

# OIL PRODUCTION TAX IN ALASKA: AN EVOLUTION AWAY FROM A “TRUE” PRODUCTION TAX

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## ABSTRACT

*Alaska has long relied on taxing petroleum extraction as a key source of funding for the State. The oil production tax has changed dramatically since the first barrels of oil were taken from Alaskan land. Most noticeably, the production tax has adjusted its progressivity element and has moved from a gross tax to a net tax. This Note provides a historical reference to Alaska’s oil production taxation scheme in an effort to address whether it is a “true” production tax. Asserting that Alaska has departed from a “true” production tax scheme insofar as it more resembles an income tax, this Note assesses whether the State should return to a “true” production tax.*

## INTRODUCTION

In 2013, the Alaska state legislature passed Senate Bill 21 (commonly known as the More Alaska Production Act, or MAPA), which significantly overhauled the state’s oil taxation scheme. Alaskans opposed to the bill viewed MAPA as a victory for the oil production companies, and quickly mobilized to gather enough signatures to put the repeal of the bill to a public vote.<sup>1</sup> Although the repeal effort ultimately failed,<sup>2</sup> it brought the merits of the oil production taxation scheme to the forefront of the Alaskan civic discourse.

MAPA, however, was not the first major Alaskan oil production tax overhaul in recent history. The Alaskan legislature previously enacted the Alaska’s Clear and Equitable Share (2007–2013) (ACES) and the Petroleum Profits Tax (2006–2007) (PPT), both of which, like MAPA,

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1. Richard Mauer, *Revenue Forecasts: ‘Facts’ Used in Oil Tax Debate May Not Be*, ALASKA DISPATCH NEWS (Aug. 4, 2014), <https://www.adn.com/economy/article/revenue-forecasts-facts-used-referendum-debate-may-not-be/2014/08/05/>.

2. *Repeal Fails, Tax Reform Upheld*, ALASKA J. OF COM. (Aug. 21, 2014), <http://www.alaskajournal.com/business-and-finance/2014-08-21/repeal-fails-tax-reform-upheld#.Wbh-wtOGP-Y>.

intended to fix inadequacies in the previous tax scheme. These laws, however, quickly proved to be inadequate themselves. This Note will consider the evolution of the Alaskan oil production tax. Specifically, this Note considers the evolving structure of the production tax—primarily concerning the progressive rate additions and the move from a gross production tax to a net production tax. Ultimately, this Note concludes that Alaska’s oil production tax is no longer a “true” production tax—instead, it now resembles an income tax.

Recently, Alaska’s state budget crisis has renewed debate on the merits of the current oil production tax scheme. With no state personal income tax and no state sales tax, Alaska is one of the least taxed states in the country.<sup>3</sup> This is largely due to the state government’s ability to rely on taxing oil producers for the extraction of Alaska’s abundant oil resources.<sup>4</sup> Unique to the state, taxes on oil and gas have regularly made up around 90% of the state government’s non-federal revenues.<sup>5</sup> And, not only have Alaskans paid little tax to the State, but “[o]il money [has been] so plentiful that residents receive[] annual dividend checks from a state savings fund that could total more than \$8000 for a family of four—arriving each autumn, as predictable as the first snowfall.”<sup>6</sup> In recent years though, the price of oil has dropped precipitously, leaving the State in severe need of more revenue.<sup>7</sup> Consequently, the State cut general fund spending by around 40% between 2014 and 2017, from over \$7 billion to approximately \$4 billion.<sup>8</sup> Because oil has long been the main source of revenue for the State, many policymakers see reforms to MAPA as a solution to the budget crisis.<sup>9</sup>

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3. Nathaniel Herz, *Alaska House Votes to Levy Income Tax, Sending Bill to a Hostile Senate*, ALASKA DISPATCH NEWS (Apr. 15, 2017), <https://www.adn.com/politics/alaska-legislature/2017/04/15/alaska-house-votes-to-levy-statewide-income-tax-sending-measure-to-a-hostile-senate/>.

4. *Id.*

5. *State Revenue*, ALASKA OIL AND GAS ASS’N, <http://www.aoga.org/facts-and-figures/state-revenue> (last visited Oct. 29, 2017) (“In the state’s 2013 fiscal year, oil and gas revenues represented 92% of Alaska’s unrestricted revenue.”).

6. Kirk Johnson, *As Oil Money Melts, Alaska Mulls First Income Tax in 35 Years*, N.Y. TIMES (Dec. 25, 2015), [https://www.nytimes.com/2015/12/26/us/as-oil-money-melts-alaska-mulls-first-income-tax-in-35-years.html?\\_r=0](https://www.nytimes.com/2015/12/26/us/as-oil-money-melts-alaska-mulls-first-income-tax-in-35-years.html?_r=0).

7. *Steadily Falling Oil Prices Exacerbate State Budget Deficit*, ALASKA J. OF COM. (Aug. 26, 2015), [http://www.alaskajournal.com/business-and-finance/2015-08-26/steadily-falling-oil-prices-exacerbate-state-budget-deficit#.Wbh\\_bdOGP-Y](http://www.alaskajournal.com/business-and-finance/2015-08-26/steadily-falling-oil-prices-exacerbate-state-budget-deficit#.Wbh_bdOGP-Y).

8. Les Gara, *Here’s Some Real Math to Ponder in Alaska Budget Debate*, ALASKA DISPATCH NEWS (Feb. 16, 2017), <https://www.adn.com/opinions/2017/02/16/heres-some-real-math-to-ponder-in-alaska-budget-debate/>.

9. See Rachel Waldholz, *Budget Deal is Done, But Oil Tax Reform Remains Elusive*, ALASKA PUB. MEDIA (June 1, 2016), <http://www.alaskapublic.org/2016/06/01/with-budget-deal-done-oil-tax-reform-remains-elusive/> (discussing lawmakers’ expectation of passing “some new version of the oil tax

However, before changing the oil tax scheme again, it is worth exploring how Alaska's oil production tax evolved into MAPA. Principally, this Note highlights two tensions that become apparent as the production tax has evolved. First is the tension between ensuring revenue for the State while also providing a sufficient amount of profit for the oil industry to incentivize sustainable investment and production. A second tension is that between principles associated with a production tax and principles associated with an income tax.

Part I of this Note divides the history of oil production taxes in Alaska into five periods and examines the legislative histories behind each. Part II discusses the different types of production taxes and then synthesizes the evolution of Alaska's oil production tax, specifically its consistency with a "true" production tax. Part III considers whether Alaska should move back to a "true" production tax. Finally, this Note concludes that Alaska's current oil taxation scheme resembles an income tax more than a "true" production tax.

## I. HISTORICAL EVOLUTION: THE FIVE ERAS

### A. Pre-ELF Era (1955 to 1977)

Oil claims in Alaska date back to the 1890s on the Iniskin Peninsula.<sup>10</sup> By 1911, the first wells in the territory began to yield substantial amounts of oil.<sup>11</sup> While petroleum production looked promising, the high costs of transportation and operation in Alaska hindered production.<sup>12</sup> The federal government helped develop the industry by passing the Mineral Leasing Act, which resulted in the issuance of around 400 exploration permits in the territory.<sup>13</sup> Nevertheless, none of these permits were

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reform bill soon" to solve budget crisis).

10. *Oil Discovery and Development in Alaska*, ALASKA HUMANITIES FORUM, <http://www.akhistorycourse.org/modern-alaska/oil-discovery-and-development-in-alaska> (last visited Sept. 28, 2017) ("In 1898 the first Alaska wells were drilled there, striking small amounts of oil, but also striking seawater. The oil flows were not enough to support the production of oil.").

11. *Id.* ("Alaska's first productive oil drilling operation was at Katalla, on the Gulf of Alaska, south of the Copper River delta.").

12. *Id.*

13. *Id.*; see also Mineral Leasing Act, ch. 85, 41 Stat. 437 (1920) (codified as amended at 30 U.S.C. § 181 (2012)).

profitable, given the low oil prices and high production costs at that time.<sup>14</sup> Oil production continued to develop slowly over the next thirty years.<sup>15</sup>

Despite slow development in production, increased interest in oil led the territorial government to explore legislation for both the regulation and taxation of oil.<sup>16</sup> After the 1955 legislative session ended without a general appropriation bill, the territorial governor called the legislature back into an extraordinary session.<sup>17</sup> Possibly based on Oklahoma's production tax, the legislature passed House Bill 7, which taxed oil production at 1% of the gross value of production—the value of the resource not factoring in operating costs (labor and capital expenditures).<sup>18</sup>

In the 1960s, major oil discoveries in Cook Inlet produced over \$200 million worth of oil and gas.<sup>19</sup> As a consequence of the production and conservation tax schemes in place at the time, this production provided the State with around \$2,044,000 in total revenues.<sup>20</sup>

This original 1% of gross value production tax remained unchanged until 1967.<sup>21</sup> That year, a flood devastated Fairbanks, and the legislature appropriated relief to the victims and the city.<sup>22</sup> So began Alaska's history of funding a wide range of state expenditures through oil revenue, as the legislature added an additional 1% "emergency" production tax to the already existing "general" tax of 1% of gross value.<sup>23</sup> In 1968, the legislature increased the "general" oil production tax by an additional 2%.<sup>24</sup>

New oil discoveries toward the end of the 1960s completely changed the trajectory of oil in Alaska. In addition to the dramatic increase in production and profitability in Cook Inlet, the Prudhoe Bay oil field was

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14. See *Oil Discovery and Development in Alaska*, *supra* note 10 (noting that recent oil findings in Oklahoma and Texas saturated the market and decreased the price of oil).

15. See *id.* (detailing the development of oil in Alaska).

16. See Thomas K. Williams, *State Taxation*, in *ROCKY MTN. MIN. L. INST.* 12 (1978) (discussing how 272 oil and gas leases issued by the Bureau of Land Management led lawmakers to enact legislation "[i]n hopeful anticipation of commercial discoveries").

17. *Id.*

18. *Id.*

19. *Id.*

20. *Id.*

21. *Id.*

22. *Id.*

23. *Id.*

24. *Id.*

discovered in 1968.<sup>25</sup> Prudhoe Bay currently ranks in the world's top twenty largest oil fields and is the largest oil field ever discovered in North America.<sup>26</sup> A 2009 legislative review celebrating the fiftieth anniversary of statehood noted the importance of this time period and concluded:

The discovery at Prudhoe Bay and subsequent discoveries at other Alaska oilfields . . . created jobs for thousands of Alaskans and provided funding for many of Alaska's programs, developments, and services. Many consider oil to be not only one of the most important discoveries in Alaska history, but one of the most important in the history of the United States.<sup>27</sup>

Amid the spectacle of this grand discovery, state legislators began to realize the true magnitude of Alaskan oil and, more importantly, the potential windfall for Alaska.<sup>28</sup> In 1969, House Bill 75 was introduced in the legislature "as a comprehensive approach to oil . . . taxation."<sup>29</sup> The bill was a dramatic shift from the initial percentage of gross revenue regime insofar as it implemented a progressive rate structure based on average daily production per well.<sup>30</sup> The new regime, passed in 1970, taxed 3% on the first 300 barrels per day, 5% on the next 700 barrels per day, 6% on the next 1500 barrels per day, and 8% on production over 2500 barrels per day.<sup>31</sup> The tax applied to the gross value—the market price minus transportation costs (marine shipping and Trans-Alaska Pipeline System tariff), but not operating costs like labor and capital—of individual wells.<sup>32</sup> For example, if the market price of oil were \$50 per

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25. AOGCC Pool Statistics: Prudhoe Bay Unit, ALASKA OIL & GAS CONSERVATION COMM'N, [http://doa.alaska.gov/ogc/annual/current/18\\_oil\\_pools/prudhoe%20bay%20%20oil/prudhoe%20bay,%20prudhoe%20bay/1\\_oil\\_1.htm](http://doa.alaska.gov/ogc/annual/current/18_oil_pools/prudhoe%20bay%20%20oil/prudhoe%20bay,%20prudhoe%20bay/1_oil_1.htm) (last visited Sept. 6, 2017).

26. *Id.*

27. THE ALASKA LEGISLATURE CELEBRATES FIFTY YEARS OF SHAPING THE LAST FRONTIER 2-3 (2009) [hereinafter THE ALASKA LEGISLATURE CELEBRATES FIFTY YEARS], <http://w3.legis.state.ak.us/docs/pdf/LIO50th.pdf>.

28. Williams, *supra* note 16.

29. *Id.*

30. See *Oil & Gas Production Tax Historical Overview*, ALASKA DEP'T OF REVENUE, <http://tax.alaska.gov/programs/programs/reports/Historical.aspx?60650> (last visited Oct. 29, 2017).

31. *Id.*

32. *The History of Oil Taxes in Alaska*, ALASKA H. RES. STANDING COMM. MINUTES, 27th Leg. (Feb. 9, 2011) [hereinafter *Marks Statement*] (statement of Roger Marks, Economist, Logsdon & Associates, Consultant to Legislative Budget and Audit Committee at 1:16:27 PM); Roger Marks, *History of Alaska's Oil & Gas Production (Severance) Tax*, HOUSE RES., at 7 (Feb. 9, 2011), <http://www.aoga.org/wp-content/uploads/2011/02/History-of-Alaskas-Oil-Gas-Production-Tax-Roger-Marks-2.9.2011.pdf>. Marks used and referenced these slides throughout his presentation.

barrel while marine shipping cost \$3 per barrel and the Trans-Alaska Pipeline tariff cost an additional \$6 dollars per barrel, gross value would be \$41 per barrel: market price (\$50) less marine shipping (\$3) and the tariff (\$6). In this case, the first 300 barrels per day, which would be taxable at a 3% rate, would yield \$1.23 in taxes per barrel. The next 700 barrels, taxed at 5%, would yield \$2.05 in taxes per barrel, and the next 1500 barrels, taxed at 6%, would yield \$2.46 in taxes per barrel, and so on. Thus, a company that produced 2000 barrels in a day would be taxed \$4264 for that day's production.

Over the next seven years, the legislature twice amended the production tax scheme to (1) "establish[] a minimum oil production tax based on cents per barrel," and (2) "revise[] the stair step rate schedule to lower production levels."<sup>33</sup> Nevertheless, the basic "stair step" production tax model was not changed until the passage of the next production tax scheme—the Economic Limit Factor (ELF).<sup>34</sup>

Two important developments occurred in the years immediately prior to ELF. The first was the construction of the Trans-Alaska Pipeline System (TAPS), which connected the Prudhoe Bay oil field in the north to the city of Valdez in the southern part of the state.<sup>35</sup> After vigorous debate in both the state and federal governments,<sup>36</sup> construction of TAPS began in 1975, and the 800-mile pipeline was completed just two years later.<sup>37</sup> TAPS has been described by the Alaskan legislature as "perhaps the most significant development in Alaska history. . . . Before the first barrel of oil passed through the pipeline, Alaska was already reaping the economic benefits of its construction, due to the influx of people and the number of jobs created."<sup>38</sup>

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33. *Oil & Gas Production Tax Historical Overview*, *supra* note 30.

34. See DAN DICKINSON, COMMONWEALTH N. BD. OF DIRS., REFORMING ALASKA'S PRODUCTION TAX: ELF, PPT, ACES, CIRA, AND BEYOND 15 (Nov. 23, 2010), <http://www.aoga.org/wp-content/uploads/2011/02/Reforming-Alaskas-Production-Tax-Dan-Dickinson-112319.pdf> (explaining how the "stair step" production tax changed in 1977).

35. *Trans-Alaska Pipeline History*, AM. OIL & GAS HISTORICAL SOC'Y, <http://aoghs.org/transportation/trans-alaska-pipeline/> (last visited Oct. 29, 2017).

36. See generally Andrew Simon, *The Trans Alaska Pipeline: A Struggle for Balance*, [http://www.washingtonhistory.org/files/library/history-day-sample\\_004.pdf](http://www.washingtonhistory.org/files/library/history-day-sample_004.pdf) (last visited Oct. 3, 2017) (chronicling the creation of the pipeline).

37. *Trans-Alaska Pipeline History*, *supra* note 35.

38. THE ALASKA LEGISLATURE CELEBRATES FIFTY YEARS, *supra* note 27, at 5-6.

The second major development prior to ELF was voter approval of the constitutional amendment creating the Alaska Permanent Fund. The Permanent Fund dedicates 25% of the State's oil revenue to a fund.<sup>39</sup> The Alaska Permanent Fund Corporation then invests that money within the Permanent Fund,<sup>40</sup> from which a portion of the interest earned is distributed to Alaskans in the form of a dividend.<sup>41</sup> As of early 2017, the Permanent Fund's principal was over \$58 billion and the dividend each Alaskan received was \$2072 and \$1022 in years 2015 and 2016, respectively.<sup>42</sup> These two developments in the 1970s—TAPS and the Permanent Fund—indicated both Alaska's willingness to invest in oil and the State's intention to use oil revenue as a main financier of the state.

### B. ELF (1977 to 1989)

In 1976, the Alaska Department of Revenue conducted a study to evaluate the existing oil tax structure.<sup>43</sup> Specifically, the government wanted to know whether the existing production tax, which did not incorporate any operating costs into its formula, resulted in needless production shutdown.<sup>44</sup> In other words, was the simple "off the top" production tax causing producers to shut down wells when they were operating near the economic limit—the point where barrels produced only cover the operating costs of the well?

The study concluded that producers were indeed shutting down wells because of the production tax.<sup>45</sup> The Department of Revenue therefore suggested factoring the current economic condition of the producing property into the production tax structure.<sup>46</sup> Dan Dickinson, the Director of Tax for the Alaska Department of Revenue, later reiterated this sentiment, saying that a tax "should never be a thing that caused a field to shut (down) . . . the production tax shouldn't be the thing that makes (the oil field) not be able to cover its costs."<sup>47</sup>

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39. *Frequently Asked Questions*, ALASKA PERMANENT FUND CORP., <http://www.apfc.org/home/Content/aboutFund/fundFAQ.cfm> (last visited Oct. 3, 2017).

40. For details on the investments, see *Asset Allocation*, ALASKA PERMANENT FUND CORP., <http://www.apfc.org/home/Content/home/index.cfm> (last visited Oct. 3, 2017).

41. *Frequently Asked Questions*, *supra* note 39.

42. Kate McFarland, *Amount of 2016 Permanent Fund Dividend to be \$1022*, BASIC INCOME EARTH NETWORK (Sept. 29, 2016), <http://basicincome.org/news/2016/09/alaska-us-amount-2016-permanent-fund-dividend-1022/>.

43. Williams, *supra* note 16.

44. *Id.*

45. *Id.*

46. *Id.*

47. Melissa Griffiths, *The History of Oil Wealth*, JUNEAU EMPIRE (Aug. 15, 2014),

Shortly after the study was released, Governor Jay Hammond introduced a bill during the 1977 legislative session that proposed reducing the tax rate to zero as the value of oil approached the economic limit.<sup>48</sup> After an “intense and difficult process of negotiation and debate,” the Alaska legislature passed a bill that incorporated the principles of the economic limit of production.<sup>49</sup> The previous “stair step” production tax was repealed and replaced by the Economic Limit Factor (ELF).<sup>50</sup> ELF aimed to avoid taxing the barrels of oil generating the revenue that covered the producer’s operating costs of the well.<sup>51</sup> As originally proposed, the bill would have considered the price of oil in a month to determine the number of barrels needed to cover the operating costs for each well that month.<sup>52</sup> The final bill, however, set a specific economic limit, allowing each well to produce 300 tax-free barrels each day to cover the operating costs.<sup>53</sup>

To account for lost revenue from the 300 tax-free barrels, ELF adjusted the nominal tax rate using a multiplier (hereinafter, “ELF fraction”) based on production. The taxpayer’s production would cause the multiplier to fall between zero and one, a number which would subsequently be multiplied against the nominal tax rate of 12.25% of gross value.<sup>54</sup> Therefore, an ELF fraction of zero (producing 300 barrels or less per day) would equate to a 0% tax and an ELF fraction nearing one would be taxed near 12.25%. Ultimately, oil wells with higher productivity would be taxed closer to the nominal tax rate and wells with lower productivity would be taxed closer to zero.<sup>55</sup> In 1981, the nominal tax rate of 12.25% increased to 15%, and the legislature instituted the “rounding rule” which rounded any ELF greater than 0.7 to 1.0 for that field’s first ten years.<sup>56</sup> For example, if before the “rounding rule” a well averaged 1000 barrels a day, the ELF fraction would be 0.7. The ELF fraction would be applied to 12.25% (12.25% multiplied by 0.7). Thus, each barrel would be taxed at 8.575% of gross value.

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<http://juneauempire.com/state/2014-08-15/history-oil-wealth> (alterations in the original).

48. Williams, *supra* note 16.

49. *Id.*

50. DICKINSON, *supra* note 34, at 15.

51. Williams, *supra* note 16.

52. Marks Statement, *supra* note 32, at 1:16:27 PM.

53. *Id.*

54. Marks, *supra* note 32, at 15.

55. Griffiths, *supra* note 47.

56. Marks Statement, *supra* note 32, at 1:26:35 PM.



However, several problems plagued the ELF production tax scheme. First, the decision to set the number of tax-free barrels at 300 was arbitrary.<sup>57</sup> As the price of oil increased, fewer barrels were needed to cover operating costs.<sup>58</sup> Furthermore, within the normal price fluctuation of oil, 300 barrels was at the high end of the number of barrels needed to cover operating costs.<sup>59</sup>

Second, as new wells were drilled in an oil field, the average well productivity for that field decreased, lowering the ELF fraction.<sup>60</sup> This encouraged oil producers to drill more wells to lower their production tax rate.<sup>61</sup>

Finally, the average daily field production declined as older oil fields naturally decreased in production, further lowering the ELF fraction.<sup>62</sup> Thus, as well drilling increased and field productivity decreased, ELF fractions, and consequently revenues to the State, diminished.<sup>63</sup>

### C. ELF II (1989 to 2006)

Given ELF's favorable effective tax rates, the oil industry was strongly opposed to any changes in the law.<sup>64</sup> Producers asserted that they relied on the tax scheme to extend the life of expensive projects in Prudhoe Bay, which they claimed they would not have pursued but for the generous tax structure.<sup>65</sup> Producers became worried in 1988 when members of the Alaska House of Representatives considered adding daily field production as a factor in the ELF formula to account for large oil fields.<sup>66</sup> Department of Revenue Commissioner Hugh Malone reasoned that, because big fields are generally more profitable than smaller fields, big fields should not be taxed the same as small fields.<sup>67</sup> The proposed change was expected to generate an additional \$150 million in tax revenue in the first year and \$1.2 billion over the following five years.<sup>68</sup>

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57. *Id.* at 1:31:12 PM.

58. *Id.*

59. *Id.*

60. *Id.*

61. *Id.*

62. *Id.*

63. *Id.*

64. *Repeal of ELF Could Deal Economy a Severe Blow*, RES. REVIEW, at 1 (Apr. 1988) [hereinafter *Repeal of ELF*], <http://www.akrdc.org/assets/Resource-Reviews/rr.april.88.pdf>.

65. *See id.* ("Overall, ELF has been extremely effective in extending the life of the Prudhoe Bay field.")

66. *See id.* at 7 ("Industry warns that the legislature will deal the state's economy a severe blow if it repeals the ELF.")

67. *Marks Statement*, *supra* note 32, at 1:37:01 PM.

68. *Repeal of ELF*, *supra* note 64, at 7.

State Senator Mitch Abood opposed any changes to ELF because “[i]t is creating jobs, stimulating new economic activity and increasing recoverable oil reserves.”<sup>69</sup> He stressed that changes to the law targeting large oil fields would penalize the industry for its increased production.<sup>70</sup> Bill Wade, the president of ARCO Alaska, estimated that the oil industry was ready to invest upwards of \$25 billion during the next ten years, but threatened that it might reconsider if the legislature increased oil taxes.<sup>71</sup> Ultimately, oil companies argued that tax stability was necessary to decide when and where to invest in oil exploration and production, specifically during periods of instability in oil prices.<sup>72</sup> “Unless we decide to sacrifice the oil industry on the altar of state spending,” said Tom Williams of Standard Alaska Production Company, “our elected officials will have to cut government back sooner or later, and they should start doing it now.”<sup>73</sup>

The favorable tax regime for the oil industry ended with a bang at the end of the 1980s. Specifically, the bang of a 987-foot oil tanker striking the Bligh Reef in the Prince William Sound on March 24, 1989.<sup>74</sup> The Exxon Valdez oil spill caused an estimated 11 million gallons<sup>75</sup> of crude oil to spill into the Sound, and is widely considered one of the most destructive human-caused environmental disasters in history.<sup>76</sup> Prior to this disaster, the legislature had rejected two proposals to incorporate field size into the ELF equation.<sup>77</sup> However, on the last day of the 1989 legislative session, the state legislature narrowly passed a replacement to ELF.<sup>78</sup> Roger Marks, an economist who has been integral in the development of Alaska’s oil statutory and regulatory structure, claimed that without the Exxon Valdez oil spill, the new tax structure might never have passed.<sup>79</sup>

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69. *Id.*

70. *Id.*

71. *Id.*

72. *Id.*

73. *Id.*

74. Alan Taylor, *The Exxon Valdez Oil Spill: 25 Years Ago Today*, THE ATLANTIC (Mar. 24, 2014), <https://www.theatlantic.com/photo/2014/03/the-exxon-valdez-oil-spill-25-years-ago-today/100703/>.

75. Eleven million gallons of oil is approximately equivalent to 257,000 barrels. See *Frequently Asked Questions About the Spill*, EXXON VALDEZ OIL SPILL TR. COUNCIL, <https://web.archive.org/web/20070630224835/www.evostc.state.ak.us/History/FAQ.cfm> (last visited Sept. 7, 2017).

76. See *id.* (“The timing of the spill, the remote and spectacular location, the thousands of miles of rugged and wild shoreline, and the abundance of wildlife in the region combined to make it an environmental disaster well beyond the scope of other spills.”).

77. Marks Statement, *supra* note 32, at 1:37:01 PM.

78. *Id.*

79. *Id.*

While members of the Alaska Department of Revenue argued that the change was necessary to protect marginal fields, oil companies argued that its purpose was merely to increase state revenue.<sup>80</sup> Regardless, the legislature passed ELF II, relying on the assumption that larger fields were inherently more efficient, and thus should be taxed at a higher rate.<sup>81</sup> The resulting formula incorporated the daily field production in addition to the average well productivity.<sup>82</sup> Under this new regime, if a field produced 50,000 barrels per day, and each well in the field averaged 5000 barrels per day, the field's ELF fraction would be 0.72. This would be applied to the tax rate (0.72 multiplied by 15%) and the effective rate would be 10.8%.

Thus, large fields producing an average of 1.5 million barrels each day were taxed near 100% of the tax rate, regardless of the average well productivity. Conversely, small fields producing no more than 5000 barrels a day had an ELF fraction of zero, and thus paid no production tax. An interesting consequence of the formula was that it allowed a 20,000 barrel per day field, which is large relative to most North Slope fields, to have little-to-no ELF percentage if wells averaged less than 2000 barrels per day.<sup>83</sup> This resulted in only three North Slope oil fields—Prudhoe, Kuparuk, and Endicott—having ELF percentages sufficiently high to be taxable.<sup>84</sup> The rest of the North Slope fields paid no production tax under this scheme.<sup>85</sup>

The oil industry was initially hostile to ELF II. Both British Petroleum and ARCO quickly announced that they would suspend exploration projects previously planned in the North Slope.<sup>86</sup> The oil industry argued that ELF II would cost them an additional \$2 billion in taxes over the following ten years.<sup>87</sup>

At nearly the same time, the Texas legislature passed a law cutting production taxes in half on further production in existing fields resulting from enhanced oil recovery techniques.<sup>88</sup> The oil industry argued that the higher production taxes in Alaska precipitated by ELF II would ultimately be detrimental to oil production in Alaska as producers would turn elsewhere for exploration and production. "No company in any industry will make bad investments simply to pay some punitive tax to

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80. Griffiths, *supra* note 47.

81. *Id.*

82. See Marks, *supra* note 32, at 18 (providing formula for ELF II).

83. Marks Statement, *supra* note 32, at 1:40:19 PM.

84. *Id.*

85. *Id.*

86. *Tax Hike Causes Suspension of Industry Projects*, RES. REVIEW, at 3 (July 1989), <http://www.akrdc.org/assets/Resource-Reviews/rr.july.89.pdf>.

87. *Id.*

88. *Id.*

the state of Alaska,” said James Taylor, President of Nabors Alaska Drilling. “They will, quite properly, invest somewhere else in a less punitive area.”<sup>89</sup>

Eventually, the oil industry conceded to the ELF II taxation scheme, while managing to exploit several of its flaws. Generally, oil producers had the incentive to decrease field size and decrease well productivity.<sup>90</sup> Overall, oil companies focused on creating multiple smaller marginal fields instead of large single fields to lower daily field production.<sup>91</sup> Consequently, the State saw a large decrease in tax revenues from oil production in the years following ELF II’s adoption.<sup>92</sup> For instance, the Kuparuk field, one of North America’s largest oil fields, was nearing an ELF fraction of zero by 2005 because its well productivity was inching toward 300 barrels per day even though its field production was an estimated 130,000 per day.<sup>93</sup> Unsurprisingly, Kuparuk became a symbol of everything that was wrong with ELF II.<sup>94</sup>

#### D. PPT (2006 to 2007)

By 2006, with oil tax revenue generation greatly lagging behind oil production, many Alaskans felt that ELF II was failing to serve its purpose.<sup>95</sup> At the same time, oil and gas companies had begun negotiating with the State to construct a natural gas pipeline from Alaska to the Lower 48.<sup>96</sup> Oil companies were concerned about the future of the production tax,<sup>97</sup> and used these new pipeline negotiations as leverage to pressure the legislature into addressing the tax issue promptly.<sup>98</sup> Shortly after the oil

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89. *Id.* at 6.

90. *Marks Statement, supra* note 32, at 1:42:16 PM.

91. Brian O’Connor, *Pot, Oil Props Debated*, MAT-SU VALLEY FRONTIERSMAN (Aug. 17, 2014), [http://www.frontiersman.com/news/pot-oil-props-debated/article\\_82dbf2c0-25c4-11e4-8583-001a4bcf887a.html](http://www.frontiersman.com/news/pot-oil-props-debated/article_82dbf2c0-25c4-11e4-8583-001a4bcf887a.html).

92. *Id.*

93. *Marks Statement, supra* note 32, at 1:53:17 PM.

94. See Cherie Nienhuis & Mark Edwards, *Alaska Department of Revenue: A Primer on State’s New Petroleum Production Tax System*, PETROLEUM NEWS (Apr. 22, 2007), <http://www.petroleumnews.com/pntruncate/777055166.shtml> (“Under the ELF system, half the fields on the North Slope were paying no production tax. The Kuparuk oil field with its satellites was collectively producing more than 150,000 barrels per day and was, by ELF calculations, reaching its economic limit and would owe no production tax in the next year. Other key fields such as Alpine had rapidly declining ELF tax rates.”).

95. See *id.* (“Many people felt Alaska’s production tax system was no longer functioning as intended and was allowing oil to be produced with very little or no production tax.”).

96. *Id.*

97. *Id.*

98. *Id.*

companies began pressuring the state government, the oil producers' negotiations with the administration of Governor Frank Murkowski resulted in the Petroleum Production Tax (PPT).<sup>99</sup>

Fundamentally, the PPT switched the production tax from a gross value tax to a net value tax.<sup>100</sup> This meant that the tax accounted for operating costs (capital and labor expenditures) as well as transportation costs, whereas the gross value tax only accounted for transportation costs.<sup>101</sup>

Most economists agreed that a net value tax was more efficient.<sup>102</sup> Under a gross tax scheme, a barrel of "light" oil, which might cost \$10 to produce, is taxed the same as a barrel of "heavy" oil, which might cost \$30 to produce.<sup>103</sup> However, a net value tax recognizes these differences by incorporating cost of production.<sup>104</sup> Additionally, a net value tax system, which allows producers to deduct costs from production taxes, encourages oil producers to invest in Alaska, whereas a gross tax system can result in producers investing profits in another jurisdiction where such deductions are available.<sup>105</sup>

Overall, the Department of Revenue hoped that the PPT would encourage investment in oil production in Alaska while also taxing an appropriate share of that investment when it yielded high profits.<sup>106</sup> These two goals were accomplished by instituting a 22.5% tax rate on the net value of a barrel of oil—production costs (transportation and operating costs) subtracted from the market value per barrel.

Additionally, PPT added a progressivity element, which kicked in when the net value increased above \$40 per barrel.<sup>107</sup> The progressivity element took the difference between the net value and \$40, multiplied that difference by 0.25%, and then added that value to 22.5%.<sup>108</sup> The progressivity element stopped increasing when the net value per barrel reached \$140, which is when the tax rate reaches 47.5% per barrel.<sup>109</sup> For example, if the price of crude oil were \$60 per barrel and the costs were \$30 per barrel, the net value would be equal to \$30 and would be taxed at

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99. Marks Statement, *supra* note 32, at 1:54:25 PM.

100. Nienhuis & Edwards, *supra* note 94.

101. *Id.*

102. See Marks Statement, *supra* note 32, at 1:57:53 PM (discussing that, in general, "a net system is a much more efficient" tax system than gross).

103. *Id.*

104. *Id.*

105. *Id.*

106. Press Release, Bill Corbus, Commissioner, Alaska Dep't of Revenue, PPT: What It Is. And Isn't, <http://www.revenue.state.ak.us/Portals/5/Docs/PressReleases/CORBUS%20PPT%20OP%20ED.pdf>.

107. Marks, *supra* note 32, at 24.

108. *Id.*

109. *Id.*

22.5%, or \$6.75 per barrel. However, if the price of crude oil were \$80 per barrel and the costs were \$30 per barrel, the net value would be equal to \$50 and would be taxed at 25%, or \$12.50 per barrel.

Like ELF and ELF II, PPT suffered from several defects. First, the Alaska Department of Revenue struggled to transition administratively from a gross value to a net value tax.<sup>110</sup> Specifically, the Department had difficulty determining which operating costs were deductible as operating costs may vary from field to field.<sup>111</sup> Second, a significant inflation in the cost of oil production in 2007 led to larger deductions and lower net values than expected.<sup>112</sup> This resulted in a lower average tax rate than expected (closer to 22.5%) and lower overall production tax revenues for the State.<sup>113</sup>

Finally, a major corruption scandal in the late 2000s rocked Alaska politics.<sup>114</sup> The scandal led to the federal indictment of U.S. Senator Ted Stevens and several others.<sup>115</sup> During the investigation, evidence emerged that some of the state legislators who voted for PPT in 2006 may have taken bribes from VECO Corporation, an oil pipeline service and contracting company.<sup>116</sup> The scandal caused the public to question the true motives behind the PPT legislation and whether corporate interests exercised inappropriate influence in its passage.<sup>117</sup>

#### E. ACES (2007 to 2013)

At the end of 2006, during the gubernatorial election, Governor Murkowski was defeated in the Republican primary by Sarah Palin, who campaigned on a platform of rooting out corruption and used the PPT as evidence of Murkowski's improperly close relationship to the oil industry.<sup>118</sup> The Palin Administration swiftly proposed a new production

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110. *Marks Statement, supra* note 32, at 2:07:48 PM.

111. *Id.*

112. *Id.*

113. *See id.* (explaining that when PPT was implemented, it was estimated to increase production taxes by \$1.1 billion but only an additional \$300 million was actually received, a difference of \$800 million).

114. *Id.*; *see generally* Jill Burke, *Alaska's Political Corruption Scandal Reaped Prison, Vindication and Uncertainty for the Accused*, ALASKA DISPATCH NEWS (Feb. 11, 2011), <https://www.adn.com/politics/article/alaskas-political-corruption-scandal-reaped-prison-vindication-and-uncertainty-accused/2011/02/11/> (overviewing the Alaskan political scandal).

115. Burke, *supra* note 114.

116. *Id.*

117. *Marks Statement, supra* note 32, at 2:07:48 PM.

118. *See* Joshua Green *The Tragedy of Sarah Palin*, THE ATLANTIC (June 2011), <https://www.theatlantic.com/magazine/archive/2011/06/the-tragedy-of-sarah-palin/308492/> ("She assailed the 'secret gas line deal' and the 'multinational oil companies that make mind-boggling profits off resources

tax to replace the less than two-year-old PPT.<sup>119</sup> Alaska's Clear and Equitable Share (ACES) thus served two purposes.<sup>120</sup> First, it sought to create distance from the politically toxic PPT law.<sup>121</sup> Second, it attempted to fix perceived issues in the PPT. Specifically, it intended to increase both government revenue and the progressivity.<sup>122</sup> To accomplish the latter, ACES increased both the base tax rate and the progressivity rate.<sup>123</sup> Under ACES, the base tax rate increased from 22.5% to 25%, and the progressivity mechanism increased the base tax rate by 0.4% for each net profit dollar over \$30 per barrel.<sup>124</sup> However, the 0.4% increase decreased to 0.1% for each dollar over \$92.50 per barrel. Overall though, the structure of ACES was the same as PPT and only differed in the base tax rate percentage and the acceleration of the progressivity element.<sup>125</sup> In 2008 when oil averaged \$100 per barrel, ACES brought in about \$2 billion more than the PPT otherwise would have.<sup>126</sup>

#### F. MAPA (2013 to Present)

While Alaska was receiving more revenue under ACES than PPT, there continued to be a decline in oil production on the North Slope.<sup>127</sup> Some argued for yet another change in the oil production tax, insisting that a lower tax per barrel would increase production and investment in Alaska.<sup>128</sup> ACES had resulted in Alaska having one of the highest oil

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owned by all Alaskans.""); see also Anne Sutton, *Murkowski Leaves Office with "No Regrets,"* THE SEATTLE TIMES (Dec. 11, 2006), <http://www.seattletimes.com/seattle-news/murkowski-leaves-office-with-no-regrets/>.

119. Kristen Nelson, *Oil Taxes Revisited,* PETROLEUM NEWS (Sept. 9, 2007), <http://www.petroleumnews.com/pntruncate/200707472.shtml>.

120. Griffiths, *supra* note 47.

121. See *id.* (describing PPT as "turned toxic by political scandal").

122. *Id.*

123. *Id.*

124. *Id.*

125. *Id.*

126. Marks Statement, *supra* note 32, at 2:12:59 PM.

127. Steven B. Porter, *More Alaska Production Act - Success or Failure,* ALASKAN ADVOCATE BLOG (Feb. 8, 2015), <https://alaskanadvocate.blogspot.com/2015/02/more-alaska-production-act-success-or.html>; see Alex DeMarban, *MAPA or ACES - What's it Gonna Be, Alaska?,* ALASKA DISPATCH NEWS (Aug. 10, 2014), <https://www.adn.com/economy/article/mapa-or-aces-what-s-it-gonna-be-alaska/2014/08/11/> ("[O]il production continued to fall, dropping by 200,000 barrels a day in six years, from 734,000 barrels a day in 2007. The decline is part of the long-term drop in production that has occurred primarily because the state's huge oil fields are aging and much of the oil—17 billion barrels since 1977—has been removed.").

128. *Alaska's Oil Revenue Inversion: A Look Back at SB 21 Debate Shows Both Sides Were Wrong, So Far,* FAIRBANKS DAILY NEWS-MINER (Jan. 15, 2015) [hereinafter *Alaska's Oil Revenue Inversion*], [http://www.newsminer.com/opinion/editorials/alaska-s-oil-revenue-inversion-a-look-back-at-sb/article\\_9a3653ae-](http://www.newsminer.com/opinion/editorials/alaska-s-oil-revenue-inversion-a-look-back-at-sb/article_9a3653ae-)

production taxes in the world, disincentivizing producers from investing in the state.<sup>129</sup> Supporters of a tax change argued that increased production would make up for the drop in per barrel tax revenues.<sup>130</sup> Governor Sean Parnell, who had replaced Governor Palin after her resignation in 2009, was among those supporting a change.<sup>131</sup>

In January 2013, Senate Bill 21, also known as the More Alaska Production Act (MAPA), was introduced in the Alaska State Senate.<sup>132</sup> MAPA's goal was to "put in place a system for the taxation of oil and gas that is fair, stable, predictable, durable, balanced, and free from complexity across a wide range of oil prices."<sup>133</sup> MAPA retained the net value element from ACES, meaning that producers could continue to deduct their operating expenses.<sup>134</sup> However, MAPA did not contain a progressivity element like ACES and PPT had.<sup>135</sup> Instead, MAPA increased the base tax rate to 35%.<sup>136</sup> While ACES and PPT allowed the government to enjoy a large windfall as oil prices increased, MAPA instead raised the base tax, but allowed producers to benefit from an increase in oil revenue.<sup>137</sup> Proponents hoped this chance for larger profits would incentivize oil producers to invest in Alaska.<sup>138</sup>

In addition to changes to the production tax structure, MAPA significantly altered the tax credits available to producers.<sup>139</sup> While tax credits are beyond the scope of this Note, it is worth recognizing that MAPA's tax credits essentially lower the base tax rate by giving producers up to \$8 in credits per barrel depending on the price of oil and the age of the oil field.<sup>140</sup>

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9d54-11e4-9033-236f05430e55.html.

129. *Repeal Fails, Tax Reform Upheld*, *supra* note 2.

130. *Alaska's Oil Revenue Inversion*, *supra* note 128.

131. ALASKA DEP'T OF REVENUE, OVERVIEW OF SB 21 OIL & GAS PRODUCTION TAX 2 (Jan. 29, 2013), [http://www.legis.state.ak.us/basis/get\\_documents.asp?session=28&docid=349](http://www.legis.state.ak.us/basis/get_documents.asp?session=28&docid=349).

132. S.B. 21, 2013 Alaska Sess. Laws ch. 10.

133. ALASKA SENATE JOURNAL, 28th Leg., 1st Sess. 441 (Feb. 28, 2013).

134. See DeMarban, *supra* note 127 ("ACES' progressivity, which both sides agree was too high, has been cited by oil executives as a key reason ACES should be banished forever. The progressivity . . . remove[s] huge profits from the producers.").

135. *Id.*

136. *Id.*

137. *Id.*

138. *Id.*

139. *Id.*

140. *Id.*



MAPA barely passed the Senate on March 20, 2013, by a vote of eleven to nine.<sup>141</sup> In April, the House of Representatives passed the measure,<sup>142</sup> and Governor Parnell signed MAPA into law on June 24, 2013.<sup>143</sup>

Shortly after MAPA's passage, organizers formed a campaign to repeal MAPA through a ballot initiative.<sup>144</sup> Critics of MAPA claimed that the new tax structure gave too much to oil companies while not giving enough to Alaskans—the true owners of the oil.<sup>145</sup> Economist Gregg Erickson<sup>146</sup> made the case for repeal this way:

The reason they should vote for repeal is the benefit to Alaska is so much smaller, in terms of increased production, than what is lost to Alaska by cutting tax rates at high prices. If oil prices are low, MAPA really doesn't matter much, it's not that different from ACES. But if we have another big run-up in oil prices, that's when we get the windfall that gives us a cushion of savings that allows the Alaska economy not to be strangled if prices fall or production falls.<sup>147</sup>

Anchorage Chamber of Commerce president, Andrew Halcro, was one of many against the repeal, arguing that “the previous tax structure killed investment. It created disincentives for investments and the new tax regime is working and putting more oil in the pipe.”<sup>148</sup> Of course, the big oil companies vehemently opposed repeal and spent millions of dollars fighting the initiative.<sup>149</sup>

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141. ALASKA SENATE JOURNAL, 28th Leg., 1st Sess. 740 (Mar. 20, 2013).

142. ALASKA HOUSE JOURNAL, 28th Leg., 1st Sess. 1235 (Apr. 13, 2013).

143. ALASKA SENATE JOURNAL, 28th Leg., 1st Sess. 1291 (June 6, 2013).

144. DeMarban, *supra* note 127.

145. *See id.* (quoting state Senator Bert Stedman as arguing that MAPA did not fairly compensate “we the resource owner, the collective citizens of this state”; *see also* Laurel Andrews, *Will Opponents of Oil Tax Cut Bill Bring Referendum to the Ballot?*, ALASKA DISPATCH NEWS (May 2, 2013), <https://www.adn.com/politics/article/will-opponents-oil-tax-cut-bill-bring-issue-ballot/2013/05/02/> (reporting that a group of organizers, spearheaded by former legislator Ray Metcalfe and other long-time Alaska politicians, named “Vote Yes! Repeal SB21” sponsored a ballot referendum to kill the bill proposing the new tax structure).

146. *See generally* ERICKSON & ASSOCS., <http://www.ericksonconomics.com/> (Sept. 7, 2014) (providing Gregg Erickson's credentials).

147. DeMarban, *supra* note 127.

148. *Id.*

149. Lisa Demer, *Oil Companies Are Spending Millions to Stop Repeal of Alaska Tax Cuts*, ALASKA DISPATCH NEWS (Feb. 9, 2014), <https://www.adn.com/uncategorized/article/oil-companies-are-spending-millions-stop-repeal-alaska-tax-cuts/2014/02/10/>.

The repeal campaign gathered over 50,000 signatures, more than the requisite amount to put the question on the ballot.<sup>150</sup> A “yes” vote would reinstate ACES.<sup>151</sup> But on August 19, 2014, voters in Alaska narrowly voted “no” on the repeal, and MAPA survived.<sup>152</sup>

On the day of the vote, the price of Alaska North Slope West Coast oil was \$100.30 per barrel.<sup>153</sup> A year and a half later, in February 2016, the price had plummeted to \$28.05 per barrel.<sup>154</sup> This drop in oil prices caused a severe statewide recession, resulting in significant budget deficits and unemployment.<sup>155</sup> The future of MAPA is once again in question, as lawmakers search for ways to fund the state.<sup>156</sup>

## II. DOES ALASKA HAVE A “TRUE” PRODUCTION TAX?

### A. A Production Tax

As demonstrated above, Alaska has had an oil production tax, in one form or another, since the 1950s. To summarize, a production tax is simply an excise tax that a government charges producers for the privilege to extract natural resources from its lands.<sup>157</sup> The idea of a

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150. *Id.*

151. *Id.*

152. *Repeal Fails, Tax Reform Upheld*, *supra* note 2.

153. See *Crude Oil and Natural Gas Prices*, ALASKA DEP'T OF REVENUE: TAX DIV., <http://www.tax.alaska.gov/programs/oil/dailyoil/dailyoil.aspx> (last visited Oct. 3, 2017) (providing a tool to see historical crude oil prices).

154. *Id.*

155. Alex DeMarban, *Recession Grips Alaska as Employment Losses Hit New Sectors*, ALASKA DISPATCH NEWS (Dec. 2, 2016), <https://www.adn.com/business-economy/2016/12/02/recession-grips-state-as-employment-losses-in-alaska-grow-hitting-new-sectors/>.

156. Nathaniel Herz, *New Alaska House Oil Tax Bill Emerges but Faces an Uphill Climb in Senate*, ALASKA DISPATCH NEWS (Apr. 7, 2017), <https://www.adn.com/politics/alaska-legislature/2017/04/07/new-alaska-house-oil-tax-bill-emerges-but-faces-an-uphill-climb-in-senate/>. In 2017, the Alaska Legislature passed HB 111, which primarily made changes to the system of oil production tax credits, but did not touch the basic tax structure of MAPA discussed in this Note. The bill could show an eagerness by the legislature to make further, more structural, changes. It might also show a reluctance by the State to completely overhaul the tax scheme, instead looking for solutions within the realm of MAPA. See H.B. 111, 30th Leg., 2d Spec. Sess. (Alaska 2017); see also James Brooks, *At Deadline, Alaska Legislature Cuts Oil Subsidies to Help Budget*, JUNEAU EMPIRE (July 17, 2017), <http://juneauempire.com/state/2017-07-16/deadline-aslaska-legislature-cuts-oil-subsidies-help-budget>.

157. Nancy E. Shurtz, *State Taxation of Energy Resources: Are Consuming States Getting Burned?*, 36 VAND. L. REV. 55, 58 (1983); see Matthew Berman, *Comparing Alaska's Oil Production Taxes: Incentives and Assumptions*, INST. OF SOC. AND ECON. RESEARCH: UNIV. OF ALASKA ANCHORAGE 3 (Aug. 2014), [http://www.iser.uaa.alaska.edu/Publications/webnote/2014\\_08-WebNote18ComparingAKOilTaxes.pdf](http://www.iser.uaa.alaska.edu/Publications/webnote/2014_08-WebNote18ComparingAKOilTaxes.pdf) (“As a landowner, the state can accept payments from oil companies for the

production tax is rooted in a government's ownership of its undeveloped natural resources.<sup>158</sup> A government's main job is not mining for resources, which is enormously expensive.<sup>159</sup> Instead, resource production companies request to exploit the government's resources.<sup>160</sup> In exchange, those producers pay the government a tax based on a valuation of the extracted resource.<sup>161</sup> This Part discusses three different types of production taxes: a real production tax, a gross production tax, and a net production tax.

## B. Real, Gross, or Net?

Real, gross, and net production taxes differ in how they assess the taxable value of the resource. A real production tax "is not tied to the value of the product mined."<sup>162</sup> Instead, a real production tax levies a set fee, based on the number of units extracted by the producer.<sup>163</sup>

From an administrative perspective, a real production tax is very easy to oversee. All the government needs to know is the number of units produced and the current fee levied per unit. However, the real production tax is inflexible in changing circumstances. Unless the government changes the tax rate, the real production tax will levy the same fee no matter the value of the unit or the costs associated with its production.<sup>164</sup>

A gross production tax is a direct response to that issue of inflexibility. Instead of applying a fixed tax per unit, a gross production tax levies a tax based on the "dollar value of the product extracted from the mine."<sup>165</sup> While different in their application, both real and gross production taxes take a set portion of the extracted resource's worth.<sup>166</sup> From the point of view of the government levying the tax, the greatest advantage of a gross production tax over a real production tax is the ability for tax revenues to increase with increases in the price of the

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rights to exploit resources that the state owns.").

158. See Berman, *supra* note 157, at 3.

159. See *id.* at 3-4.

160. *Id.*

161. Shurtz, *supra* note 157, at 58-59.

162. THOMAS STINSON, ECON. DEV. DIV., ECON. STATISTICS, AND COOP. SERV., U.S. DEP'T OF AGRIC., STATE TAXATION OF MINERAL DEPOSITS AND PRODUCTION 7 (1978), <https://naldc.nal.usda.gov/naldc/download.xhtml?id=CAT79709477&content=PDF>.

163. *Id.*

164. See *id.* at 9 (explaining that a real production tax "fails to adjust automatically to the effect of inflation on local revenue needs").

165. *Id.*

166. *Id.* at 10.

resource.<sup>167</sup> By the same logic though, the state's revenues decrease when the price of the resource decreases.<sup>168</sup> Overall, the only major difference between real and gross production taxes is the mechanism used to determine the government's portion of the resource's value—a set fee as opposed to the market price of the resource.

The final type of production tax is the net production tax. The net production tax differs dramatically from both real and gross production taxes, and actually resembles a net income tax more than it does a real or gross production tax.<sup>169</sup> Instead of taking a portion of the resource's value, a net production tax considers the operating costs (capital and labor).<sup>170</sup> As a result, a net production tax is much more difficult to administer.<sup>171</sup> Additionally, the government will not receive any compensation for resources extracted from its land when the value of the resource is equal to the production costs. This is seemingly at odds with the point of a production tax. However, a net production tax does have the advantage of taxing more profitable producers at a higher rate per barrel than low-profit producers.<sup>172</sup> This encourages producers to extract resources in costly regions, which they likely would not do under a real or gross production tax.

To further illustrate the differences between real, gross, and net production taxes, imagine a film studio. The studio owns resources, films, but they are not in the theater business. They need someone to actually show the films to consumers. The studio is analogous to a government and its natural resources. Instead of establishing theaters, the film studio makes a deal with a privately-owned theater, analogous to a resource production company. The deal allows the theater to use the films if the theater pays the film studio a fee, analogous to a production tax. If the fee resembled the real production tax, the film studio may set the fee at \$1 million for the right of the theater to show a film, regardless of the ticket price. If it resembled a gross production tax, the film studio may set the fee at 10% of each ticket sold. Under the net production tax, however, the film studio may set the fee at 10% of the *profit made by each ticket sold*. Under this model, the film studio is no longer paid based solely on the film, but now must factor in the theater's own costs. Thus, the film studio receives compensation for the resource, but also shares in the costs associated with the utilization of the resource.

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167. *Id.*

168. *Id.*

169. *Id.* at 11.

170. *Id.* at 12.

171. *Id.*

172. *Id.*

### C. Alaska's Production Tax

At first, Alaska had a very simple gross production tax on its oil resources.<sup>173</sup> This tax was consistent with the ideology of the production tax: the state should share in some value of its extracted resource.<sup>174</sup> Over time though, the production tax changed, becoming more complicated and taking on features possibly at odds with that principle.

In the first three tax eras (Pre-ELF, ELF, and ELF II), Alaska taxed the gross value of each individual barrel of oil.<sup>175</sup> This meant that each barrel of oil was taxed according to its market price minus transportation costs. This form of taxation is consistent with the gross production tax—a set percent of the oil's value goes to the state. From a tax policy point of view, this might not be the most efficient way for the government to balance both interests at stake: assuring revenue to the government while also providing a sufficient amount of profit for the oil industry to incentivize sustainable investment and production.

In response, in 1970, the Alaska Legislature added rate adjustments to the gross production tax.<sup>176</sup> Instead of taxing each barrel produced at a set percentage, the production tax effectively increased its rate as the number of barrels increased by some metric. The first comprehensive oil production tax in the Pre-ELF era used a metric based purely on the number of barrels to increase the gross production tax rate.<sup>177</sup> The stair-step structure of this era increased the tax rate as the number of barrels produced per well increased.<sup>178</sup> The added progressivity was included under an economies of scale assumption—that higher output producers can afford to pay more per unit in tax.<sup>179</sup> The subsequent tax schemes relied on similar assumptions connecting the tax rate with output metrics that supposedly reflect ability to pay.

Even though both the ELF and ELF II era appeared to have a flat gross production tax rate, both featured mechanisms that effectively increased the tax rate based on output.<sup>180</sup> Both eras assumed that the economic limit for wells—the number of barrels needed to cover operating costs—should not be taxed.<sup>181</sup> Therefore, these schemes used formulas as devices to tax higher producing wells closer to the flat rate

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173. Williams, *supra* note 16.

174. See Berman, *supra* note 157, at 12.

175. Williams, *supra* note 16 (discussing the Pre-ELF period).

176. *Id.*

177. See *supra* notes 29–32 and accompanying text.

178. *Id.*

179. *Id.*

180. Griffiths, *supra* note 47 (discussing ELF); Marks, *supra* note 32 (discussing ELF II).

181. See *supra* notes 44–81 and accompanying text.

specified in the statute.<sup>182</sup> Under ELF, the tax rate mechanism only considered the average daily well production, thus increasing the rate as production increased.<sup>183</sup> This is fundamentally like the pre-ELF era, although more dynamic due to its consideration of operating costs.<sup>184</sup> Under ELF II, the mechanism additionally considered the field productivity.<sup>185</sup> This expanded economies of scale beyond the individual well to the entire field.<sup>186</sup>

Rate progressivity does not necessarily fit within the “true” production tax ideology. If it is assumed that a production tax is meant to “defer the overall social, environmental, and economic costs associated with producing that natural resource,” then rate progressivity within a production tax seems to assume the costs borne by a state grow at an increasing rate.<sup>187</sup> Using production tax logic, ELF, for example, assumes the first 300 barrels per day cause no social, economic, or environmental harm to the state. This is inconsistent with the “true” production tax, which is concerned with the state receiving a set portion of the value of each unit extracted. Ultimately, adding progressivity begins to transform the production tax into a form of income tax, which concerns itself with the profits earned from an endeavor, like a net production tax.

In the years to follow, Alaska further differentiated its production tax from a “true” production tax. In 2006, Alaska switched the production tax from taxing the gross value of the oil produced to the net value of production.<sup>188</sup> Under PPT, ACES, and MAPA, the production tax factored in the costs of production. Put simply, instead of taxing the value of the resource (or the revenue to the firm), the net production tax levied a tax based on the profit earned from each unit produced – similar to an income tax. This effectively switched the production tax from a gross production tax to a net production tax.

It is worth considering how a gross production tax and net production tax differ in similar circumstances. Under a gross production tax, a 10% tax would be applied to the market price of oil (minus transportation costs) regardless of the production costs. For example, if the market price minus transportation costs was \$100, the tax would amount to \$10 per barrel, regardless of whether the production costs were \$10 or \$80. Thus, any increase in the spread between revenue and costs would not affect the production tax. Taxing gross profit, then, is

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182. *Id.*

183. *Id.*

184. *Id.*

185. *Id.*

186. *Id.*

187. Shurtz, *supra* note 157, at 59.

188. *See supra* note 100 and accompanying text.

regressive because at a consistent price of oil, the actual tax paid will stay the same, even as a producer becomes more efficient and decreases its costs. As it relates to the profit per barrel, the effective production tax rate decreases as profit per barrel increases.<sup>189</sup>

However, with a net production tax, the production costs are subtracted from the \$100 barrel of oil to get the taxable amount. For example, if production costs were \$10, then the taxable amount would be \$90 (taxed at 10% means a tax per barrel of \$9) and if production costs were \$80, then the taxable amount would be \$20 (taxed at 10% means a tax per barrel of \$2). Even with a flat tax rate, a net production tax is more progressive than a gross production tax because the tax paid will increase as profit increases.<sup>190</sup>

Ultimately, a net progressive tax is not consistent with the fundamental principle behind a production tax—that a government should share in some portion of the extracted resource’s value to defer costs borne by the government. Instead of being concerned with each unit extracted from its territory, the net production tax levies a tax on the units extracted based on the costs associated with their production. To keep this consistent with a “true” production tax, one must assume that an increase in production costs equates to a decrease in overall social, environmental, and economic costs associated with the resource extraction. But, increases in oil production costs do not decrease the social, environmental, and economic costs borne by the state. The net production tax must be relying on some other theory.

When Alaska included rate progressivity and moved from a gross production tax to a net production tax, Alaska effectively did away with a “true” production tax. Instead, Alaska adopted a tax which considered only the profit made by a producer instead of the number of units extracted from its land. In the end, this means that Alaska no longer has a “true” production tax and MAPA is for all intents and purposes an income tax labeled as a production tax.

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189. See Berman, *supra* note 157, at 5 (“A constant percentage tax on gross wellhead production value is a regressive tax, because it does not take costs into account.”).

190. *Id.*

### III. SHOULD ALASKA RETURN TO A “TRUE” PRODUCTION TAX?

Functionally, Alaska no longer has a “true” production tax. This matters when one considers the tension between ensuring revenue for the state while still allowing the oil companies enough opportunity to profit so as to incentivize sustainable investment and production. A “true” production tax is actually not very efficient. As discussed above, both real and gross production taxes do not consider a producer’s ability to pay the tax.<sup>191</sup> The taxes instead take a fixed portion per unit. This can result in a deadweight loss for producers taxed beyond their ability to pay – leading to decreased production. Additionally, this can result in a decrease in revenue for the state when wealthier producers pay less than what they are able. On the other hand, a net production tax’s core concern is a producer’s profit, which coincides with a producer’s ability to pay. A net production tax, then, better balances the needs of both the state and the firm than a more “true” production tax.

Furthermore, it is worth reviewing the legislature’s reasons for moving from a gross production tax to a net production tax. First, the legislature became concerned with the cost discrepancy between “heavy” oil and “light” oil.<sup>192</sup> If all oil costs the same to produce, taxing them at the same percent of value makes sense. However, “heaviness” and geographic considerations make some oil much more expensive to produce than other oil – leading to issues when they are taxed at the same amount. Moving to a net production tax recognizes that difference,<sup>193</sup> rather than punishing the production of high-cost oil. This gives producers some incentive to develop higher cost oil that they would not have produced under a gross production tax.

Discrepancies in production costs aside, the net production tax incentivizes producer investment in Alaska more than either a real or gross production tax would.<sup>194</sup> This is because, under a net production tax, producers can deduct their costs.<sup>195</sup> This means that producers can actually reduce their taxes by investing in Alaska: a win-win for the state and the oil companies.<sup>196</sup> However, under a gross production tax, producers are incentivized to take their profits and invest them in another area where the government allows cost deductions.<sup>197</sup>

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191. See *supra* notes 162–68 and accompanying text.

192. *Marks Statement*, *supra* note 32, at 1:59:48 PM.

193. *Id.* at 02:00:00 PM.

194. *Id.* at 02:00:30 PM.

195. *Id.*

196. *Id.*

197. *Id.*



Thus, even though a net production tax differs functionally from a “true” production tax, it is actually more efficient for the state. Not only does a net production tax do a better job of judging a firm’s ability to pay, resulting in higher production and increased revenues for the state, it also encourages the production of expensive oil and producer investment in Alaska. In the end, Alaska will be able to better balance the revenue needs of the government and the profit interests of the producers by continuing its net production tax even though it no longer resembles a “true” production tax.

### CONCLUSION

The abundance of oil in Alaska has come with both benefits and costs. Without oil, Alaska would not have the luxury of the Permanent Fund, the development of a large oil industry, and relatively low taxes on individuals. On the other hand, the development of oil has brought troubles like environmental destruction, political corruption, and a state economy so dependent on oil that a price drop triggered a statewide recession. Fundamentally, the oil production tax is designed to offset some of these costs borne by the state.

The oil production tax in Alaska has changed dramatically since the first barrels of oil were taken from Alaskan soil. Most noticeably, the production tax has moved from a gross tax to a net tax more closely resembling an income tax than a “true” production tax. While no longer a “true” production tax, the current net value production tax is more dynamic and a better policy for both the state and the oil producers. Thus, as the legislature looks to the tax code as a possible way out of the current budget crisis, any changes to MAPA should avoid altering the fundamental net value component of the oil production tax.