Do conventional prescriptions of the rights-based fishing literature pose legal and political impediments to policy change?

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Introduction

A serious impediment blocks advancement of individual transferable quota (ITQ) policy in the United States, particularly in North Pacific fisheries being considered for ITQ management. The traditional ITQ design, that allocates rights to only the harvesting sector, unintentionally expropriates wealth/property interests from the co-dependent-processing sector. This regulatory expropriation is a substantive policy flaw that renders the traditional ITQ design constitutionally suspect and subject to attack in the courts on grounds that such policy would require "just compensation" under the Fifth Amendment.

The expropriation mechanism is briefly outlined following a reflective glance at the origins of ITQ policy. Then, this expropriating ITQ policy is shown to be at opposing purposes with, and even partially induced by, prior to government fishery policies. Finally, arguments underlying a Fifth Amendment takings claim are set in the context of four strands of judicial precedent.

Background

Forty-two years ago, H. Scott Gordon (1954) published a seminal fisheries economics article warning that perennially low incomes and over-fishing were consequences of open access fishery management policies. Fish in the sea belonged to no one, and thus, everyone. Gordon used a simple economic model to show that lack of well-defined property rights over ocean fish stocks encouraged overcapitalization--too many boats chasing too few fish. Fleet overcapitalization caused fishery seasons to compress into Olympic-style derbies with accompanying dissipation of economic rents (lost profits). Gordon's analysis suggested a simple solution: limit access to commercial fisheries by using property rights as a way of rationing fishery resources.

The fact that most of the world's fish resources were found in international waters until the mid to late 1970s prevented advancing solutions based on property rights to the resource. Then nations like the U.S. began to extend national fisheries

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2[2]Over-fishing is a consequence of open access management only when the management authority fails to set a total allowable catch (TAC) based on maximum sustainable yield or optimum yield principles. Most U.S. domestic open access fisheries are managed with a TAC or equivalent conservation tool.
jurisdiction from 12 to 200 miles off their coasts, which allowed fisheries economists worldwide to champion the switch from open access management to ITQs. While rights to individual fish could not be defined until they were actually caught, fishers could be given private harvest rights to a specific percentage of the total allowable catch (TAC). And such rights could easily be defined as permanent, transferable and exclusive.

This simple assignment of ITQs would allow quota shares to be purchased by the most efficient harvesters from less efficient, willing sellers. Theoretically, no one could be made worse off by this so-called "industry-sponsored buyout" program. The overcapitalization problem would vanish as quota consolidates into the hands of the more efficient harvesters, while the less efficient harvesters exit the industry fully compensated. Such gains from trade would allow the fleet to consolidate in a way that reflects maximum profitability and, therefore, maximum net national economic benefits—an objective clearly in the public interest.

All gains from trade are fully compensated. Actual compensation is paid to sellers, so no one can be made worse off. This feature alone is the pivotal selling point of rights-based fishing. After all, it is this feature that garners essential political support for such sweeping property rights change as ITQ management. Imagine trying to sell ITQ fisheries management to harvesters and politicians if much of the fleet were to lose their vessels without compensation.

Interestingly, this stringent actual compensation criterion stands in stark contrast to the potential compensation principle that became the backbone of "new welfare economics" in 1939.

Most efficiency-minded economists today fervently support the much less strenuous potential compensation test, where a policy is judged efficient and thus, good, even if it creates both gainers and losers...providing the gainers could potentially compensate the losers. Actual compensation need not be paid. It is in this welfare theoretic context that a traditional allocation of ITQs to only the harvesting sector is flawed, both as a matter of wise public policy and possibly in terms of U.S. constitutional law.

**Why allocate rights to processors?**

Matulich, Mittelhammer, and Reberte (1996) formally show that, under the usual assumptions of the ITQ literature, the traditional harvester-only allocation of rights unnecessarily and unintentionally expropriates wealth from the processing sector, transferring it to the harvesting sector. Expropriation of wealth will occur whenever the processing sector is comprised of less than perfectly malleable

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4[4] The switch to rights-based fishing provides little other public interest than economic efficiency in TAC-managed open access fisheries. Fishing safety is a notable exception in certain fisheries.

5[5] Fish processing occurs primarily in two contexts: nonvertically integrated business enterprises, defined here as "inshore" processors, and vertically integrated catcher-processor vessels, where the catching and processing functions are inextricably bound and occur "offshore". Unless otherwise indicated, the terms processor and processing shall refer to the nonvertically integrated, inshore sector.
capital--the usual situation. This finding brings ITQ fisheries management squarely into the property rights debate concerning so-called regulatory takings under the Fifth Amendment to the U.S. Constitution.

Ever since Gordon’s compelling, albeit highly stylized story, fisheries economists have been so focused on open access harvesting inefficiencies resulting from fleet overcapitalization, that they failed to consider conjunctive consequences arising in the processing sector. This singular focus on the harvesting sector caused fisheries economists to recommend ameliorative ITQ policies that do not fully reflect the institutional structure of commercial fisheries nor the political realities of changing property institutions.

The ITQ promise of economic efficiency and of fully compensated trades is based upon a caricature of an industry that, for all practical purposes, does not exist. The corpus of ITQ literature portrays the industry as consisting only of a harvesting sector intervening between the fish stock and the consumer. This, of course, is patently false for most fisheries; the processing sector is as crucial to the utilization of fishery resources as is the harvesting sector. Yet, this one simplification is responsible for the conventional wisdom of endowing harvesters with valuable rights and processors with the consequences.

Ironically, most efficiency-minded economists would argue it doesn’t matter who receives the initial rights allocation. Net national benefits and thus, economic efficiency, are independent of the initial allocation, providing the industry is perfectly competitive. Then, the only difference the initial allocation makes is it defines the winners and losers, not the magnitude of net national benefits. Few would doubt the consequences of allocating all rights to only the processing sector. The processors surely would force ex-vessel price concessions on harvesters. It should come as little surprise that the reverse also is true.

The regulatory expropriation mechanism is easily seen because the traditional allocation of rights to only harvesters misses the obvious. Catching and processing sectors are co-dependent! Simply put, the open access externality persists until highly perishable raw fish are stabilized into a processed intermediate or finished product. Any non-confiscatory policy designed to decapitalize fishing assets de facto must address concomitant decapitalization of processing assets.

Fleet overcapitalization and the race-to-fish also caused processors to increase their level of capitalization to service the accompanying race-to-process that fish before it perishes. Gains from trading harvesting quota shares require season elongation as the fleet consolidates to a core of efficient vessels. Season elongation, given a constant total allowable catch, in turn causes the daily rate of

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6 Capital is perfectly malleable if it has an identical value in an alternative use. It is perfectly nonmalleable if it has no alternative use value, e.g. it is placebound. The extent of expropriation will vary directly with the degree of capital nonmalleability. Perhaps the most extreme case of nonmalleable capital occurs in the North Pacific pollock fishery, where onshore processing plants are placebound in the remote Aleutian Islands with no alternative use value. This fishery is the largest, most industrialized in the world, accounting for nearly one-third of all harvested biomass in the U.S. EEZ. The North Pacific Fisheries Management Council is considering an ITQ management program for pollock, which is the impetus for this paper.

7 While the notion of maximum net national benefits is consistent with economic efficiency, this is a very incomplete measure of social welfare. Furthermore, economic efficiency involves various dimensions, including pricing efficiency, which are glossed over in the ITQ literature. See Matulich, Mittelhammer, and Reberte (1996) for a thorough discussion of ex-vessel price efficiency impacts of switching from open access to ITQs under a harvester-only rights allocation.
fish processed to drop below open access design capacity for all processors. All processors will experience an excess daily demand for raw fish, causing them to bid up ex-vessel price as they compete with each other to acquire additional fish. Such policy-induced ex-vessel price concessions are great news if you fish—devastating if you process, particularly in remote communities where processing facilities are essentially placebound.

A processor can obtain additional fish only by offering a raw fish price that exceeds that of the competition. Since all processors face similar incentives, competitive bidding serves only to reallocate the reduced total daily catch among competing processors. This mechanism assures there will always be a subset of processors who experience uncompensated losses, unlike the less efficient harvesters who are more than fully compensated to exit under the harvester-only ITQ system. Processors will pay more for the same total quantity of fish processed under the ITQ system than under open access management, and not because ITQs increase their ability to pay.

Less efficient processors ultimately will be forced to exit, losing their entire property value without compensation. More efficient, surviving processors will incur uncompensated losses during what may be a lengthy transition period, and may incur losses in the long-run if gains in operating efficiency are less than permanent price concessions. The critical point is that whenever processing capital is nonmalleable, the policy-induced ex-vessel price concessions will destroy all economic value of placebound processing assets forced to cease production. Policy analysts should seek little solace in the possibility of a long-run rise in total processing sector economic surpluses (an empirical question). Any uncompensated loss in capital asset value is hardly consensus building in the political forum where policy change is decided. None of the processors can foresee whether they will survive or perish, so all have an incentive to fight adoption of ITQs.

**Conflicting U.S. fishery policies**

Two features of the above noted regulatory expropriation make it particularly perverse. First, the same government promulgating ITQ regulations that expropriate processing sector wealth, formerly instituted fishery policies that encouraged, accelerated, and even exaggerated the extent of overcapitalization in the processing sector. Second, unlike much regulatory change, the public interest in rights-based fishing can be realized without expropriating any processing sector wealth. ITQ fisheries management is one situation where a "Pareto safe" initial allocation that assures actual compensation seems feasible.

Enactment of the Magnuson Fishery Conservation and Management Act of 1976 (Magnuson Act) (P.L. 94-265 codified at 16 U.S.C. 1801) began the process of

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8[8] This, of course, is not true for a vertically integrated catcher-processor/factory trawler fleet. An allocation of rights to only the catching function of a vertically integrated firm simultaneously recognizes the associated processing services. Pricing those services is strictly an accounting artifact, unlike the pricing relationship between independent catchers and processors. Moreover, the value of those harvesting rights guarantees that less than perfectly malleable floating stock becomes perfectly malleable.

9[9] None of the uncompensated transitional or permanent wealth expropriation occurs in similarly situated offshore processors. Raw fish is never actually priced in a vertically integrated catcher-processor, so the regulatory expropriation mechanism is never triggered. Allocation of harvesting rights to catcher-processors assures actual compensation of both the harvesting and processing functions of these vertically integrated enterprises.
"Americanizing" U.S. fisheries. This Act extended U.S. fisheries jurisdiction from 12 to 200 miles off all U.S. coasts, and began the process of preferentially allocating fish from what was a largely foreign fleet to a small but growing domestic fleet. Any quantities of fish that could not be caught by domestic fishers had to be allocated to any foreign companies who would petition to access the surplus fish.

In 1984, the Magnuson Act amendment included the "Fish and Chips" policy to accelerate and complete Americanization. This policy stipulated a process by which the total allowable level of foreign fishing (TALFF)—the surplus fish—would be allocated and ratcheted down on an annual basis. The surplus fish no longer had to be given away. Instead, the Fish and Chips policy tied the allocation of TALFF to negotiations between domestic and foreign industry participants that compelled foreign interests to help the U.S. industry rapidly develop both harvesting and processing capacity. Recipients of TALFF had to: 1) participate in joint ventures to buy and process fish at sea that were harvested by U.S. fishers, 2) purchase processed U.S. fishery products, and 3) transfer processing technology to the U.S. industry. These three conditions for receiving TALFF reduced trade barriers and provided for rapid Americanization of the fishery, both catching and processing. The percent of fish harvested by foreign nations in the U.S. EEZ declined from 71 percent in 1977 to about 0.2 percent in 1991 (Buck, 1993).

The 1984 Magnuson Act amendment also extended industry access to the U.S. Department of Agriculture (USDA) Commodity Credit Corporation programs. This amendment allowed U.S. fish and fish-products to be purchased by USDA and exported under existing export assistance (foreign aid) programs.

Two other federal programs encouraged Americanization and exaggerated the extent of overcapitalization in both sectors. The Capital Construction Fund (CCF) (46 U.S.C. 1177) is a tax deferral program that is tantamount to an interest free loan from the U.S. government. CCF allows participants to construct, reconstruct, or acquire fishing vessels with before-tax dollars, rather than after-tax dollars (National Oceanographic and Atmospheric Administration, undated). During the Americanization phase, this was the most aggressive direct financial encouragement to expand fleet capacity. Now it is largely a low-interest refinancing tool. Subsidized loans to vessels provided impetus for fleet overcapitalization in excess of that which would have occurred in unfettered capital markets. The CCF program exaggerated the race-to-fish, which, in turn, exaggerated the extent of processing sector capitalization required to process available fish.

Title 11 of the Federal Ship Mortgage Insurance Program (46 U.S.C. 1271-1279), sometimes referred to as the FVOG program, provided fishing vessel loan obligation guarantees to commercial lenders. This program reduced the risk of lending, thereby lowering the cost of capital and encouraging borrowing. The FVOG program was extended to U.S. processing plants in 1983 to encourage investment in the U.S. processing sector commensurate with the rapidly expanding capitalization of the U.S. harvesting sector.

The fact that these programs continue today while ITQ policies are being enacted or considered is, perhaps, less ironic than the fact that U.S. fisheries policy is about to disenfranchise some of the investments it previously encouraged. The government can avoid taking processing sector wealth and property simply by choosing a different initial allocation—one that recognizes the co-dependence of both sectors and affirms the actual compensation principle. A policy-superior, Pareto safe, assignment of rights would make neither sector worse off, while
completely recapturing dissipated open access fishery rents. It would ensure subsequent transfers of rights by both industry sectors that were fully compensated through the market for these rights.

The optimal specification of a Pareto safe rights assignment is not obvious and deserves further research. Candidates worthy of consideration include: (1) a split of harvest quota shares between fishers and processors, and (2) a “two-pie” allocation, in which catching rights are awarded to fishers and processing rights are awarded to processors. A “use-it-or-lose-it” provision may be required so that the TAC isn’t reduced for vicarious (conservation) use at less than its full market value.

**Implications for fifth amendment regulatory takings claim**

The Fifth Amendment to the U.S. Constitution prohibits government from taking private property, either by eminent domain or by regulation, without just compensation. The “takings”, or just compensation, clause of the Fifth Amendment reads: "[N] or shall private property be taken for public use, without just compensation" (*U.S. CONST. amend. V*). The clause was originally intended to have only narrow legal consequences—application only to physical takings by the federal government.10[10] James Madison, the clause’s author, wrote shortly after ratification of the Bill of Rights that "no land or merchandize... shall be taken directly even for public use without indemnification to the owner.”11[11] In the years since 1792, however, the clause’s application has been judicially broadened in two very significant respects. First, the just compensation clause was the first Amendment in the Bill of Rights to be made applicable against state and local governments, as well as against the federal government.12[12] Second, and far more significantly for purposes of this paper, the application of the clause has been expanded far beyond the original Madisonian focus on physical expropriation. This latter judicial move is the so-called “regulatory takings” doctrine, the genesis of which is generally attributed to Justice Holmes's famous 1922 opinion for the Court in *Pennsylvania Coal Co. v. Mahon* (260 U.S. 393, 43 S.Ct. 158, 67 L.Ed. 322). The Coal Company sold the surface rights to real property but expressly saved and reserved to itself the right to remove underlying coal. Pennsylvania thereafter enacted a statute essentially forbidding any coal mining, which caused the subsidence of any house. The Supreme Court, per Justice Holmes, held that the statute was invalid as a taking without compensation. Holmes's reasoning was that since the statute made it commercially impractical to mine the coal, the statute "has very nearly the same effect for constitutional purposes as appropriating or destroying [the reserved estate in land]…. The general rule…is that while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking" (67 L.Ed. 322 at 325-326).

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This was the first Supreme Court case in which a non-appropriative land use regulation was found to violate the takings clause, the first "regulatory taking". And while Holmes's "too far" test seems wholly inadequate as a "general rule", three-quarters of a century of subsequent jurisprudence has provided some distinct strands of analysis as to the content of "regulatory takings". Four of these "strands", as applied in modern Supreme Court cases, suggest that the courts conceivably could treat a harvester-only allocation of quota shares as a compensable taking of onshore processing sector wealth and property.

First, ever since Justice Brennan's landmark 1978 opinion in Penn Central Transportation Co. v. City of New York, a "factor [of] particular significance" has been "[t]he economic impact of the regulation on the claimant and, particularly, the extent to which the regulation has interfered with distinct investment-backed expectations" (438 U.S. 104 at 124, 98 S.Ct. 2646 at 2659). This theme was more recently the focus of Justice Scalia's analysis for the Court in Lucas v. South Carolina Coastal Council, (112 S.Ct. 2886), where a categorical per se rule of taking was established "where regulation denies all economically beneficial or productive use of land" (112 S.Ct. 2886 at 2893). In the North Pacific pollock fishery context, some processors with nonmalleable capital that is placebound in the remote Aleutian Islands would in fact be denied "all economically beneficial or productive use of land."

Second, compensation has been required where, as in our situation, government knowingly and willingly pursues a legitimate public interest by expropriating property from one private party and transferring it to a different private party (Hawaii Housing Authority v. Midkiff, 467 U.S. 229, 104 S.Ct. 2321). A rational ITQ plan will pursue the legitimate public interest in maximizing net national benefits by recapturing dissipated harvesting sector rents. A traditional harvester-only allocation of ITQs, however, will expropriate wealth incidentally from processors and transfer it to harvesters.

Third, the discriminatory impact of regulation on similarly situated property interests has long been a significant factor in Supreme Court rulings on takings claims. In general, no single interest can be forced by government "alone to bear public burdens which, in all fairness and justice, should be borne by" a broader array of interests (Armstrong v. U.S., 364 U.S. 40, at 49, S.Ct. 1563, at 1569, 4 L.Ed. 2d 1554, at 1561). This "singling out" idea emerged again more recently in the opinions in Lucas, focusing on discriminatory impact of regulation between similarly situated adjacent parcels of land. In our specific ITQ context, the most blatant discrimination is between onshore processors and similarly situated offshore catcher-processors that perform the identical processing function. A harvester-only initial ITQ allocation will simultaneously expropriate wealth from the non-vertically integrated onshore processors, and fully compensate both the harvesting and processing functions of the vertically integrated offshore entities. This discrimination on the irrational basis of form of business organization is problematic for Fifth Amendment takings purposes, not only under Armstrong and Lucas, but also under the separate constitutional mandate of Equal Protection.

Fourth, just compensation has been most recently required by the Supreme Court where the exactions imposed on the regulated party lacked any logical or "essential nexus" to the public policy objectives (Nolan v. California Coastal Commission, 483 U.S. 825, 107 S.Ct. 3141, 97 L. Ed. 2nd 677). This essential nexus criterion was extended in Dolan v. City of Tigard (512 U.S. 374, 114 S.Ct. 2309, 129 L. Ed. 2d 304) to require, in addition "rough proportionality" between the exaction and the party's contribution to the problem being remedied by the
regulation. The traditional ITQ allocation system imposes the entire burden of regulation on just one sector of the overcapitalized industry, the non-vertically integrated processors, despite the fact that no analysis or argument has ever suggested processing is responsible for open access externalities. Putting the entire exaction on the processors lacks any sense of "rough proportionality."

Conclusion

The ability to promote ITQ fisheries management, for all of its carefully argued efficiency attributes, hinges upon designing property institutions that encourage policy change. This means that fisheries economists and public policymakers need to step back from the simplifying industry caricature upon which the ITQ literature is based, and more broadly embrace the entire industry—from the fish stock to the processors. In so doing, economists will have to return to the principle of actual compensation and thus, Pareto safety, upon which the ITQ story is so seductively crafted.

No doubt many economists will find abandoning the cherished notion of potential compensation repugnant. But any attempt to divorce public policy advice from ethical considerations that surround property rights change is (and always was) contrived in the first place.

And it would appear that Fifth Amendment precedent supports a Pareto safe initial allocation of rights to both harvesters and processors, even if only tenuously because capitalized asset values may not be regarded as compensable property.

The analysis in this paper seems to thrust ITQ management squarely into the tenets of the modern property rights movement. That movement argues that, whenever governmental regulation becomes entangled with the perception of prior rights such that private property values are diminished, then compensation is essential. The arguments presented here, however, should be disentangled from the populist property rights movement. While the traditional ITQ policy design clearly imposes costs on the processing sector, we have attempted to show a conceptual parallel with Supreme Court takings precedent that, unlike the property rights movement, has a long history of balancing public versus private property interests. Imposition of regulatory costs on the processing sector is not sufficient to compel compensation. Loss of reasonable investment-backed expectations, expropriation of wealth from one private party for the benefit of another private party, discrimination between similarly situated properties, and failure to fulfill the two-pronged test of essential nexus and rough proportionality, however, might be compelling judicial arguments that a harvester-only allocation constitutes a compensable regulatory taking if the court were inclined to view capitalized asset values as property. Regardless, the policy superiority of a Pareto safe initial allocation is evident; such an allocation would appear to be easy to implement, it would circumvent a takings claim, and it would allow ITQ policy to reclaim the economic waste of open access management.

Inclusion of the processing sector and avoiding government-created capital losses goes a long way toward a more complete model of ITQ management. It might even be sufficient to garner requisite political consensus to switch from open access to rights-based fisheries management and to avoid efficiency robbing takings litigation. But it probably stops short of truly comprehensive rationalization--the objective of wise fisheries policy. Other industry participants may incur stranded assets similar to the processors (e.g. potentially stranded human capital of non-
Even though the Court is not likely to recognize stranded human capital as compensable «property», ITQ policy analysis should be reconsidered to evaluate how incidental casualties can be avoided/minimized. Comprehensive rationalization will not arise out of simplifying assumptions that grossly misrepresent the industry.

References


U.S. CONST. amend. V.