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Dynamics of Regulatory Change: How Globalization Affects National Regulatory Policies

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The Business Dynamics of Global Regulatory Competition

Dale D. Murphy

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by Dale D. Murphy
Assistant Professor, Georgetown University

I. Defining the Problem

Regulatory differences among jurisdictions can open the door to opportunistic competition among states, and between states and firms. Firms and states differ in their estimates of the risks of economic activity, and differ in their preferences for those risks and activities. Within any given jurisdiction, regulations on economic activity can create a credible commitment among firms to restrict or enable certain prohibited or prescribed behavior. Growth in cross-border trade and investments, and reactions to them, have pushed these issues "above the fold" in headlines around the world and on top decision-makers' agendas.

A pattern emerges from this dynamic, which begs for explanation. Over time, variations in regulations among jurisdictions may generate any of the following three analytical trajectories for a given policy issue:

- convergence toward a lower common denominator (LCD)
- convergence toward a higher common denominator (HCD)
- persistence of national differences (heterogeneity)

These three analytical trajectories are mapped in Figure 1-1. The first two are akin to the terms used in this volume of "races to the bottom" (RTB) and "races to the top" (RTT). "Heterogeneity" is similar to "no race," although it includes active protectionist responses to cross-border competitive pressures. The goal of this chapter is concept formation and to explore a plausible explanation for these divergent outcomes, as a step toward building a causal model.[2]

On the horizontal axis is the commonality of regulations among states: that is, do states adopt homogenous regulations (common among some group of states with competing industries), or heterogenous regulations (in which national differences persist)? On the vertical axis is the stringency of regulations: most simply, do they become morestringent or lax? The focus here is on *de facto* implemented standards, not *de jure* laws on the books.

The dichotomy is for conceptual clarity. Stringent is defined as: "marked by rigor, strictness or severity, with regard to a rule or standard," from the Latin *stringere*, to bind tight. "Homogeneity" or "commonality" are similar but preferable here to "harmonization" or

	The Dependent Variable: Trajectories of Interjurisdictional Regulatory Competition Among Competing States		
REGULATORY MOVEMENT	Stringency (higher)	Higher Common Denominator ↑	↑ Heterogeneous
	Laxity (lower)	↓ Lower Common Denominator	↓
		Homogeneity (convergence) COMMONALITY	Heterogeneity (divergence)

"convergence." "Harmonization" has benign normative overtones (as opposed to "disharmony"), and "convergence" has teleological overtones and references to broader sociological studies on modernization.[3] Some cross-border regulatory arrangements such as mutual recognition agreements (MRAs) fall in between; these are discussed in the conclusion. "Regulations" here are defined broadly, as "direction from a competent authority." This includes a wide variety of policies, including laws, administrative guidelines, bureaucratic regulations, standards, etc.

Competition among jurisdictions may lead to increasing government intervention, as states and firms "trade up," as described by David Vogel.[4] Conversely, competition may lead to a "competition-in-laxity" downward to more lax or liberalized outcomes as states compete to attract or maintain economic activity.[5] Finally, competition may lead to divergent outcomes, as states use regulations as a barrier-to-entry.[6] The consequences of "globalization" on domestic regulations are thus varied.

These trajectories constitute the "dependent variable" of this research; that is, the puzzle to be explained. What causes each outcome? This chapter focuses on three cases with a substantial environmental or labor component. All three also have a broad international component, and involve firms and regulations primarily in the US, Europe, and Central America.

No normative content is imputed here to "laxity" or "stringency"; "homogeneity" or "heterogeneity." Laxity does not mean "undesirable." Liberalized or lower common denominator (LCD) trajectories may be desirable, e.g., if the stringent regulations had protected vested interests over the general welfare, hampered innovation, created gross inefficiencies, and so on. In other instances, LCD regulations may result in negative externalities such as environmental damage, systemic risk, financial instability or degradation of labor standards that outweigh gains from efficiency. Similarly, higher regulations may be protective, or protectionist, or both. This chapter steps back from the rhetorical heat over so-called "antiglobalization" debates and focuses instead on the determinants of regulatory preferences.

As Vogel (1995) and other authors in this volume point out, "races to the bottom" are less frequent than critics suggest.[7] Yet some instances do occur. There are four forms of such races, or competitions-in-laxity: (1) "*De jure* competition-in-laxity" is when countries actually lower their regulatory standards, in response to competitive pressures. (2) *De facto* competition-in-laxity occurs in two variations. It is most striking in its "*de facto* relocation" form, when domestic firms relocate production or registration into countries with lax regulations. (3) But it can also occur in a "*de facto* market-share" form, if foreign firms operating in countries with certain lax regulations increase their market share of world production. This competition could well be desirable, if it improved sustainable net welfare. (4) A fourth form of competition-in-laxity is "regulatory chill," or a "political drag effect" when countries stay "anchored to the bottom," not raising their regulatory standards, for example even in the face of scientific evidence (climate change, say), or in the face of rising standards in other countries.[8] In the interest of analytic clarity, this chapter focuses on the first two, starkest forms of competition-in-laxity: *de jure* changes and *de facto* relocation.

Anecdotal evidence suggests that the more common outcomes are higher common denominator and heterogeneity. The second and third case studies analyze these, and explain why.

II. A Plausible Answer

In laying out an explanation for the observed trajectories, this chapter follows George Stigler's emphasis on market pressures as a source of regulatory change, as a heuristic. Part of the answer to the puzzle lies in differentiating private sector interests, and identifying government responses to them. Over time, producer preferences are likely to influence state regulations.[9] Producers may seek policies that restrict rivals' entry, restrict substitute products (e.g., highways versus mass-transit), raise prices, offer direct subsidies, or weaken buyers or suppliers. In other cases they may seek deregulation, to lower production costs.

The explanation–of which trajectory occurs when–has three parts. The first part, asset specificity, explains movement toward commonality among states. The second part, the locus of regulations (on production processes versus products' market-access), explains movement toward stringency or laxity. The third part, industrial structure, explains the degree of change.

Changes in domestic regulations typically depend on the incentives and strategies of private sector firms and governments. Firms seek a regulatory environment to maximize their value. They face three options: relocating production to a new location (exit); lobbying, educating, and litigating to shape regulations to reflect the firm's interests (voice); or accepting whatever regulations come their way (loyalty).[10] Each firm calculates its interest, with bounded rationality and opportunistic behavior.

Governments respond to firm behavior, as they balance the interests of their constituencies, as well as their own interests. Government regulatory options are also threefold: they may do away with unilateral regulations that increase production costs to domestic firms (deregulation), they may exert pressure on foreign countries to remove or erect regulations (extraterritorial influence), or they may erect regulations that protect domestic firms (protection). Both influence abroad and protection may depend on governments' ability to use access to their domestic markets as a "club" to bring about the desired regulatory outcome.

This approach follows Stigler's inductive method: "The truly intended effects should be deduced from the actual effects." Whereas nonprofit organizations deliberately place issues on the public agenda via the mass media, and governments must publicly legitimate their decisions, firms are usually more discreet in publicizing their regulatory agendas and successes. The choice of environmental or labor cases helps bolster the plausibility of my proposed explanations, as these issues have been cited (Wilson 1980) as "least likely" to comply with Stigler's approach.[11] It must be emphasized that the goal of this approach is a necessary but not sufficient explanation. Firms do not (usually) write their own legal code, and they are obviously not the only interest group affecting regulatory outcomes. Various non-governmental organizations (NGOs) play a role as detailed in other chapters in this volume, as do governments themselves, and firms may face rivalry over regulations from other firms. However, it is remarkable how much of regulatory outcomes one can explain with a simple emphasis on firms' preferences.

A. Multinational Asset Specificity (MAS)

The first part of the explanation is that the asset specificity of investments and transactions affects the degree of regulatory homogeneity across countries. The more specific a firm's assets, the greater its stake in regulations of that asset. Following Oliver Williamson, asset specificity means "durable investments that are undertaken in support of particular transactions, and that would lose considerable value if the transaction were prematurely terminated." The investments may include human, dedicated, physical, site, and brand specificity.[12] Site specificity is of particular importance in international cases. Williamson's assumptions apply here: uncertainty is present, transactions are recurrent, and parties to an agreement are opportunistic.

Assets are specific to the extent they cannot easily be deployed elsewhere (without losing considerable value). *Low* asset specificity means that assets can easily be re-deployed; they are not specific to their current use. *High* asset specificity means alternative asset uses are much less valuable to a firm. *Domestic* asset specificity means that assets are specific to transactions in one country (or site). *Multinational* asset specificity (MAS) means that a firm's assets are specific to transactions in more than one country. MAS therefore means: durable investments that are undertaken in support of cross-border transactions, and that would lose considerable value if the cross-border transaction were prematurely terminated. This includes assets dedicated to particular export markets, or dedicated to greater production than the domestic economy can absorb; as well foreign direct investments and other cross-border transactions.[13]

These different investment patterns affect firms' incentives to respond to regulations in the following ways:

- Firms with investments with *low* asset specificity, i.e., assets that are mobile or have valuable alternative uses, may relocate to less-restrictive regulatory environments or uses. The result is movement toward "self-help" governance structures and less regulation. Low asset specificity facilitates a *competition-in-laxity*, in which moves by one state to attract (or keep) industry through lax heterogeneous regulations are matched by other states. Movement is toward more lax regulations, among competing states.
- Investments with *high multinational* asset specificity create incentives for firms to push for common regulations across borders. Firms with assets devoted to multinational transactions will seek regulatory homogeneity on issues that affect their asset-specific investments. They seek to reduce transaction costs.[14] They will oppose divergent regulations that inhibit effective use of those assets, and that increase transaction costs.[15] *Ceteris paribus*, firms with high MAS therefore seek regulatory homogeneity for two reasons: a) most simply, to operate those assets under one set of rules worldwide reduces transaction costs; and, b) as asset specificity increases, "exit" would become more costly to firms than "voice." The more a firm has invested in specific assets across borders, the more likely it is to support regulatory homogeneity across those borders. Firms seek credible commitments from governments in the form of regulations to uphold those rules.[16]
- Firms with investments specific to transactions only in a given *domestic* market will fight against regulatory homogeneity that threatens their investment. They will support heterogeneous regulations that protect the investment. When a firm has sunk assets into transactions particular

to a given domestic regulatory environment, it cannot redeploy those assets elsewhere without losing considerable value.

These effects on regulations of the asset specificity of investments are summarized in Figure 12. The first author to make this connection between asset specificity and firms' different inter-jurisdictional regulatory preferences was Murphy (1993). That paper, my dissertation (Murphy 1995) and several similar conference papers (Murphy 1994, 1996, 1998) were provided to a variety of authors (e.g., Spar 1999),[17] and my explanation has received additional confirmation in their work. Other empirical work backs up these hypotheses (Alt 1999).[18] Large investments that are specific to cross-border transactions created incentives for firms to seek a common regulatory framework for their transactions.[19]

		Multinational Asset Specificity Favors "Higher Common Denominator" Outcomes	
	High	Homogenous Regulations (HCD)	Heterogenous Regulations
Asset Specificity	Low	← Competition- in-Laxity →	
		Multinational	Domestic
		Geographic Location of Transactions	

Research on asset specificity stems from the study of contract structures. Williamson (1985) distinguishes four types of structures for arranging contracts: market structure, third-party, two-party, and unified. Movement from lax or heterogeneous regulations toward stringent or homogenous regulations is a public sector analogy of movement away from free-market (self-help) structures and toward more unified structures. In private-sector unified structures, "the transaction is removed from the market and organized within the firm subject to an authority relation."[20] In government regulations, conversely, part of the contracting structure is removed from the market, and organized within society; the authority relation is the coercive power of the state.

When asset specificity is high, firms need more complex contracting structures to ensure credible commitments and continuity. Otherwise, the parties are reluctant to enter into or sustain a transaction involving assets that would lose considerable value if the transaction were prematurely terminated.

Regulations are a form of contracting. The contract is both between firms and governments (two-party or "bilateral"), and among firms with the government acting as a third-party ("trilateral") enforcement mechanism. Homogenous regulations act to harmonize

"contracts" involving the prohibited or prescribed behavior. Firms with high multinational asset specificity support those regulations.

Asset specificity creates incentives and constraints for firms and governments, but it is not deterministic. Over the long term, asset specificity may change as firms change their investment strategies, or as demand for products (and substitutes) changes. These firm-level decisions and others are noted in the case studies and the conclusion.

Transaction costs and asset specificity are difficult to measure. The economists who developed these concepts concede this challenge, and defend the qualitative research approach as adopted here:

> "[Both *ex ante* and *ex post* transaction costs] are often difficult to quantify. The difficulty, however, is mitigated by the fact that transaction costs are always assessed in a comparative institutional way, in which one mode of contracting is compared with another. Accordingly, it is the difference between rather than the absolute magnitude of transaction costs that matters. . . . Empirical research on transaction cost matters almost never attempts to measure such costs directly. Instead, the question is whether organizational relations (contracting practices; governance structures) line up with the attributes of transactions as predicted by transaction cost reasoning or not." (Williamson, *op. cit.*21 -22)
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> "Measurement tasks [of asset specificity] are not trivial. . . data can be very difficult to obtain. . . we are certainly not going to find these numbers written down neatly in a book of industry statistics. The best that we can hope for is more qualitative information. . . . Schmalensee and I would have been much happier with our analysis if there had been more (any!) empirical support available for the transactions cost perspective that we found so intuitively appealing and so consistent with the historical evolution of the electric power industry." (Joskow, 1988)[21]

For this chapter I rely on discrete comparative categories of "domestic or multinational," and "high or low." This qualitative approach follows the received literature.

B. National Process versus Market-Access Regulations

The second part of the explanation concerns the locus of regulations. Nations may limit or prohibit manufacturing or service-industry *processes* within their jurisdiction (national process restrictions). Or, they may restrict the *market-access* of particular services or products (market-access restrictions).[22]

The process versus market-access distinction emphasizes the different interests of export-oriented and import-competing industries and the different political resources available to producers and consumers. Firms seek regulations that add to their value; they will seek to capitalize on the differential effect of a regulation on itself versus its competitors.

Heterogenous national restrictions on manufacturing or service-industry *processes* may spawn competitions in laxity. Process restrictions increase the cost of manufacturing. Domestic business and labor in a nation with costly restrictions on manufacturing processes tend to operate at a disadvantage with respect to competitors in less-regulated nations. In the absence of common international action for a common higher standard, both export-oriented and import-competing sectoral interests will fight for lax national restrictions on manufacturing processes to improve their competitive position. In cases of costly regulation or inexpensive relocation, firms

may move manufacturing to less-regulated states. The threat of industrial relocation and the resultant loss of jobs and tax revenues may convince governments to keep process standards lax.

Heterogenous national restrictions on the market-access of services or products (sale, consumption or disposal) may spawn increased protectionism. Domestic business (and labor) in a nation will push for a market-access restriction if it reflects their parochial interests. Unilateral market-access regulations are likely to give firms an advantage with respect to foreign competitors in less regulated nations. In the absence of common international action against market-access restrictions as *de facto* trade barriers, firms may seek to impose domestic market-access regulations that improve their competitive position.

This concept of "market-access regulations" is broader than the GATT's concept of "product regulations." Market-access regulations by definition include all restrictions on imports, regardless of the rationale for them. By contrast, the GATT restricts its definition of product regulations to include only those justified by the nature of the product itself. This is because the GATT sought to limit *de facto* trade barriers. The GATT permits product restrictions if they do not discriminate against imports. Hence, the narrower the definition of product restrictions, the fewer constraints on trade. The GATT prohibits all restrictions on imports if the rational of the restriction is the process or production method (PPMs) by which a good is made. Internationally, of course, no country has the jurisdiction to impose process regulations on economic activities inside another country. The GATT is thus forced to assess the motivation for regulations. The GATT's product-process distinction can be contentious. In the Mexican tuna-dolphin case discussed below, the distinction was at the center of debate. The broader "market-access" concept used here offers greater analytical clarity for understanding the sources of regulatory change.

A country's market-size may determine the extent to which it can effectively use market-access regulations. Governments of states with large internal markets may use market-access regulations not only to protect domestic industry, but also as a "club" to influence regulations in other countries. If those foreign countries do not move toward a common (higher) process regulation, or toward fewer discriminatory market-access regulations, their exports may be denied market access. Although the GATT/WTO prohibits such activity, states with very large markets such as the U.S., Europe, or Japan may contravene their GATT agreements. Small states may have little economic incentive to pursue the WTO's only remedy of authorized trade sanctions or countervailing duties, because they might fear retaliation in other arenas. *Ceteris paribus*, the outcome here is a pattern of market-access regulations moving toward higher (heterogenous) standards that reflect producer interests in dominant states. The concept of market-access regulations helps explain the "California effect," if countries are able to exclude products or services which do not meet domestic standards.

Process and market-access restrictions are likely to have markedly different international consequences and yield markedly different results. Especially if a firm is threatened by imports, it is likely to push for lower domestic process standards, and to push for market-access restrictions on imports if it can't get lower domestic process standards.[23] Among open economies, this part of the explanation predicts movement toward more lax regulations in the case of process restrictions, and toward more stringent regulations in the case of market-access restrictions.

C. Industrial Structure

The third part of the explanation, industrial structure, addresses the extent of regulatory change. *Regulatory movement is more likely to be achieved by dominant, established firms in large, concentrated markets.* These findings are well-established in political economy studies. These studies range from free trade and tariffs at the turn of the last century, to New Deal regulatory bodies, to "voluntary" export restraints in the 1970s, to nontariff barriers in the 1990s.[24] Firms calculate their interest in regulatory change, and the resources available to them to achieve that change. In order to achieve regulations that reflect their particular interests, firms must significantly influence governments. That influence can be direct or implicit, or even imputed by governments. Governments are more likely to respond to dominant firms both as a result of lobbying pressures and to improve their own political survival by boosting employment and economic growth.

Concentrated markets facilitate collective action and the ability to shape regulations. Oligopolies have greater resources to absorb regulatory costs and to achieve their regulatory goals through lobbying, funding of research, litigation, and education or advertising.[25] They also have asymmetrical access to information; indeed, they are often the only source of information available to the regulatory agencies. They have incentives to erect barriers to entry, to maintain market share and prices, and to impede (or dominate) substitute goods. Organized firms with concentrated interests are more likely to affect outcomes than small firms with diffuse benefits or costs, or inchoate consumers and voters.

However, industrial structure is dynamic, not deterministic (particularly at the product-line level), as firms make strategic production decisions. The decision by a dominant firm to invest in a new product (e.g., chlorofluorocarbon substitutes) or a new production technology (e.g., totally chlorine-free pulp) may alter the structure of a particular market. These investment decisions will also affect regulatory preferences.[26]

Firms may form lobbying coalitions with each other or in alliance with public interest groups. One expects firms to take advantage of so-called "Baptists and bootleggers" coalitions in a synergistic alliance of "the good and the greedy." Regulations are legitimated in terms of the public interest. Public interest groups can play a valuable legitimizing role for firms, if common ground can be found between them. Likewise, politicians who support regulations commonly favored by both firms and interest groups can expect support from them both.[27]

III. Empirical Evidence, From Case Studies

The explanations proposed above were applied to a number of case studies.[28] The criteria for selecting cases are they must involve the movement of goods, capital or services across borders; the regulations must impose significant costs on some firms; and, initially, no single jurisdiction has regulatory authority over the issue.

Three cases are summarized here, for purposes of illustration, one for each of the three basic trajectories. The first is the case of shipping flags of convenience, a case of LCD. The second is the Montreal Protocol on chlorofluorcarbons (CFCs), a case of HCD. The third is U.S. regulations on tuna imports, a case of heterogeneous regulations.

A. Competition-in-laxity toward a Lower Common Denominator

Lower common denominator outcomes exhibit movement downward, the result of either a competition-in-laxity between competing states, or negotiated deregulation. Shipping is among the clearest examples of the former. Shipping registration (and certain financial services) may be particularly amenable to competition-in-laxity, because of the extreme ease and low cost of relocation. The flag-of-convenience (FOC) system is an example of location decisions based on comparative regulatory advantage.

Overall, the case illustrates the adoption or lower standards in common among competing flag-of-convenience states. There are elements of heterogeneity within the shipping case, as first one nation seeks to attract registration through lax regulations. As other nations join in that laxity, one sees a competition-in-laxity among states competing for the same industry. There are also elements of protectionism, e.g., on domestic shipping (*cabotage*). For clarity and to avoid the critique that “laxity” cases are merely anecdotal exceptions, the shipping industry is treated as one case study, here. International shipping offers an archetypical case of competition-in-laxity circumventing national tax and labor laws (thereby lowering the cost of transported goods), and also circumventing national safety and environmental regulations (with less desirable effects). These are the result of location decisions based on comparative regulatory advantage.

What difference does a ship's flag make? It determines most of the regulations that ship must abide by and it allies the ship with the diplomacy of its flag-country. Registration is a process regulation. Generally, only flag states may enforce compliance by vessels of their flag. A ship operated with no flag could be confiscated on the high seas as a "ship without nationality"; in effect, a pirate.

"Flags-of-convenience" (FOCs) are ship registration systems outside the beneficial owners' country. The *raisons d'etre* of FOCs are low taxes, lax domestic regulations and little enforcement of international regulations. The term is often used derogatorily, although there are some "excellent flags-of-convenience and appalling national registers."[29] FOCs save ship-owners costs in the "process" of shipping, by reducing the number of conventions, regulations and taxes they must comply with. These include various regulations on issues such as pollution and environmental concerns, vessel safety and navigational standards, crew requirements, worker safety, and unions and collective bargaining. Internationally, these included three International Maritime Organization’s [IMO] International Conventions: Prevention of Pollution from Ships [MARPOL] adopted in 1973, Safety of Life at Sea [SOLAS] adopted in 1974, and Standards of Training, Certification and Watchkeeping for Seafarers [STCW] adopted in 1978. Environmental issues go well beyond the most visible instances of oil spills: much more oil pollution occurs as a result of routine and intentional discharges.[30] Even if a FOC has formal regulations in place, however, enforcement of them is often lacking. Data on such *de facto* laxity are often nonexistent. In some FOCs the relevant question is which–if any–standards are being met, not which standards are being avoided.

The transaction of registering a ship is very non-specific. It involves discrete, autonomous, recurrent, "market contracting," in Williamson's parlance. Ship-owners have no

compelling reason to embed contracts in a protective governance structures to promote continuity, ensure credible commitments, or compliance. They have no interest in the particular identity of registry agents (and vice versa). They can move registration easily from one registry to another. The fact that there are no durable, firm-specific assets in ship-registration means that "hit-and-run entry and exit" is feasible. Williamson (1985) noted that in deregulation of the trucking and airlines industries the "investments in question here really are 'assets on wheels,' hence lack specificity." Likewise, one can label ships 'assets that float.'

The structure of the world shipping market contains both thousands of independent ship-owners with only a few ships to their name, and oligopoly competition between cartels. Regulatory movement in this case tended to be driven by the more powerful large owners. Within the shipping industry, a distinction is made between bulk (or tanker) and cargo (or liner) ships. The bulk sector transports grains, ores, raw materials, and, most importantly, oil. Shipping in this sector is dominated by multinational corporations. Within the oil-tanker sub-sector, the "Seven Sister" oil companies (now the “Fraternal Four”) controlled roughly twenty percent of world tanker tonnage. Exxon was the largest, with 168 tankers in 1977, Shell was the second largest with 163, followed by British Petroleum with 107. Other oil companies controlled another twenty percent of the oil subsector. Independent owners controlled sixty percent.[31] Liner shipping carries manufactured goods. A number of shipping conferences or cartels were influential, particularly those from the US, Norway, Greece, and Japan, although the number of independents is also large.

The FOC case shows a pattern of domestic regulation, followed by significant industrial-flight to countries where taxes are lower and regulations are often nonexistent or poorly enforced. The outcome shifts from lax heterogeneity, to lower common denominator (among competing states), in a classic competition-in-laxity. That trajectory is fairly constant over a forty-year period.[32]

To review, ship-owners relocated in droves to flags-of-convenience following World War II, seeking lower costs. There was a steady increase in market share by these FOCs, over a fifty-year period. By 1992, one fourth of the entire world's major tonnage sailed under a convenience flag. In general, ships in convenience-flag states sank more often, polluted more, and lost more lives. Every year from 1948 through the early 1990s more FOC ships were lost as a percentage of the number in their fleet, and also as a percentage of tonnage in their fleet. On average, FOC fleets lost nearly three times as many ships as national fleets (1.20 percent versus 0.45 percent). The losses resulted in greater pollution and loss of life. In 1990, for example, 471 seafarers died in shipping accidents, and 303 of these deaths (64 percent) were on FOC ships. Insurance rates are calculated on a per-ship basis, not per-flag, but on average are somewhat higher among FOC fleets. Consumers of shipping services benefited from the cheaper market prices, but these did not reflect the cost of negative environmental externalities or labor abuses. However, there are also many beneficial aspects of FOCs: by lowering transportation costs, they also lowered prices on traded goods, facilitated gains from trade, and provided employment for seamen in emerging markets.

An exception to these general trends was the "sub-case" of oil tankers owned by major companies. Here, one saw industry support of selected stringent regulations. Large ship-owners supported these regulations not from their love of pristine nature nor their fears of ever-more

costly regulations (although these may have played a role); large ship-owners stood to gain from the reduction in surplus capacity, which antitrust laws prevented them from doing on their own. With their enormous investments and revenues elsewhere, the costs of regulation were relatively insignificant for the large oil companies, compared to independent tanker-owners. (The infant formula case, discussed elsewhere, illustrates the risks to industry when collusive behavior in the market is not sanctioned by formal government regulation.) Even within this sub-case, the logic of my explanation is evident. For example, Shell Oil, Exxon and British Petroleum all pushed the load-on-top (LOT) system in the 1960s, over the head of their governments.

> An important point about the development of LOT is that is was done completely independently of governments and in a very short time. In fact, the oil companies had adopted a system which by their own admission violated both the 1954 Convention (then in force) and the 1962 Amendments then being ratified by many governments. Thus, their actions. . . [forced] the hands of governments by presenting them with a *fait accompli*. It was. . . because governmental enforcement of the existing regulations was so poor. . . that the industry was able to implement its own alternative. (Note: The preemption by industry of government was so successful that [an expert] did not think that there was a tanker over 20,000dwt in the world complying with the 1962 Amendments despite the fact that they had been law for seven years.)[33]

A more recent example followed the Exxon Valdez oil spill, when the U.S.–with its enormous markets–passed the Oil Pollution Act of 1990 that would phase out market-access to U.S. harbors for oil tankers that did not have double-hulls. Despite the magnitude of the spill of the public outcry over it, the full ban would not take effect until 2010, twenty years after its passage, giving U.S. industry enough time to amortize its old fleet.[34]

Heterogeneity continued to exist in standards between industrialized countries and convenience flag states (the *status quo ante*), but there was movement toward a lower common–albeit unstable–denominator among the FOCs. Many U.S.-owned ships were re-flagged in Panama or Liberia, in a clear example of *de facto* relocation. (The U.S. did not drop standards for cabotage among its domestically-flagged fleet, so the case is not one of the "uttermost possible lowest common denominator," but the overall trend is clearly one of competitive pressures and lax regulations–including taxes–enticing ship-owners to relocate.) Liberian and Panamanian standards converged through the 1970s, at which point Liberia's standards improved under the pressures from large tanker owners identified in the text. Exit from Liberia is also noted at this point, as an even lower set of standards emerged in Cyprus, Malta, and other new registries in the 1980s. Simultaneously, in response to the exit of their fleets, several European states (including the United Kingdom, Norway, France, Germany, Belgium and Denmark) deliberately created "international registries" with lower taxation and manning requirements. The latter permitted the hiring of crews under conditions that would violate domestic labor laws.

The driving force behind the creation of flag-of-convenience havens in Panama and Liberia was American ship-owners, with the strong support of prominent government officials. Process regulations, a fragmented market, low asset specificity and competitive pressures combined to yield laxity. One sees the creation of new centers of laxity, and responses that combine protection with deregulation.

The shipping case is worth studying not only for its theoretical insights, but also for its policy insights. It offers some support to critics' fears of regulatory collapse; though the benefits from cheaper transportation and gains from trade must also be considered, as must the role of dominant firms seeking barriers-to-entry. The extreme ease of relocation facilitated this competitive deregulation. Other examples of competition-in-laxity, with varying normative outcomes, include offshore banking centers (which account for a substantial proportion of all international finance), the relocation of California's furniture refinishing industry to the *maquiladora*, US state regulations on savings and loan institutions, and incorporation in Delaware. Some production standards in Europe have coalesced around lower standards, as noted in the introduction to this volume, in limits on air and water effluents, lead and PCBs, etc.[35] Some critics argue that the spread of genetically-modified foods reflects the spread of laissez-faire U.S. GMO regulations. Despite these examples, increased cross-border commerce has not resulted in the overall race to the bottom that some critics feared. The next two sections illustrate other outcomes, and help explain why.

B. Higher Common Denominator

On September 16, 1987, delegates from 24 major countries to the Montreal convention reached agreement on the Protocol on Substances that Deplete the Ozone Layer.[36] As revised, the Protocol phased out production of chlorofluorocarbons (CFCs) by 1995, and reduced production of halons, carbon tetrachloride, and methyl chloroform.[37] The sale and distribution of new CFCs would be foreclosed. Trade sanctions would be imposed against countries not complying with the Protocol. The effect of the Protocol was widespread: 70 percent of the US food supply depends on refrigeration at some point, and CFCs were the best coolants available. The global market for CFCs in 1990 totaled nearly two billion dollars. However, far from fighting the restrictions tooth-and-nail, as one might expect if one assumed industry opposed all regulations, dominant producers ended up supporting the Protocol. Indeed, by 1994, DuPont was poised to phase out CFC production early; and, in an ironic twist, the EPA requested DuPont to continue production for another year.

It is necessary to understand the role of dominant multinational producers in order to understand this movement toward homogenous, stringent market-access restrictions. Just over a dozen firms worldwide produced CFCs. The three largest were E.I. DuPont de Nemours Company (DuPont) in the U.S., Imperial Chemicals Industries (ICI) in the UK, and Elf-Atochem in France. Each had large multinational investments. DuPont accounted for 25 percent of the world market. It had factories in the U.S, Canada, the Netherlands, Japan, and Latin America. In the US, DuPont controlled nearly 50 percent of the market.[38]

But the major producers' hold on the market was slipping. As CFCs became an undifferentiated commodity and new competitors entered the market, prices fell and alternative uses of industry assets became more valuable. Even before the Montreal Protocol took effect, ICI and others sunk large specific investments into substitutes for CFCs. Asset specificity in CFCs was declining; but was high in substitute goods. The asset value of CFC investments was declining, and CFC producers faced increased competition and thinning profit margins. The cost of prematurely terminating these CFC contracts was declining. The asset specificity of substitute

goods was high, but without government intervention to restrict CFCs, the demand for substitutes would be low. Unlike in the shipping case, ICI and DuPont could not simply move production offshore, as the existent supporting business infrastructure would be too expensive to replace, and the cost of transporting CFCs too high. In effect, ICI and DuPont *et alia* contracted with governments, to retire CFCs and force consumers to buy more expensive substitutes–to preserve the ozone layer, in a Baptist and Bootlegger alliance. (Unlike in Stigler's work, there is no presumption here that this acquisition of regulations by industry was not in the societal interest.) The Montreal Protocol was a transaction-specific regime. It created a *de facto* cartel for CFC producers, giving them hope for windfall profits to fund continued investments in CFC substitutes.

This case fits the initial explanation well. Two dominant firms had high market concentration. Asset specificity in CFCs was declining; as profit margins fell, investments in alternatives became more profitable. Initially, US heterogeneous market-access regulations on use of CFCs in aerosols hurt DuPont and Allied Signal. These US producers objected to the unilateral measures, and seized the opportunity presented by scientific evidence to help achieve homogenous restrictions that covered competitors worldwide. They devoted assets to the development of substitutes, and stringent market-access regulations were adopted in common with all major producing countries. Industry at first sought direct subsidy of research on substitutes. As CFCs production was squeezed, industry benefited from oligopoly profits.[39] Later, industry pushed to have those profits guaranteed to existing producers, through the EPA quota system. When the market for alternatives to CFCs seemed certain, CFCs themselves became the restricted "substitute," in Stiglerian fashion.

DuPont had initially opposed controls on CFCs, and vehemently resisted unilateral US regulations. A year before the Montreal Protocol was signed, DuPont changed its position and indicated its support for limits on worldwide emissions of CFCs. According to the chief US negotiator there, private sector interests backed the UNEP proposals, sometimes against the wishes of Reagan Administration officials. According to the Executive Director of UNEP himself, Mustafa Tolba, industry was vital in shaping the final Protocol: "The difficulties in negotiating the Montreal Protocol had nothing to do with whether the environment was damaged or not. It was all who was going to gain an edge over who; whether DuPont would have an advantage over the European companies or not." This role is consistent with the primary emphasis here on producer preferences.

C. Heterogeneity

The US-Mexican dispute over tuna-dolphin is a well-known case of heterogeneity and a focal point for trade-and-the-environment disputes within the GATT/WTO system. The case involves the imposition of market-access regulations on the importation and sale of certain tuna caught with methods lethal to dolphins. In brief, the dominant American tuna processor hoped to capitalize on consumer sympathy for dolphins to boost its market share against low-cost competitors. Its assets were largely specific to the US domestic market. It was assisted by Federal legislation, which two GATT panels later ruled to be inconsistent with international law. The US unilaterally flouted the GATT ruling for over four years, but Mexico chose not to pursue the matter, for fear of upsetting other trade ties with the U.S.

Between 1975 and 1990, the US embargoed tuna imports on 23 different occasions. Mexican yellowfin tuna was banned from 1980 to 1986, in retaliation for the seizure of American tuna-boats fishing within Mexico's 200-mile coastline. After that ban was lifted in 1986, Mexican tuna exports tripled in three years, despite a long-standing US tariff of 12%-35%. (The tariff on canned tuna was higher than on lower value-added unprocessed tuna). On August 28, 1990, a U.S. federal judge again banned imports of Mexican tuna, this time on the grounds that Mexican tuna purse-seiners exceeded US standards for dolphin mortality in the Eastern Tropical Pacific (ETP). Only in the ETP do dolphins school with tuna.

The largest tuna canner, StarKist (owned by the H.J. Heinz Company), not only did not fight the US regulations; it pre-empted them by four months. On April 12, 1990, one week before Earth Day (and two days before the "International Dolphin Week"), Heinz announced a unilateral suspension of tuna purchases that were not dolphin-safe. The other major canners followed suit.

Heinz deliberately adopted a strategy of green marketing. In October 1989 (six months before its April announcement, and ten months before the US ban on Mexican tuna), J.W. Connolly, the president of Heinz-USA, wrote to top management, encouraging a dolphin-safe strategy: "I am interested in the possibility of seizing the environmental high ground by offering the only tuna guaranteed not caught off dolphins. . . I know about the potential cost impact on the procurement of raw tuna . . . However. . . If I am right in this, and we can solve the procurement problems, we could have a very substantial volume opportunity." If Connolly were correct, his plan would contrast sharply with the characterization by some activists that corporate greed is antithetical to protecting the environment.

The US Marine Mammal Protection Act (MMPA) and its embargo on ETP tuna was supported on aesthetic and moral grounds. Dolphins in the ETP were never endangered species, and by 1990 their population was growing 2%-6% annually. A National Academy of Sciences study, conducted under Congressional mandate, recommended that dolphin-setting techniques be improved through international education, monitoring, and incentives, but not stopped.[40] Mexican tuna posed no human health threat.

The US tuna processing industry was an oligopoly. Three large companies dominated 71% of the US canned tuna market in 1989: Heinz (StarKist) with a 36% market share, Van Camp (Chicken of the Sea) with 21%, and Unicord (Bumble Bee) with 14%.[41] The parent companies of the big three tuna labels were major producers of packaged foods: H.J. Heinz, Inc., for example, had assets of $4.9 billion, annual net sales of $6.6 billion, and an annual gross profit of $2.5 billion in 1991. (By contrast, the tuna-fishing industry was fragmented, had tiny revenues in comparison to the canners, and little national political influence. Their regulatory preferences would be swamped by those of the much larger canners.)

StarKist's MAS in the ETP was low. StarKist's assets devoted to the purchase of raw tuna were non-specific, they bought tuna from around the world, not just from the ETP. International transactions involving the purchase of raw tuna were on the spot market and were not asset specific. The US canning industry dissolved its ties to the tuna fishing fleet by 1979, as many Asian and Latin countries invested in their fishing sectors. The major US canners turned to the international spot market for raw tuna. They moved some canning operations to American Samoa and Puerto Rico, taking advantage of special US tax provisions there.[42]

StarKist's domestic US asset specificity in canning and marketing, by contrast was high. Most of its assets were deployed domestically in the US (and US territories). Most of its tuna sales were in the US. Overseas in the UK, for example, StarKist's market share was only 5%, or one-seventh its share of the US market. Despite Chicken of the Sea's and Bumble Bee's transfer to Asian ownership in 1989, their canned tuna sales were also largely specific to the US. Asset specificity in marketing for the big three was high. They relied on brand-name recognition to boost sales and retail prices.

The brand-name recognition bought higher prices--but low-cost producers threatened the price-margins. For the smaller private label firms, by contrast, assets were more specifically invested in the ETP. Their market share depended on low-costs and narrow profit margins. They relied on fishermen and canneries near the ETP to reduce transportation costs. Mexico had invested in its tuna industry with the expectation of access to the US market.

Rather than reach a multilateral agreement on dolphin protection, or let consumer preferences determine the demand for "dolphin-safe" tuna, the US Congress and courts unilaterally banned the importation or domestic sale of tuna that was caught using methods lethal to dolphins. The effective ban lasted for over ten years. The ban on the sale or importation of a product or service is a "market-access regulation," as defined here, whatever the motivation for the ban. (The GATT ruled that the U.S. laws contravened the GATT's definition of "process" regulations. However, the U.S. International Dolphin Conservation Act prohibited the importation of sale of products within the U.S., but it would technically have permitted a U.S. fisher to use the process of dolphin-setting and sell that tuna catch overseas. As defined in this chapter, the U.S. regulations were market-access, not process.) This denial of market-access followed shifts in consumer demand, a retail price war, and the voluntary end of dolphin-set tuna purchases by market-leader StarKist and the other two dominant firms. The regulations met with StarKist's enthusiastic support and assistance. The U.S. Human Society had called for a boycott of dolphin-set tuna since 1972, nearly twenty years earlier, with little noticeable change in consumer preferences. When StarKist finally agreed to boycott dolphin-set tuna, the change was immediate and dramatic: with regulations in place banning dolphin-set imports, consumers had no choice.

StarKist's CEO, Richard Wamhoff, wrote to Senator John Kerry in October 1992:

> Dear Senator Kerry: . . . StarKist enthusiastically supported the enactment of the Dolphin Protection Consumer Information Act in 1990 and. . . continues its firm commitment to its dolphin safe policy. With respect to the International Dolphin Conservation Act [1992], we would like to make clear that StarKist generally supports the Bill. . . Again, we want to make clear that StarKist and Heinz support the aims of the International Dolphin Conservation Act and remain firmly committed to a dolphin-safe policy. . . . We stand ready to assist you and members of your staff to address in detail means to provide solid legislation which meets the cause of marine mammal protection.
> Very truly yours,
> Richard H. Wamhoff

StarKist supported the dolphin-safe legislation, and registered concern only about regulations outside the ETP. In response, Senator Kerry reassured StarKist: "I would like to

assure Mr. Wamhoff that it is my expectation that the Secretary of Commerce will only exercise his or her authority. . . after consulting with the appropriate segments of the tuna industry, with scientific and regional fishery management organizations, and with conservation or environmental organizations." The record here suggests cooperation between industry, environmentalists and politicians; each one sensitive (but not beholden) to US consumer preferences.[43] (As with the CFC and other cases, no Stiglerian normative judgment is implied here. Many would argue that StarKist should have undertaken this step many years earlier for normative reasons; others argue it should have pushed for a homogenous international agreement rather than a unilateral U.S. policy. These are not exclusive.)

The U.S. stood by its heterogeneous ban, even after the GATT ruled against it twice. Nearly a decade later–only after consumer preferences had changed to support the major companies in their "dolphin-safe" campaign, only after consumers had reestablished strong brand-loyalty to the three big U.S. producers, only after dolphin-deaths had fallen by 97% to less than 2,000/year from 150,000/year a decade earlier (and from over 500,000/year when U.S. cannery-boats pioneered dolphin-setting in the 1960s), only after producers were no longer threatened by low-cost imports, and only after the U.S. environmental community had split and Greenpeace recognized that dolphin-setting was less ecologically disruptive than the alternative of log-setting–only then did the U.S. technically legalize the importation of dolphin-set tuna, provided that scientific studies determined the imports were ecologically safe. Even then, the U.S. retained the right to block tuna imports anytime it deemed they had an "adverse effect" on dolphins. Further, NGOs created a "Flipper Safe" label, which a tuna canner could use only if it did not use dolphin-set tuna at all (and–incidentally–only if it paid an annual licensing fee to the "Flipper Program"). By 2001, even with the vastly improved safety record, little if any Mexican dolphin-set tuna had entered the U.S. market. In short, the GATT/WTO did not overturn U.S. environmental law. In fact, to the extent Mexican fishing practices were improved to protect dolphins, there was something of a movement toward a higher common denominator, as Mexico moved closer to U.S. practices. The U.S. use of market-access (or threats to close it) may help explain why the worst fears of some environmental activists have not been born out, and one finds convergence in a number of regulations.[44]

IV. CONCLUSION

There is a pattern in these cases: private sector interests shaped the outcome of inter-jurisdictional regulatory competition, be it downward or upward, in common with other states or in isolation. These interests are often legitimated in terms of the public good and with the assistance of public interest groups. They were certainly not the only actors involved, and this chapter's aim was limited to a plausible, necessary-but-not-sufficient explanation. These findings are supported not only by the cases summarized above, and others, but also by the sub-cases and details within them.

First, the specificity of firms' investments shapes the firm preferences for the regulatory harmonization. Investments with low asset specificity lead to a competition-in-laxity (ship flags, offshore banks) as firms seek less restrictive (market governance) regulatory environments. They increase the "exit" option of firms, thereby reducing the corresponding options of

governments. To the extent Internet-based commerce reduces the specificity of assets (by reducing certain transaction costs and facilitating market governance), it may also encourage the circumvention of taxes and other national regulations. Conversely, investments specific to transactions across borders induce firms to support multinational regulatory convergence (unified governance, as in CFCs or BIS capital requirements). Investments specific to domestic transactions lead to heterogeneity in regulations among countries (tuna-dolphin, US advertising collusion, Danish bottle bill, Asian tobacco monopolies). In these cases, firms' exit options are limited and "voice" options become more attractive. Governments are more likely to "listen" to their own producers than to foreign firms.

Second, the locus of regulatory policy affects the direction of regulatory change, toward laxity or stringency, reflecting producer preferences. Process regulations are associated with laxity (general ship flags case, offshore banking centers, Delaware incorporation). In the shipping case, by 1994 more of the world's shipping fleet flew a flag-of-convenience than a flag from the seven largest OECD fleets combined; these FOC fleets also sank three times as often and were more prone to labor abuses and pollution and inspection violations. All labor laws, from union organizing to minimum wages to occupational safety laws, are process regulations, and in general one finds large firms opposing stringent labor laws. Process regulations may by collinear with low asset-specific investments, future research should evaluate the relative weight and interaction of these two variables. Conversely, one finds market-access regulations generally associated with stringent regulations (CFCs, tuna-dolphin, Danish bottle recycling). Market-access regulations included the actual or threatened use by large economies of market regulations on products and services as a "club" to raise process standards overseas (BIS capital requirements, regulation of oil tankers). In certain cases, one finds large firms supporting these barriers-to-entry.

Third, industrial structure affects the strength of the process-market access distinction. Governments are more likely to respond to demands for regulatory change from dominant, established firms in concentrated markets. The evidence shows a pattern of powerful firms using stringent regulations as a barrier to entry to competitors (Heinz-StarKist, DuPont, ICI, Abbott-Ross, Bristol-Myers, monopolies on tobacco in Asia, Shell on LOT). DuPont even lobbied to save the Vienna Convention and Montreal Protocol against Reagan administration critics. Powerful actors also acted to create or seek havens with lower taxes or more favorable regulations in order reduce production costs (Harriman and Dulles in Panama, Stettinius in Liberia, DuPont in Delaware); smaller firms took advantage of these once created.

So-called “Baptist and Bootlegger” coalitions are clearly identifiable and influential in several of these cases, notably the tuna-dolphin controversy, and the Montreal Protocol. They did not emerge in the overall ship flagging case, a case overall of laxity, but did in the subcase of higher oil-tanker pollution regulations. While not exhaustive, these cases all lend credence to the importance of Baptist-Bootlegger coalitions.

Mutual recognition agreements (MRAs) are a “middle ground” between laxity and stringency, and between commonality and heterogeneity. In MRAs, products “approved once”(in any member county) are “accepted everywhere” for the purpose of trade. These helped facilitate integration of the single European market, and since 1995 have been a major goal of the Trans-Atlantic Business Dialogue (TABD). As a less-distinct dependent variable MRAs are less

useful analytically for theory-building, but they are important from a policy perspective. Consistent with this chapter's emphasis, the clear driver for MRAs has been major producers' preferences.[45] The TABD consists of major corporations from the U.S. and Europe, paired with their government officials. Xerox Corporation and Goldman Sachs stepped up and began the preparations for the first TABD meeting in Seville in November 1995, and BASF and Ford assumed the TABD chairmanship in 1996. They were followed in subsequent years by Phillips and Tenneco, DaimlerChrysler and Warner-Lambert, Suez Lyonnais and Xerox (again), Lafarge and United Technologies, and Electrolux and PricewaterhouseCoopers. The host companies pay for the TABD Director's office, staff, and travel budget. U.S. and EU governments are fully supportive of this effort. As U.S. Under Secretary of Commerce Timothy J. Hauser noted, "We should put the business 'horse' before the government 'cart'."[46] To date, seven MRAs have reached the implementation stage, within telecommunications, medical devices, electromagnetic compatibility, electrical safety, recreational craft, pharmaceuticals, and capital markets. TABD Director Jeff Werner notes that because U.S. and EU standards are often quite high to begin with, it is "less frequent that the TABD would look to raise them," with exceptions such as intellectual property.[47] NGOs have played only a very minor role in this process. The "Trans-Atlantic Environmental Dialogue" has died on the vine. Its website (www.taed.org), notes acerbically that, "TAED suspends its activities due to the failure of US government to stick to its commitments." And the Trans-Atlantic Consumer Dialogue (www.tacd.org) has had only limited success. Other consumer groups are more critical of MRAs.[48]

The logic of capitalism arguably may lead to the continued growth of large corporations that seek to capture economies of scale and scope.[49] To the extent this is true, and these findings of this research are correct, one can expect an increasing reflection of corporate interests in regulations. The rapidly growing number of cases before the WTO and the rapidly growing public reactions against them are only the most visible sign of the amount of economic activity affected by the juncture of national regulations and cross-border commerce. World trade doubled from 1980 to 2000, and foreign direct investments (FDI) grew even faster. To the extent that selling these FDI assets prematurely would involve greater losses than with comparable domestic investments, due to the greater transaction costs and risks of FDI, this helps explain why FDI might be associated with increasingly homogenous regulations.

These outcomes of competition among jurisdictions reflect producers' constrained preferences. Constraints are imposed by a variety of other factors not examined in this chapter. These include technology, science, economic conditions, competition among firms; INGOs, NGOs, interest groups, media coverage, norms, ideologies, and other non-market institutions; domestic and international institutions, labor unions, domestic party politics, and changes in consumer preferences. These are exogenous to the focus of this research, which aims for a necessary (if not sufficient) explanation of regulatory outcomes. Obviously, not every firm can write its own legal code. To the contrary, firms compete with each other in the regulatory arena as well as in the market, and regulatory strategies carry a significant cost to firms. Acting under conditions of uncertainty, it is not surprising that firms and governments both make mistakes and are affected by forces beyond their control. Nevertheless, it is striking that across such a diverse set of cases one finds a pattern of behavior that can be reasonably well explained by a few simple propositions.

This chapter offers a cut at concept formation and confirmation; additional studies support these findings (Murphy 1993, 1995, 1996, 1998, and forthcoming; Alt 1999, Spar 1999). These include detailed case studies of the origin of offshore banking, the Basle Accord on capital adequacy, and infant-formula marketing. Further research must refine, operationalize, and test these propositions in light of other cases. Low asset-specificity interacts with the process variable, and future research should distinguish which is more important under specified circumstances. Some public policies, such as US restrictions on tobacco, may (or may not) have disadvantaged domestic firms. These cases need to be reexamined, to ascertain why, for example, the Liggett Group broke ranks with other US cigarette manufacturers, or to properly conceptualize the role of state attorney-led lawsuits. The role of trade unions poses another conceptual challenge. There are other outlying cases. Many large US firms complained that the unilateral 1974 Foreign Corrupt Practices Act put them at a competitive disadvantage, although the first conviction did not take place for a decade and resulted in a relatively minor fine; these same groups have since supported multilateral adoption of US rules.[50] In other cases, such as gender equality in the workforce (see Gelb chapter), policies may not put domestic firms at a competitive disadvantage, and might well benefit them. These would not then be subject to the competitive pressures of globalization analyzed here. As shown in the other chapters in this book, to fully explain any one case a wide variety of factors must be examined, including both formal institutions and informal pressures.

Although producer preferences can be forecasted, these forecasts are not completely determinate–preferences involve business strategy and human choice, and regulatory outcomes are affected by other groups and variables. The conclusion of this chapter is not one of nihilistic acceptance that narrow material interests are the sole driver of outcomes. There is still room for leadership and creativity in both business and regulatory politics. The creation of new coalitions, new alliances, new business and political strategies, and so on, all depend on human agency. Consumer demand is the ultimate driving force for most producers, and consumers' preferences may themselves by subject to suasion, sometimes by NGO efforts, e.g., in a shift to "green" products. Governments are likely to have greater autonomy in devising policy solutions, especially when a split in policy preference occurs between evenly matched major producers or industries, or in times of crisis. Policy managers and activists can and have taken advantage of this, by deliberately identifying and assisting those firms or business-associations whose policy preferences align with their own, or by developing compromise policies such as labeling requirements or MRAs. Identifying the implications of large firms' asset-specific investments is as useful for non-governmental organizations and governments as it is for corporations.

The underlying logic of this chapter is that producer preferences shape outcomes that affect their interests, and that producers will seek the regulations that benefit them. The chapter goes beyond this, to examine under what conditions different producers will prefer different outcomes. Previous debates on "globalization" and "convergence" have tended to assume unidirectional movement. The explanation given here opens up the "black box" of firm-state relations in the global economy. It shows why simultaneous movements toward regulatory homogeneity and heterogeneity (convergence and divergence) may occur, as a reflection of differentiated producer preferences. The pressures identified here must be considered by firms,

governments, and policy activists alike, in order to devise effective strategies for enduring regulations, whatever the desired outcome.

Endnotes:

[1]This chapter draws on several earlier research papers, notably Dale D. Murphy, "Open Economies' Competition For Comparative Regulatory Advantage," MIT Center for International Studies IEIRS working paper November 1993. (This paper laid out the core concepts, arguments and cases, and was widely circulated among MIT, Harvard, Berkeley and other international relations research centers. The original text is available upon request via permanent email: dale@alum.mit.edu.) Dale D. Murphy and Kenneth A. Oye, "Interjurisdictional Harmonization and Divergence Across Open Economies," American Political Science Association annual conference paper, August 1994. Dale D. Murphy, *Open Economies and Regulations: Convergence and Competition among Jurisdictions*, PhD. diss., MIT Department of Political Science, 1995, Kenneth A. Oye adviser. Dale D. Murphy, paper for panel on "Asset Specificity and International Cooperation: Lessons from Transaction Cost Economics," International Studies Association, San Diego, CA, April 1996, David Lake discussant. Dale D. Murphy, "Comparative (Regulatory) Advantage: Firm-State Relations in the Global Economy," International Studies Association conference paper, Minneapolis, MN 1998, Daniel Verdier discussant Thanks to Kenneth Oye and David Vogel for many years of encouragement of this line of research, and to Robert Kagan for very helpful detailed comments here. Any errors in this paper, which emphasizes transaction costs, are the responsibility of the author.

[2]On the value of concept formation and its priority over premature quantification, see Giovanni Sartori, "Concept Misinformation in Comparative Politics," *American Political Science Review* 64 (1970) pp.1033-1053. On the value of intentionally selecting on the dependent variable in a qualitative case-study methodology see Gary King, Robert O. Keohane, and Sidney Verba, *Designing Social Inquiry*, (Princeton Univ. Press, 1994) pp.128-149. This approach permits causal inferences, although not descriptive inferences such as the number of cases falling into each category. This research design "may help us to gain some valuable information about the empirical plausibility of a causal inference. . . [I]f this design is to lead to meaningful--albeit necessarily limited--causal inferences, it is crucial to select observations without regard to values of the explanatory variables." (original emphasis) p.141. The latter is the case here, in which case studies were chosen to reflect a clear distribution in the dependent variable. Thanks to Keohane for a discussion of these issues at an MIT-Harvard Seminar, December 2, 1993, and for furthering my understanding of international relations on too many other occasions to list. Thanks to Thomas Homer-Dixon for additional discussion of the value of intentionally selecting on the dependent variable in a necessary-but-not-sufficient theoretical argument.

[3]See Suzanne Berger and Ronald Dore, eds., *Convergence or Diversity? National Models of Production and Distribution in a Global Economy* (Cornell University Press, 1996).

[4]See David Vogel, *Trading Up* (Harvard Univ. Press 1995).

[5]US Federal Reserve Board Chairman Arthur Burns (1974) described the US federalist financial system as a "competition in laxity." Thanks to Ethan Kapstein for this reference, and much useful discussion. Similar terms are "race of laxity," used by Supreme Court Justice Brandeis (1933); "race to the bottom" picked up in the Cary v. Winter debate over Delaware (see below); "degenerative competition" used by David Moss in describing the phossy-jaw case; and the more neutral "interjurisdictional competition" and "competitive deregulation" preferred in law and policy journals. The general subject falls under legal "conflict of laws" studies. This competition can be beneficial, as competition among states leads to a more optimal allocation of capital. E.g., see Theodore H. Moran, *Foreign Direct Investment and Development*, IIE 1998. Critics suggest it can also be detrimental. E.g., see Noreena Hertz, *The Silent Takeover* (London: Heineman 2001; Lori Wallach and Michelle Sforza, *Whose Trade Organization*, 1999; Dani Rodrik, *Has Globalization Gone Too Far?*, IIE 1997.

[6]Martin Khor, "How the South is getting a Raw Deal at the WTO," in *Views from the South*, 1999.

[7]See also Daniel Drezner, "Bottom Feeders," *Foreign Policy (*November/December 2000). Ronie Garcia-Johnson, *Exporting Environmentalism* (MIT Press, 2000). Adam B. Jaffee et al., "Environmental Regulation and the Competitiveness of US Manufacturing," *J. of Economic Literature* (March 1995) 33: 132-163. Arik Levinson, "Environmental Regulations and Industry Location," in *Fair Trade and Harmonization*, Vol. I., ed. J. Bhagwati and R.E. Hudec (MIT Press 1996). Leigh C. Anderson and Robert Kagan, "Adversarial Legalism and Transaction

Costs," *International Review of Law and Economics* (2000), 20:1-19. Thanks to Vogel and Kagan for drawing my attention to several of these sources.

[8]See Kyle Bagwell and Robert W. Staiger, "The WTO as a Mechanism for Securing Market Access Property Rights: Implications for Global Labor and Environmental Issues" (mimeo May 2001). Thanks to J.P. Singh for calling my attention to this work. See also Daniel Esty and D. Geradin, "Regulatory Co-opetition," *J. of International Economic Law* (2000), 3:2, 235-255.

[9]This does *not* imply that the state government apparatus is irrelevant. As Stigler (1971) notes: "The state. . . is a potential resource or threat to every industry in the society. . . [It] can and does selectively help or hurt a vast number of industries." The state has the power to coerce, tax, seize assets, control the movement of resources, and constrain economic decisions. Nor does Stigler deny that public interest groups may influence regulations. Nonetheless, over the long run, concentrated producer preferences are reflected in state regulations.

[10]"Loyalty" in this context might be in the expectation of future political "goods." Hirschman 1970.

[11]James Q. Wilson, ed., *The Politics of Regulation*, (1980).

[12]Oliver Williamson, *The Economic Institutions of Capitalism* (New York: Free Press, 1985). Williamson distinguishes the four types of asset specificity as follows. Site specific: the buyer and seller are located in a "cheek-by-jowl" relation to each other. Human asset specific: investments in relationship-specific human capital, such as skills that are imperfectly transferable across employers. These often arise in a learning-by-doing fashion, or from team configurations. Dedicated assets: involve expanding existing plant on behalf of a particular buyer. Physical asset specificity: when one or both parties to a transaction invest in specialized equipment designed specifically for that transaction; and the equipment would have lower value in alternative uses. On brand specificity, see Oliver Williamson, "The New Institutional Economics: Taking Stock, Looking Ahead," *Journal of Economic Literature*, 38 (September), 2000, pp. 595–613.

[13]For simplicity, "higher" asset specificity here refers to investments that involve both qualitatively more-specific transactions, and larger sums of money. "Lower" asset specificity similarly refers here to both qualitatively less-specific transactions, and smaller sums of money. Obviously, small investments that are very specific, or large investments that are not so specific, fall somewhere between these extremes. Both dimensions are important, future research might delineate their differences.

[14]Transaction costs are the "costs of running the economic system." They are the economic equivalent of friction. *Ex ante* transaction costs are the costs of drafting, negotiating, and safeguarding an agreement. *Ex post* transaction costs include maladaption costs when transactions go awry; haggling costs if efforts are needed to correct misalignments; the setup and running costs associated with the governance structures to which disputes are referred; and the cost of effecting secure commitments. Williamson (1985)

[15]"Most American multinational companies adopt worldwide environmental standards at their facilities regardless of where they are located . . . It is simply more efficient to use the same environmental standards in Mexico as in the United States." USTR interagency task force study, October 15, 1991. The UN Centre on Transnational Corporations similarly found that "although parent company policies and standards were not fully adopted by TNCs operating in host developing countries, their policies and practices were generally superior to standards contained in local environmental regulations. Standards of TNCs in pollution-intensive industries have exceeded local standards as indicated by all the country studies. . . [Eighty-three percent of all parent companies] directed subsidiaries to operate within the standards adopted in the home country of the parent company," (emphases added) ESCAP/UNCTC Publication Series B, 1990) Thanks to co-author Tyn Myint-U for lending me this book, and other discussions.

[16]Exceptions are rare, in which heterogenous rules discriminate in favor of a particular foreign firm.

[17]Spar requested and received two copies of the Murphy (1998) paper. See Debora Spar and David Yoffie, "Multinational Enterprises and the Prospects for Justice," *J. Int'l Affairs* 52:2, Spring 1999, 557-581, reprinted in Prakash and Hart, *Responding to Globalization* (Routledge: 2000). Thanks to an anonymous reviewer for making

me aware of the need to clarify this intellectual lineage. Footnote 1 has the complete citations for Murphy (1993, 1994, 1995, 1996, 1998).

[18]Alt et al. make major contributions to this literature, in developing quantitative indices of sectoral asset specificity and lobbying preferences. See JE Alt, F Carlsen, P Heum, K Johansen, "Asset Specificity and the Political Behavior of Firms: Lobbying for Subsidies in Norway," *International Organization* 53:1 (Winter 1999) 99-116. Broader aspects of factor specificity and trade policy are addressed in Alt and Gilligan (1994) and Alt, Frieden, Gilligan, Rodrik, and Rogowski (1996). David Lake was a reader and discussant of the Murphy (1996) paper, at the April 1996 ISA conference in La Jolla, CA.

[19]Colin J. Bennett, "Review Article: What is Policy Convergence and What Causes It?," *British Journal of Political Science* v21 n2 (April 1991) pp.215-234; Ronald Brickman, Shelia Jasanoff and Thomas Ilgen, *Controlling Chemicals: The Politics of Regulation in Europe and the United States* (Ithaca, NY: Cornell University Press, 1985), pp.302-3; in a broader sense Helen Milner, *Resisting Protectionism: Global Industries and the Politics of International Trade* (Princeton University Press, 1988).

[20]In the context of private sector contracts, Williamson uses the terms "bilateral" and "trilateral" in place of two-party and third-party, respectively. The diplomatic overtones of these terms would be confusing here, hence cognates are used. Unified means "vertical integration" within a firm. Williamson uses the terms "governance structure" and "contracting structure" interchangeably. "Market governance" is most clear in spot-market purchases. More important in this study is multinational "idiosyncracy," or highly specific investments. Williamson maps the governance structures onto a two-by-three table, not a one-dimensional hierarchy. Thanks to Lael Brainard for a key discussion of this literature; this adaptation is not her fault. Thanks also to James Rosberg for a discussion of this and other issues.

[21]Paul Joskow, "Asset Specificity and the Structure of Vertical Relationships: Empirical Evidence," *J. of Law, Economics, and Organization*, v4 n1 (Spring 1988), p.103-6. For current empirical studies on transaction cost economics, see: Scott Masten and Stephane Saussier, "Econometrics of Contracts: An Assessment of Developments in the Empirical Literature on Contracting," *Revue D'Economie Industrielle*, No. 92, 2000, pp. 215-236; and Robert Dahlstrom and Arne Nygaard, "An Empirical Investigation of Ex Post Transaction Costs in Franchised Distribution Channels," *J. of Marketing Research*, 36 (May 1999): 160-170.

[22]This distinction is adapted from the product-process distinction in Vogel 1995, and Murphy and Oye 1996.

[23]Thanks to Robert Kagan and David Vogel for this latter point.

[24]See Robert E. Baldwin, *The Political Economy of US Import Policy* (MIT Press: 1985). J. Lawrence, Broz, *Rent-seeking and the organization of the fiscal-military state: central banking in England and the United States, 1694-1834*. (Harvard Center for International Affairs, working paper no. 94-1, 1994). Helen Milner, *Resisting Protectionism: Global Industries and the Politics of International Trade* (Princeton Univ. Press, 1988). E.E. Schattschneider, *Politics, Pressure and the Tariff* (New York: Prentice-Hall, 1935). Miles Kahler, "Modeling Races to the Bottom," mimeo c.1999. Jean-Jacques Laffont and Jean Tirole, "The Politics of Government Decision-Making: A Theory of Regulatory Capture," *Journal of Law, Economics and Organization* (1991). James Cassing, Timothy McKeown & Jack Ochs, "Political Economy of Tariff Cycle," *American Political Science Review*, v80 n3 September 1986, pp.843-862. Jeffrey S. Banks and Barry R. Weingast, "The Political Control of Bureaucracies Under Asymmetric Information," *American Journal of Political Science* v36 n2 (May 1992), pp.509-525. Jonathan J. Pincus, *Pressure Groups and Politics in Antebellum Tariffs* (Columbia Univ. Press, 1977). Peter Gourevitch, "International Trade, Domestic Coalitions and Liberty," *Journal of Interdisciplinary History*, Autumn 1977. John A.C. Conybeare, "Voting for Protection: An Electoral Model of Tariff Policy," *International Organization* v45 n1 (Winter 1991) pp.57-81. Douglas A. Irwin, "The Political Economy of Free Trade," (mimeo, October 1992; Univ. of Chicago Graduate School of Business). Timothy McKeown, "The Politics of Corn Law Repeal and Theories of Commercial Policy," *British Journal of Political Science* 19 (July 1989), pp.353-380. Stephen Magee & Leslie Young, "Endogenous Protection in the US, 1900-1984," and "Comment" by J. Peter Neary, Chapter Four in Robert

M. Stern (ed), *US Trade Policy in a Changing World Economy* (MIT Press: 1987). For critiques, see e.g., Wilson 1980 (op cit.), Alexander Wendt, *Social Theory of International Politics*, Cambridge Univ. Press 1999.

[25]Full citations available upon request. Classic economic research on oligopolies includes Bain 1956, Modigliani 1958, Olson 1965, and Chandler 1988, McCraw ed.. See also Stigler's critique 1968, among others, on mechanisms to achieve collective action; Dixit 1979, 1982 on duopoly; McKeown 1984; Williamson 1985; and Aggarwal, Keohane and Yoffie 1987. P.G. Porter and Livesay (in McCraw 1988) offer a useful working definition of oligopoly as a situation in which six or fewer firms manufacture 50 per cent or more of the total product value of an industry, or twelve or fewer firms manufacture 75 percent or more of total industry product, as defined by the US *Census of Manufactures*.

[26]Industrial structure points to a possible exception to the market access-process distinction during market shake-outs. This exception to the rule is subordinate to the larger pattern. As firms compete for dominance, oligopolies may temporarily seek higher process regulations (in a "bleeding game"), so long as the gains from eliminating competitors exceeds the higher cost of production. Similarly, firms forced to endure stringent process standards (for whatever reason) may seek to impose these stringent standards on their competitors, through federal or international regulations. Conversely, oligopolies may temporarily seek lower market-access regulations, to undermine a competitor's protected market. The relevant aspect in these exceptions is the differential affect of the regulation on various firms, and the governments' responses.

[27]See Bruce Yandle, "Bootleggers and Baptists: the Education of a Regulatory Economist," *Regulation*, May-June 1983. The phrase refers to the American Prohibition on alcohol (1919-1933, Constitutional Amendment Eighteen), when product bans on alcohol led to windfall profits for illegal distributors ("bootleggers"). Those in the temperance movement ("Baptists") unwittingly found themselves in an "unholy" alliance with bootleggers: both wanted to keep stringent regulations on alcohol, albeit for different reasons. Politicians who voted for prohibition (or later bans on Sunday liquor sales) were supported by both groups. See also Odegard 1928/[1966].

[28]See footnote 1. A book-length treatment of these cases is being published elsewhere (Murphy, forthcoming). These cases and their details offer data supporting the conclusions that can only be summarized here.

[29]Lloyd's 1991. Liberia has the lowest accident rate of the FOCs, improving by 1980 to the same level as Japan, Norway and the U.S. Greece has the worst accident rate, often higher than the FOCs. Calculations by the authors, from Lloyd's data various years.

[30]R. Michael M'Gonigle and Mark W. Zacher, *Pollution, Politics, and International Law: Tankers at Sea* (Berkeley: Univ. of California Press, 1979).

[31]See also Alan W. Cafruny, "The Political Economy of International Shipping: Europe versus America," *International Organization* v39 n1 (Winter 1985), pp.79-119, for a discussion of power and hegemony in the context of the shipping industry. Cafruny, op. cit. Data are for 1977.

[32]See Murphy (1993) for details.

[33]M'Gonigle and Zacher, 1979.

[34]In the latter case, U.S. industry may have acted to forestall even tougher regulations, or to better control their legal and political risks. See Joseph Rees, *Hostages of Each Other*, (Univ. Chicago Press 1994) and Richard O. Brooks and Thomas M. Hoban, *Green Justice* (Westview 1996). Thanks to Robert Kagan for these references.

[35]Jonathan Golub, "Globalization, Sovereignty and Policy-Making," in *Global Democracy*, ed. B. Holden (Routledge 2000). Thanks to Vogel and Kagan for this reference.

[36]Thanks to Sanford Weiner and James Maxwell sharing and discussing their research (1993) in this area, and to Nathan Foster and Judith Layzer for comments on these issues. On government and INGO negotiations see Richard Benedick 1991. On epistemic communities see Peter Haas 1992. See also Litfin 1994 and Solingen 1993.

[37]The Montreal Protocol was made increasingly stringent in Helsinki in 1989, London in 1990, and Copenhagen in 1992. Unless otherwise specified, the entire set of agreements is referred to here loosely as the "Montreal Protocol." The London revision included a non-binding resolution to phase out HCFCs as well, by 2030.

[38]Allied Signal held another 25 percent. (Elf-Atochem purchased Pennwalt in 1989; it also owned Racon.)

[39]If industry had created such a cartel on its own, it might have been charged with price-fixing.

[40]US, not Mexican fishermen pioneered purse-seining technology in the 1960s. By the 1970s, ETP northeastern spotted dolphin stocks had dropped by up to 70%. The US did not then embargo ETP tuna despite the hundreds of thousands of dolphins killed annually. By 1989, as fishing techniques improved, the northeastern stock increased by roughly 4% per year. (National Research Council 1992). None of the dolphin species in the ETP were listed as in danger of extinction.

[41]The big three were American-owned in 1988. By 1989 only StarKist remained American-owned, as Chicken of the Sea and Bumble Bee were sold to Indonesian and Thai interests, respectively. The latter had even weaker ties to the ETP. The sale of ownership would have little impact on regulations within the U.S., however, as the firms' assets, branding, business strategy and government ties remained solidly American.

[42]StarKist closed its last California cannery in 1984, "in response to high costs and the Government's failure to provide relief from low-priced canned tuna imports" (H.J. Heinz 1985 Annual Report, 17).

[43]Emphases added. Coincidentally, Kerry is married to the widow of H.J. Heinz' grandson, the late Senator John Heinz.

[44]See Vogel 1995 (op. cit.), Robert Kagan and Lee Axelrad, *Regulatory Encounters* (UC Berkeley Press, 2000).

[45]Maria Green Cowles argues that European integration itself was the result of preferences by dominant producers with significant asset-specific investments across European borders. "The Politics of Big Business in the European Community: Setting the Agenda for a New Europe," Ph.D. dissertation, American University, 1994. The role of the European Round Table of industrialists (ERT) was particularly influential; it's early white-papers are remarkably similar to the final Single European Act. On the TABD, see www.TABD.com. MRAs do not obviate the utility of the three analytical trajectories used here (LCD, HCD, and heterogeneous), just as warm water does not obviate the distinction between cold and hot. They do raise an interesting new question, as to what conditions lead to their implementation.

[46]US Under Secretary of Commerce Timothy J. Hauser, acting Under Secretary of Commerce for International Trade, in testimony before the Subcommittee on Trade of the House Committee on Ways and Means, Hearing on New Transatlantic Agenda, 23 July 1997, 105th Congress, first session.

[47]Interview with TABD Director Jeff Werner, December 2001.

[48]E.g., www.publiccitizen.org/trade/harmonization/MRA .

[49]Alfred DuPont, with the assistance of Takashi Hikino, *Scale and Scope: The Dynamics of Industrial Capitalism*, (Cambridge, MA: Belknap Press, 1990). This logic is not inevitable, as some factors work against increased concentration of industry. These include flexible-specificiation technologies (Piore and Sable 1984), networked forms of industrial organization (Locke), strategic alliances, and entrepreneurship.

[50]The 1974 Foreign Corrupt Practices Act was adopted at the peak of other shake-ups in Washington, DC power circles, and other "Sunshine Laws." These historical anomolies may explain the Act's adoption. The first major conviction was not until 1985, when U.S.-based Crawford Enterprises was fined $3.5 million for having bribed officials of Mexico's PemEx with a total of $10 million. The movement in the late 1990s toward harmonization of corruption laws was led by US firms, notably General Electric, which helped fund and promote Transparency International.