



IMPACT OF ALASKA OIL & GAS PRODUCTION TAX CREDITS AT LOW OIL PRICES

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EXECUTIVE SUMMARY

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Alaska has for some time now offered a range of tax credits to incentivize new oil and gas production. Credits to large producers can only be used to reduce their tax liability, while credits to small producers without a tax liability can be directly paid out by the state, and are counted as spending. Until this year, revenue from the oil and gas production tax has dwarfed the state's spending on credits paid to small producers; but the recent plunge in oil and gas prices has created a situation where, for the first time, it is forecast that in FY2015 and FY2016, the state will outlay more on credits to small producers than it will take in production tax revenue.

Given ongoing debates about oil tax reform in Alaska, it is important to understand how SB21 has impacted this situation. The credit programs that create this flow of cash to small producers are a legacy that precedes SB21 by many years. In the current low price and high investment environment, Alaska's finances are in fact substantially sounder as a result of SB21 than they might have been otherwise. This is because SB21 deliberately included important measures to better protect the state's revenue stream in low price environments, while also taking steps to reduce the credits the state pays out. The impact of some SB21 measures to reduce credit outlays, however, will not take effect for another 12 months.

There remain, however, a number of areas of spending on credits that SB21 did not seek to reform. Principal among these are credits paid to Cook Inlet producers, which in FY2015 are estimated to account for around half of the state's spending on credits paid out to producers. Since the state does not levy a profit-based production tax in Cook Inlet, these essentially constitute a subsidy to Cook Inlet producers rather than an investment in future tax revenue. While these subsidies have played an important role in turning around investment and production in Cook Inlet, it may now be an opportune time to reconsider the future of these credits. In particular, it may be worth examining whether financing solutions that leverage the strength of the state's balance sheet to assist these companies in gaining access to reasonably-priced capital might present an alternative to credits that makes more efficient use of the state's resources, at a lower cost to the state.

TWO TYPES OF OIL AND GAS TAX CREDIT

The Alaska Department of Revenue (DOR) accounts for two broad types of oil and gas tax credits. Credit payments are categorized according to the status of the tax payer that claims the credits.

Credits claimed by producers with a current tax liability are accounted for on the **revenue** side of the state's ledger, as '**credits used against tax liability**', and serve to reduce the final amount of oil and gas production tax paid to the state by these companies. All credits claimed by Alaska's large oil and gas producers fall into this category. Such credits cannot reduce producers tax liabilities below zero, and in most cases also cannot reduce their liabilities below a set floor that is a percentage of their gross revenue.

By contrast, credits claimed by small producers or companies that have not yet commenced production, which exceed any production tax liability such companies may have, and which are potentially reimbursable by the state through the oil and gas tax credit fund (AS 43.55.028), are accounted for as **spending** items, representing state spending on '**credits for potential purchase**'.

	HISTORY		FORECAST	
	FY 2014	FY 2015	FY 2015	FY 2016
PRODUCTION TAX REVENUE BEFORE CREDITS	3,486.2	1,273.6	818.4	
CREDITS USED AGAINST TAX LIABILITY	888.0	750.0	510.0	
PRODUCTION TAX REVENUE	2,598.2	523.6	308.4	
CREDITS FOR POTENTIAL PURCHASE	593.0	625.0	700.0	

Source: AK DOR Fall 2014 Revenue Sources Book, p27 (all figures in \$mm)

In FY2015, the state is forecast to generate **\$524 million in tax revenue** from the oil and gas production tax, consisting of \$1.274 billion of revenue before credits from producers with a liability, less an estimated \$750 million in credits against those liabilities. The major component of the credits claimed against the tax is the variable dollar-per-barrel credit, introduced under SB21, which ranges from \$8/bbl at wellhead oil prices below \$80/bbl, and tapers to zero at wellhead prices above \$150/bbl. The purpose of this payment is to provide an element of progressivity to the 35% 'flat' tax rate of SB21, and is a deliberate means of reducing the effective tax rate below that relatively high headline amount at lower price levels. The \$524 million in revenue is net of these credits, and this positive figure represents primarily the forecast production tax revenue received from current major producers.

Thus while the state's overall revenue, and in particular revenue from the oil and gas production tax, will be significantly reduced in FY2015 as a result of current low prices, Alaska's major producers continue to contribute substantially to the state's treasury. Indeed, as we will see shortly, major producers will pay substantially more in oil and gas production tax in FY2015 and FY2016 under current tax arrangements than they would in this oil price environment had SB21 not passed.

Forecast production tax revenue received from major producers is significantly positive (\$524 million), but is exceeded by the \$625 million of credits being paid to small producers that have no tax liability.

At the same time, the state is forecast to pay out **\$625 million in credits** to small producers. This refers to forecast spending on 'credits for potential purchase' by the treasury - the amount that is forecast to be demanded of the state by small producers with little to no tax liability claiming refundable credits. Since this figure is larger than the \$524 million in revenue, it is correct to conclude that, in net, the state will, for the first time in 2015, reimburse more in credits than it collects in revenue through the oil and gas production tax (although of course other components of the fiscal system, such as royalties and corporate income tax continue to generate revenue for the state).

Equally important to understand, however, is from whom revenues are being received and to whom payments are being made. **Production tax revenues** are, broadly speaking, being **received from major producers**, and then being used to **pay tax credits to smaller companies**. For the first time in FY2015, because of the low oil price, production tax revenues (net of all credits) from major producers are suddenly forecast to be smaller than tax credit payments to small ones.

POSITIVE IMPACT OF SB21 ON PRODUCTION TAX REVENUES FROM LARGE PRODUCERS

Detailed analysis of the impact of fiscal system changes on revenues requires access to confidential taxpayer records, which only the administration can provide. This is because differences in the specific positions of individual taxpayers influences the fine detail of overall tax liabilities. These differences are the cause of the deviations between the 'income statement' example tax calculations provided in Table E-1 of the appendix to the Revenue Sources Book (pp. 98-99), which treat the tax system as a monolithic block, and the actual revenue forecast numbers (shown above), which are prepared on the basis of individual taxpayer modeling.

Nonetheless, the high-level approximation of Table E-1 can be very useful in illustrating how Alaska's oil & gas production tax functions overall, and how changes in price or tax structure can impact the rough amounts of revenue received through the system. To demonstrate how the passage of SB21 has impacted Alaska's production tax collection at times of low oil prices and high investment, it is useful to look at how this calculation is done under SB21, and what it might have looked like under ACES.

In the below table, figures in black are those presented in tables E-1b and c in the Fall 2014 Revenue Sources Book appendix. Figures in grey represent indicative calculations to demonstrate the mechanics of the production tax system under SB21, and compare that to what might have been the case under ACES. The focus of the below analysis will be on the final 6 numbered lines of the tax calculation.

Roughly in line with the actual RSB forecast figures shown earlier, in FY2015 the high-level Table E-1 'income statement' working shows that the production tax system will generate some \$1.3 billion in pre-credit revenue (see *line marked as 1*). Against this, \$720 million (*line 4*) in North Slope credits (slightly below the \$750 million state-wide) are applied by producers with a liability. This credit figure, however, is far less than it might be were it not for the minimum floor level of

taxation. We can see this by multiplying the 162 million taxable barrels forecast to be produced on the North Slope by \$8 (the amount of the per-barrel credit at current prices), reaching a total of approximately \$1.3 billion (*line 2*) - almost as much as the entire pre-credit tax.

The fact that, rather than this startling amount, only \$720 million in credits are actually forecast to be claimed against liabilities, is due to the “gross minimum” tax, established under AS 43.55.011, which is set at four percent of gross wellhead value. Note that four percent of wellhead value is \$890 million (*line 3*); the fact that the \$720 million in credits forecasted are even further below this is likely due to the intricacies of individual taxpayer liabilities.

	FY2015		FY2016			
	\$/bbl	Mbbls	Value (\$mm)	\$/bbl	Mbbls	Value (\$mm)
Price & Daily Production	\$76.31	510	\$38.9	\$66.03	524	\$34.6
<u>Annual Production</u>						
Total	185,980		\$14,192.1	191,294		\$12,631.1
Royalty, Federal bbils	(23,565)		(\$1,798.2)	(24,291)		(\$1,603.9)
Taxable bbils	162,415		\$12,393.9	167,003		\$11,027.2
<u>Transportation Costs</u>						
ANS Marine Trans	(\$3.44)			(\$3.41)		
TAPS Tariff	(\$5.80)			(\$5.72)		
Other	(\$0.06)			(\$0.05)		
Total Trans. Costs	(\$9.31)	162,415	(\$1,511.3)	(\$9.17)	167,003	(\$1,531.8)
<u>Lease Expenditures</u>						
Deductible Opex	(\$19.62)		(\$3,186.2)	(\$18.94)		(\$3,163.0)
Deductible Capex	(\$23.78)		(\$3,862.7)	(\$24.61)		(\$4,109.8)
Total Lease Exp.	(\$43.40)	162,415	(\$7,048.9)	(\$43.55)	167,003	(\$7,272.8)
<u>Production Tax</u>			SB21	ACES		
Gross Value Reduction			(\$47.3)			(\$3.0)
Prod. Tax Value (PTV)	\$23.31		\$3,785.6	\$3,785.6	\$13.29	\$2,219.6
SB21 (35%*PTV)			\$1,325.0			\$776.9
ACES (25%*PTV)				\$946.4		\$554.9
1) Total Tax before credits			\$1,325.0	\$946.4		\$776.9
2) \$8 /bbl * Taxable bbils			(\$1,299.3)			(\$1,336.0)
3) Max credits (4% floor)			(\$889.7)			(\$397.0)
4) RSB F'cast Credits			(\$720.0)			(\$490.0)
5) ACES 20% Cap Credits				(\$722)		(\$797.3)
6) Total Tax after credits			\$605.0	\$224.4		\$286.9
						(\$242.4)

Source: AK DOR Fall 2014 Revenue Sources Book, p. 99-100 (all figures in \$mm; figures in grey are enalytica estimates)

What is vital to understand here is the fact that, while the gross minimum existed in statute long before the passage of SB21, it was only with the passage of SB21 that it actually became in any way a binding, meaningful, minimum level of tax that must

be paid by large producers.¹ Before SB21, the minimum existed in statute, but would almost never have applied in practice, as the below will show.

Prior to SB21, while dollar-per-barrel credits did not exist, ACES capital credits did. These credits, which were paid as a percentage of a producer's capital spending for the year, were capable of reducing a producer's tax liability below the 4% minimum, since the minimum applied to the total tax before credits (*line 1*), not after. As a result, with the high levels of capital investment currently occurring on the North Slope, the capital credit under ACES would have largely offset the \$946 million in revenue (*line 1*) that would have been generated under the lower 25% base tax rate under ACES at current prices (note that ACES progressivity does not apply at these price and spending levels). Capital credits that could have been claimed in FY2015 were ACES still in place can be estimated by summing half of FY2015 and half of FY2014 deductible capex figures, then multiplying by 20%. This gives us \$722 million in capital credits (*line 5*), leaving only \$224 million in revenue after credits under ACES (*line 6*) in this scenario - this is barely over a third of the revenue generated at these prices by SB21.

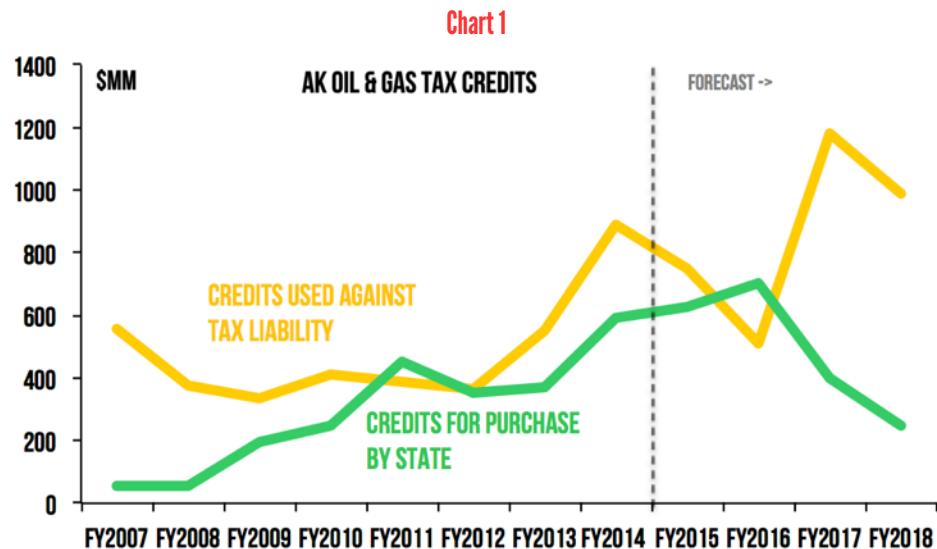
By making the 4% gross minimum floor effectively binding for the first time, SB21 significantly improved the state's revenue position in the current low-price, high-investment environment.

The contrast between SB21 and estimated ACES numbers are even more startling if we look at FY2016. Had ACES remained in place in the current price and investment environment, capital credits in FY2016 would have been greater (calculated under the indicative, broad-brush methodology of Table E-1) than the pre-credit revenue generated by ACES. Thus, based on current forecasts, **in FY2016 under ACES the production tax system would likely not have generated any tax revenue at all, even before spending on reimbursable credits to companies without a liability.**

While ACES did not permit taxpayer liabilities to go below zero, in such a scenario producers would have been issued transferable credit certificates to account for the approximately \$242 million in unused capital credits (*line 6*) that exceeded the amount of their pre-credit liabilities. While producers with more than 50,000 b/d production would not have been able to claim reimbursement by the state through the oil and gas tax credit fund for these certificates as small producers could, they would have been able to apply them against future years' liabilities, even further reducing future years' revenue for the state.

The impact of the binding 4% gross minimum floor that SB21 introduced in limiting the state's credit liabilities at low oil prices can be seen quite dramatically in Chart 1. The precipitous fall in credits against tax liabilities forecast for FY2015 and FY2016 is a result of that floor kicking in at the low oil prices forecast for these two years, substantially improving the state's fiscal position.

¹ Technically, the 4% gross minimum is a binding floor level of taxation on a large North Slope producer that is cash positive. Were a large producer to be cash-negative in a given year, such a producer would be eligible for the carried-forward annual loss credit, that could reduce their liability below the 4% floor (but not below zero); this, however, would require prices below \$50/bbl for a sustained period of time.



Source: AK DOR Fall 2014 Revenue Sources Book

SB21 was designed as a deliberate rebalancing of Alaska's tax system, better protecting the state at low oil prices, while in return splitting income more evenly with companies in times of plenty. This rebalancing is providing a significant benefit in the current spending and oil price environment.

EFFORTS UNDER SB21 TO LIMIT CREDITS TO SMALL PRODUCERS

In addition to making the 4% floor effectively binding for large producers, SB21 also took a number of steps to limit the credits paid out to small producers. The biggest of these steps were taken not through direct legislative action in SB21 but rather through deliberate inaction - in passing SB21 the legislature decided not to extend a series of credits that are reimbursable to companies without a tax liability, that were otherwise due to sunset on January 1, 2016.

Tax credits that will expire on January 1, 2016 as a result of this decision include the Alternative Credit for Exploration, the Frontier Basin Credit, and the Small Producer Credit (although the latter will continue for nine years after a producer that was eligible for the credit first commenced commercial production). Allowing these credits to sunset were part of a deliberate attempt to limit the credits provided to small producers, precisely because of the threat to state revenues that could be posed by such credits in a time of low oil prices.

Collectively, these credits cost the state \$113 million in 2014 (see RSB p67). Because these credits do not sunset until January 1 2016, however, the impact of their elimination will only be felt partially in FY2016, and fully for the first time in FY2017. FY2015 still includes the full cost of these ongoing credit programs.

SB21 allowed tax credits to sunset that collectively cost the treasury \$113 million in 2014. The impact of this will be felt from January 1 2016 onward.

SB21 TRANSITIONAL ARRANGEMENTS

In addition to the fact that these efforts to reduce credit payments to companies without a tax liability have not yet “kicked in”, transitional treatment of the carried-forward annual loss credit under SB21 also means that the total reduction in state support for investment by small producers remains at ACES-levels, and will also only be reduced commencing in January 2016.

SB21 raised the carried-forward annual loss credit from 25% to 35%. There was sound rationale for this shift, since this credit is designed to be set at the same rate as the base production tax, which SB21 also raised to 35%. The reason for this is that the carried-forward annual loss credit is intended to make the impact of the tax system the same on small producers without a tax liability as it is on large ones with a liability.

A large producer that makes capital investments in new production facilities is able to reduce the value of its tax liability to the state by the value of that investment multiplied by the tax rate - which under SB21 is 35%. By setting the carried-forward annual loss credit to the same rate, a new producer without a liability gets the same tax benefit as a large incumbent from investment - in the form of a reimbursable credit from the state.

In addition, however, SB21 further raised the carried-forward annual loss credit to 45% as a ‘transitional arrangement’, with the elevated level of the credit applying for a limited period of two years, from January 1 2014 to January 1 2016. The purpose of this change was to ease the transition to SB21 for small, capital constrained producers. These companies have historically relied on capital credits under ACES to make projects outside of their natural capital constraints financeable; the elimination of North Slope capital credits under SB21 will, in many cases, likely require them to find other financing solutions, such as the participation of other partners. The elevated level of the carried-forward annual loss credit for two years was intended to ease this transition for these companies; at the 45% level, this credit provides exactly the same level of government support for capital spending as was available to these companies under ACES, which had a 25% carried-forward annual loss credit combined with a 20% capital credit.

The impact of this is being somewhat exacerbated at a time when oil prices have fallen as low as they have, and when capital spending on the North Slope is at unprecedented levels, as Chart 2 below shows. Within 12 months, however, this transitional treatment will cease. At that point, government support for capital spending for small, cash-negative producers will go from 45%, the same level it was at under ACES, to 35%. With the state forecast to spend some \$300 million on North Slope carried forward annual loss credits in 2015 (a function of the high level of capital investment by small producers on the slope), it is useful to note that around \$60 million of that figure is the result of the temporarily elevated level of the carried-forward annual loss credit that will be reduced in 12 months time.

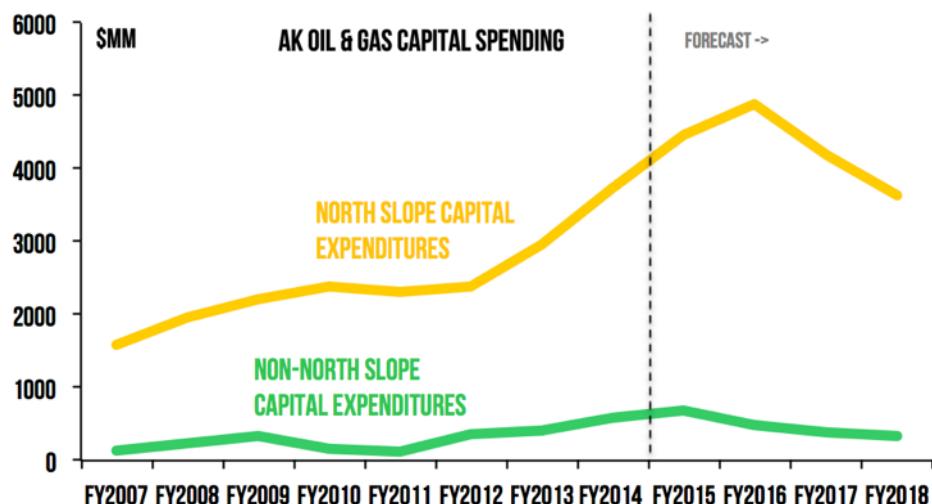
SB21 transition arrangements continue levels of government support for capital spending by cash-negative producers at ACES levels until January 1 2016, before reductions apply.

MATTERS NOT ADDRESSED BY SB21

Government support for spending in Cook Inlet remains very high, and is not offset by profit-based taxation.

Finally, SB21 also left a number of areas of credits, inherited from previous tax regimes, unchanged. In Cook Inlet, in particular, the State of Alaska has for some time paid out significantly more in credits than it has received in tax revenues. Since the pre-2006 ELF tax regime largely still holds in Cook Inlet, producers there by and large pay no production taxes on oil production, and only a very low, fixed rate on gas production.

Chart 2



Source: AK DOR Fall 2014 Revenue Sources Book

At the same time, they receive substantial credits through the production tax system. In particular, the 20% capital credit applicable under ACES continues to apply in Cook Inlet, despite having been abolished on the North Slope under SB21. In addition, Cook Inlet producers are eligible for credits of 40% applying to well lease expenditures - an elevated level that has never applied on the North Slope. Cook Inlet producers that are currently cash-negative are also eligible for a 25% carried-forward annual loss credit. Together, these credits add up to very high levels of government support for capital investment in Cook Inlet.

On the North Slope, the existence of the profit-based production tax makes credits a form of state investment in the upfront capital costs of oil and gas production, which is correspondingly recouped later in the cashflow cycle through the production tax. The absence of a profit-based production tax makes these credits a subsidy for Cook Inlet producers.

As Chart 2 shows, along with the North Slope, capital investment in Cook Inlet is also currently at previously unprecedented levels - DOR forecasts \$684 million of total capital spending by companies outside the North Slope in FY2015, compared with just \$123 million in FY2011. At the same time, it is estimated that the state will spend around \$300 million on refundable tax credits to Cook Inlet producers in 2015 - close to half the amount of total capital spending occurring, reflecting the

very high degree of government subsidy (and also reflecting around half the total the state will spend on all refundable oil & gas tax credits in FY2015).

Low taxes and generous credits have undoubtedly played a major role in the turnaround of previously declining Cook Inlet production that has occurred in recent years. The high level of current capital spending in Cook Inlet, like the high level of spending on the North Slope, is in general very positive, since much of this is investment in future production capacity, contributing significantly to energy security for Anchorage and other communities that have historically relied on Cook Inlet gas.

Alternative methods for providing competitive access to capital by small producers may be worth investigating.

Given the current strain on state finances, however, it may be wise to ask whether some of the same benefit that these credits provide to companies might not be provided through other means that do not require a cash subsidy to these companies. Financing solutions that leverage the strength of the state's balance sheet to assist these companies in gaining access to reasonably-priced capital might present one such means, and may, as a result, be worth examining further.

CONCLUSIONS

SB21 made significant contributions both to limiting the loss of production tax revenue by the state in low oil price environments, and to limiting the pay-out of refundable tax credits to producers with no tax liability. Many of these are already providing much-needed protection to the state in the current low-price but high-investment environment. In other areas, transitional arrangements under SB21 mean that further efforts to curtail outlays on credits for purchase by the state will apply automatically within the next 12 months.

There remain, however, a number of areas that have been untouched by tax reform, where major government support for capital spending continues to exist, and be made in the form of direct cash outlays by the state. The Cook Inlet capital, well lease expenditure and carried-forward-annual loss credits are the most significant of these, and are worth examining further in some detail.

ABOUT US



Janak Mayer. Before co-founding enalytica, Janak led the Upstream Analytics team at PFC Energy, focusing on fiscal terms analysis and project economic and financial evaluation, data management and data visualization.

Janak has modeled upstream fiscal terms in all of the world's major hydrocarbon regions, and has built economic and financial models to value prospective acquisition targets and develop strategic portfolio options for a wide range of international and national oil company clients. He has advised Alaska State Legislature for multiple years on reform of oil and gas taxation, providing many hours of expert testimony to Alaska's Senate and House Finance and Resources Committees.

Prior to his work as an energy consultant, Janak advised major minerals industry clients on a range of controversial environmental and social risk issues, from uranium mining through to human rights and climate change. He has advised bankers at Citigroup and policy-makers at the US Treasury Department on the management and mitigation of environmental and social impacts in major projects around the world, and has undertaken macroeconomic research with senior development economists at the World Bank and the Peterson Institute for International Economics.

Janak holds a BA with first-class honors from the University of Adelaide, Australia and an MA with distinction in international relations and economics from the Johns Hopkins School of Advanced International Studies (SAIS).



Nikos Tsafos. Nikos Tsafos has a diverse background in the private, public and non-profit sectors. He is currently a founding partner at enalytica. He previously spent 7 ½ years at PFC Energy, where he advised the world's largest oil and gas companies on some of their most complex and challenging projects; he also played a pivotal role in turning the firm into one of the top natural gas consultancies in the world, with responsibilities that included product design, business development, consulting oversight and research direction.

Prior to PFC Energy, Nikos was at the Center for Strategic and International Studies (CSIS) in Washington, DC where he covered political, economic, and military issues in the Gulf, focused on oil wealth, regime stability and foreign affairs. Before CSIS, he was in the Greek Air Force, and prior to his military service, Nikos worked on channelling investment from Greek ship-owners to Chinese shipyards.

Nikos has also written extensively on the domestic and international dimensions of the Greek debt crisis. His blog (Greek Default Watch) was listed as one of "Europe's Top Economic Blogs" by the Social Europe Journal, and his book "Beyond Debt: The Greek Crisis in Context" was published in March 2013.

Nikos holds a BA with distinction in international relations and economics from Boston University and an MA with distinction in international relations from the Johns Hopkins School of Advanced International Studies (SAIS).

