production on all flowing volumes is well below the level where the WPT could have an effect. (The counter-argument: True, flowing production would not be affected by the WPT. However flowing oil wells deplete naturally and must be continuously replaced by new development wells. The latter, as pointed out, would be affected by a tax on Tier One production.)

-**The budget deficit is too large to remove any potential source of revenue.** The budget deficit is an on-going burden to the economy. With few options for reducing it, discarding a revenue source already in place would be irresponsible. (The counter-argument: This is no justification for taxing one industry more than others when all initial reasons for this special treatment have ceased to exist.)

Whatever the validity of both sides' arguments and counter-arguments, one fact is indisputable: U.S. oil production dropped by some 700,000 B/D between the first and the fourth quarter of 1986 (more than 300,000 B/D on average from 1985 to 1986) and will drop another 300-350,000 B/D this year. These declines are due primarily to the very sharp drop in oil drilling activities which was the direct result of the price collapse. The number of active rotary rigs averaged 964 in 1986, and in the first quarter of 1987 has averaged about 800.

The production declines and prospects of continuing increases in import dependency, combined with the very low level of drilling activity and its drain on the upstream support

industry, have given rise to renewed concerns over the role of energy in national security. The recent Department of Energy report, Energy Security, has led the Administration to the conclusion that increased imports carry a security penalty. It follows then that domestic upstream activity should be aggressively pursued. But a tax policy specifically designed to blunt the incentive of an oil price increase by channelling a large part of it into the U.S. Treasury is in conflict with this conclusion. Removal of the WPT, furthermore, will not introduce a skew into investment decisions but rather will remove an impediment, allowing investment to move more freely than is now the case.

Another fact is that the proponents and supporters of the WPT in early 1980 did not believe that the price of oil could move like that of any other commodity, that is, fall as well as rise, collapse as well as soar. Now that this basic assumption underlying the WPT has proved to be incorrect, the need and justification for this unique form of taxation of a domestic natural resource should be re-examined in the light of the knowledge gained since 1980.

II. HISTORY, STRUCTURE AND RATES

The WPT was initially proposed by President Jimmy Carter in April 1979, as part of his phased crude oil decontrol program. Congress passed the tax in March 1980. Between April 1979 and March 1980, the price for imported crude oil delivered to U. S. refiners nearly doubled, rising from about $17.50 to about $33.50. These prices reflected the combination of temporary

supply shortages and OPEC's control of the market. Uncontrolled domestic crude oil prices, such as those for stripper well oil, rose even more rapidly. Oil company profits appeared particularly large at the time as well, since they were swollen with inventory gains. The high profits, however, did not continue, especially for integrated companies. The WPT, then, was passed against a backdrop of soaring prices and, it seemed, endless high profits. The WPT, however, does not address the issue of profit and loss in the calculation. The tax is solely an excise.

A. The Tiers and Tax Rates

The WPT divides oil production into three "Tiers," depending on the date of initial production and other specified characteristics. Tier One includes oil that was formerly under price control; its commercial production commenced prior to 1979. Tier Two includes stripper well oil and production from the Naval Petroleum Reserve. Tier Three includes oil discovered (or developed) after 1978, incremental tertiary volumes, and heavy oil. Each tier has a different tax rate and a different threshold price.

The law differentiates between integrated and non-integrated ("independent") producers; independents pay a lower rate on the first 1,000 barrels/day of their production. (See Tables I and II.)

Tier One oil taxed at 70% (integrated production and independent production over 1,000 B/D) constitutes the largest category of taxed oil.

TABLE I

TAX RATES UNDER THE WINDFALL PROFIT TAX

	Integrated Producer	Independent Producer
Tier One		
Oil from reservoirs discovered and developed before 1979	70.0%	50.0%
Tier Two		
Oil from stripper wells and the Naval Petroleum Reserve	60.0%	30.0%*
Tier Three		
Newly discovered oil--oil discovered and developed after 1978**	22.5%	22.5%
Incremental tertiary oil	30.0%	30.0%
Heavy oil	30.0%	30.0%

*Independent stripper well oil exempt beginning in 1983.
**Taxed at 30% from 1980 through 1981, 27.5% in 1982, 25% in 1983, and 22.5% beginning in 1984.

TABLE II

VOLUMES OF OIL SUBJECT TO THE WINDFALL PROFIT TAX, 1981 AND 1985

	1981		1985	
	Volume (MB/D)	%	Volume (MB/D)	%
Tier One (excl. Sadlerochit*)				
Taxed at 70%	3364	47.5	2487	44.6
Taxed at 50%	319	4.5	215	3.9
Tier One (Sadlerochit)				
Taxed at 70%	1290	18.2	259	4.6
Taxed at 50%	3	-	0	0
Tier Two				
Taxed at 60%	586	8.3	542	9.7
Taxed at 30%**	343	4.8	27	0.5
Tier Three				
Newly discovered	800	11.3	1173	21.0
Incremental tertiary	45	0.6	527	9.4
Heavy oil	327	4.6	348	6.2
Total	7077	100.0	5578	100.0

*Oil from the Sadlerchit reservoir in Alaska's Prudhoe Bay field is treated separately because of high transportation costs.
**Independent stripper oil exempt beginning in 1983.
Source: Internal Revenue Service. Volumes represent taxable oil only, as reported on tax returns specifying volumes.

The taxable "windfall profit" is the difference between a defined base price (see below) and the "removal price" (the producer's selling price). The taxable "windfall profit" is reduced by increases in state severance taxes due to the higher "windfall" prices. Hence, the taxable amount is equal to:

RP - (ABP + SST), where
RP is the removal price, read "selling price;"
ABP is the adjusted base price, read "threshold;"
SST is the state severance tax adjustment, the increase in severance taxes due to the higher price.

B. Base Prices

The base price (threshold) for Tier One was set by Congress as the property's "upper tier" price as of May 1979 under the price control system, reduced by $0.21/bbl. The nationwide average upper tier price was $13.02/barrel in May 1979; the average base price for Tier One under the WPT is thus $12.81. Base prices are adjusted for inflation (the GNP price deflator) in each quarter. The cumulative inflation adjustment since the inception of the tax has been nearly 50% (.4807) to the 2nd quarter 1987. The current average base price is $18.97.

The base price for Tier Two was set at $15.20, to be adjusted for quality and location based on the relationships prevailing, on a percentage basis, in December 1979. Escalated by the GNP price deflator, the 2nd quarter 1987 average Tier Two base price is $22.51/bbl.

The base price for Tier Three was set at $16.55, to approximate the free market domestic price in May 1979. It too is adjusted for quality and location based on December 1979 relationships. Since Tier Three includes newly discovered oil as

well as volumes which are expensive to produce, the base price escalates faster than inflation to lessen the tax's disincentive. Equal to the GNP price deflator plus 2% per year, the cumulative Tier Three inflation-plus adjustment has reached nearly 72% by the 2nd quarter 1987; the current average adjusted base price is thus $28.46.

As shown in Table III, average wellhead prices in the Lower-48 states fell below the average Tier Three threshold in mid-1985. There would not have been taxes due on most Tier Three volumes in 1986 even in the absence of the 1986 price collapse. In 1986, even the Tier One threshold--the May 1979 controlled price adjusted for inflation--was above the average wellhead price by as much as $6-7/bbl, or 50%.

C. Exempt Oil

Some categories of oil are statutorily exempt from the WPT: oil produced from economic interests held by state and local government, charities, Indian tribes and individuals, certain stripper well oil, certain Alaskan oil and certain royalty oil.

Stripper well oil produced by an independent is exempt, subject to several conditions. The most stringent of these is that the property cannot have been transferred from a non-independent owner after July 1981. (The President has suggested in his recent Message to Congress that this restriction be eliminated.) Hence, the volume data shown in Table II include a

TABLE III

WINDFALL PROFIT TAX ADJUSTED BASE PRICES AND AVERAGE WELLHEAD PRICES IN THE LOWER-48

($/bbl)

	Adjusted Base Prices			Wellhead
	Tier One	Tier Two	Tier Three	Lower-48
May 1979	12.81	15.20	16.55	NA
Average Annual*				
1980	13.51	16.03	17.68	22.68**
1981	14.72	17.46	19.64	33.71
1982	15.95	18.92	21.72	30.43
1983	16.76	19.88	23.27	28.00
Quarterly				
1984 1st Q	17.12	20.31	24.07	27.74
2nd Q	17.31	20.54	24.48	27.76
3rd Q	17.45	20.71	24.79	27.78
4th Q	17.60	20.88	25.12	27.09
1985 1st Q	17.76	21.08	25.48	25.58
2nd Q	17.90	21.23	25.80	25.80
3rd Q	18.14	21.52	26.29	25.63
4th Q	18.25	21.66	26.58	25.94
1986 1st Q	18.35	21.78	26.86	19.48
2nd Q	18.61	22.08	27.37	12.20
3rd Q	18.72	22.21	27.67	11.67
4th Q	18.80	22.31	27.93	12.77
1987 1st Q	18.93	22.47	28.27	NA
2nd Q	18.97	22.51	28.46	NA

*For adjusted base prices, annual figures are the arithmetic average of quarterly numbers, shown for illustration. Windfall profit taxes, however, are only based on quarterly calculations.
**Includes price controlled and decontrolled volumes.
Sources: Based on data from the Internal Revenue Service and U.S. Department of Energy.

small amount of stripper well oil taxed at the lower, independents', rate.

The exemption for Alaskan oil was aimed at high-cost, undeveloped production. North of the Arctic Circle, only Prudhoe Bay production from the Sadlerochit reservoir is subject to the tax. Volumes from the Kuparuk unit and from the Lisburne formation were specifically intended to be exempt. Certain volumes south of the Arctic Circle would also be exempt if they were discovered and produced. A significant but unsuccessful court challenge to the WPT was grounded in this geographical bias. The U.S. Supreme Court upheld the tax's constitutionality in a mid-1983 decision.

Also exempt are limited volumes of royalty oil: 2 B/D in 1985. The law had initially allowed royalty owners' a tax credit of $1,000 in 1980 and $2,500 in 1981. The Economic Recovery Tax Act of 1981 changed the provision to a volumetric exemption. The exemption is currently 3 B/D.

III. COLLECTIONS AND GOVERNMENT REVENUE

As noted earlier, annual collections under the WPT peaked in 1981, its first full calendar year, at $26 billion. In that year, the average tax per barrel was $9.07. In 1985, the calendar year collections were $5.6 billion, an average of $2.90/bbl. (See Tables IV and V.)

Revenues fell far short of expectations. At the time the tax was passed, revenue projections had been based on a price which would have risen 2% per year in real terms. Instead, the gradual erosion of the 1981 price peak resulted in a 4th

TABLE IV

CALENDAR YEAR TOTAL WPT TAX LIABILITY*

	Millions of dollars
1980 (Mar-Dec)	9925
1981	25944
1982	16754
1983	10668
1984	8871
1985	5595
Cumulative	77757

*Includes adjustments in each period for overpayments and errors in prior periods. Data do not reflect the reduction in government revenue from lower income taxes.

Source: Internal Revenue Service.

TABLE V

AVERAGE TAX LIABILITY, BY TIER, 1981 AND 1985

($/barrel)

	1981	1985
Tier One (ex Sadlerochit)		
Taxed at 70%	12.78	5.49
Taxed at 50%	9.28	3.84
Tier One (Sadlerochit)		
Taxed at 70%	5.13	.19
Taxed at 50%	8.86	.00
Tier Two		
Taxed at 60%	9.43	2.61
Taxed at 30%	4.87	2.03
Tier Three		
Newly discovered	4.18	.06
Incremental tertiary	3.69	.14
Heavy oil	2.59	.05
Total	9.07	2.90

Source: Internal Revenue Service.

quarter 1985 price which was about 5% lower in real terms than the early 1979 free market price had been. By end-'86, the wellhead price was about half of that early 1979 price.

The WPT is deductible against income for income tax purposes, substantially reducing the net effect of the tax on oil producers as well as on the Federal budget. As shown in Table VI, the net WPT was projected to amount to almost $100 billion in the fiscal years 1980-85, about 60% of gross collections. Instead, the net WPT was less than $40 billion. The WPT's 33-month phase-out was to have been triggered by net collections reaching $227 billion, a level that will not now be reached. Under the statutory alternative, the phase-out will begin in January 1991.

TABLE VI

PROJECTED AND ACTUAL NET BUDGET REVENUES UNDER THE WINDFALL PROFIT TAX, 1980-1985

(Billion dollars)

FY:	1980	1981	1982	1983	1984	1985	Cumulative
Projected*							
Gross WPT	5.2	21.0	32.3	35.1	37.4	39.5	170.5
Change in Income Tax	-2.0	-7.5	-12.7	-15.2	-16.3	-17.3	-71.0
Net WPT	3.2	13.4	19.5	20.0	21.1	22.2	99.5
Actual							
Gross WPT**	6.4	21.4	17.1	10.7	8.0	5.7	69.4
Change in Income Tax	-2.4	-8.5	-7.9	-5.1	-3.6	-2.6	-29.9
Net WPT	4.1	12.9	9.2	5.7	4.4	3.1	39.4

Note: Figures may not add due to rounding.

* Projected by the Conference Committee on H.R. 3919, Crude Oil Windfall Profit Tax Act of 1980, March 1980.

** Excludes receipts from Federal interests and refunds/credits from overpayments.

Source for actual data: U.S. Department of the Treasury.

IV. THE TAX'S EFFECT

As shown above, the WPT on Tier One oil will take up to 70% of any price increase. The argument goes--incorrectly, as pointed out earlier--that the WPT will not impair drilling activity, because the threshold for newly discovered (Tier Three) oil is about $10/barrel above prevailing prices. The argument ignores development drilling.

Development drilling accounts for more than 80% of all wells drilled in the U.S., and for more than 90% of the productive wells (those that find oil or gas). Development wells by definition pierce a productive reservoir. Development drilling can lead to substantial revisions in previous estimates of proven reserves (and have), but the drilling is focussed on additional production, not reserves. The WPT, taking up to 70% of incremental revenue, will clearly hamper the economics of drilling in any Tier One property. Since development drilling in older fields would have been the first to begin again, the tax will limit the relief which the drilling sector will get from rising prices. Production will be dampened in turn by the lack of development drilling.

The argument also ignores extension, or step-out, wells. These exploratory wells are drilled just beyond the known boundary of a proved reservoir. Since the WPT is calculated on a property-by-property basis, these, too, may result in Tier One production, depending on the vintage of the proved reservoir.

Over the period 1979-85, the combination of revisions, improved recovery, and extensions accounted for almost 90% of the

additions to proved crude oil reserves in the U.S.* Put another way, drilling in older reservoirs was by far more important to the U.S. reserve position than new discoveries. Thus it is a fallacy that at existing and foreseeable prices drilling activity leads only to production unaffected by the tax, or that the vulnerable drilling activity is unimportant because it is not the risky new field wildcat.

The WPT, as noted earlier, also limits the cash available for exploratory activity. The industry has traditionally re-invested the vast majority of its upstream cash flow in exploratory and production activity. In the period 1981-85, according to an Arthur Andersen & Co. compilation of information from 375 publicly traded companies, the petroleum industry plowed 70% of its production revenue back into upstream activity. The smaller "independent" companies in the sample, furthermore, financed drilling with debt, so expenditures exceeded production revenue. The price declines were particularly difficult for these companies, as interest and principal payments remained unchanged while unit revenues plummeted.

Payments under the WPT will inhibit actual investments in exploratory and development activity because companies do not have cash and will keep straitened companies weak while they struggle to pay down debt. Outside financing, in contrast to the early 1980's, will be largely unavailable, as a consequence of changes in the income tax laws and the new fundamentals of exploration economics. Furthermore, investors are concerned that

*Some improved recovery may qualify as Tier Three production under the WPT (tertiary recovery techniques).

the tax will not follow its statutory phase-out because rising prices in the 1990's will prove too much of a temptation for Congress, which will extend the date of expiration. At the margin, this concern is one more risk, an additional deterrent for companies investing now in projects with the 6- to 7-year lead time common for exploration projects.