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**DOMESTIC REGULATION AND INTERNATIONAL TRADE:
WHERE'S THE RACE? LESSONS FROM
TELECOMMUNICATIONS AND EXPORT CONTROLS**

Ronald A. Cass^{*}
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INTRODUCTION

Critics claim that international trade undermines a nation's ability to maintain an independent national regulatory structure that would be chosen under democratic-representative processes. The result supposedly is a race to the bottom⁸ in protection of public interests. Politicians and other commentators frequently conclude that public welfare is reduced by open trade without some mechanism to safeguard domestic regulation or otherwise to secure its ends.

The race-to-the-bottom metaphor builds on economic writings suggesting that, at least under certain conditions, open trade in goods leads to factor price equalization with reduced returns to factors that are relatively abundant in other nations.¹ Thus, for example, if low-skilled labor is relatively abundant outside the United States, open trade in products intensively utilizing such labor will (according to this theory) lead to lower real income for low-skilled American workers.² That conclusion has led to calls for restraining trade, for harmonizing divergent national rules, or for adopting uniform transnational regulatory accords. Economists, however, debate whether this relationship actually describes reality, noting that the conditions from which factor-price-equalization was deduced seldom occur.³

Even if trade does not bring about factor price equalization, its contribution to competition in a domestic economy alters both economic and political activity.

⁸ Ronald A. Cass & John R. Haring 1998. Prepared for 1998 General Meeting of the Mont Pèlerin Society.

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¹ Stolper & Samuelson, 1941; Samuelson, 1948; Samuelson, 1949.

² Murphy & Welch, 1991; Borjas, Freeman & Katz, 1992. *But see* Bhagwati, 1968 (trade-linked welfare reduction, like growth-linked welfare reduction, traces to underlying welfare-distorting policy, not independently to trade or growth).

³ Deardorff, 1986.

The transmission of competitive effects from trade resembles the effects predicted by the race-to-the-bottom metaphor, but trade's competitive effects generally benefit both national economic welfare and individual liberty. One effect could be a change in domestic regulation, including a change that would generally be characterized as reducing the scope or bite of regulation. Contrary to the race metaphor's implication, such changes typically *enhance* national welfare. The paradigm for trade's effects on domestic regulations, in other words, is provided by Tiebout, not Gresham or Akerlof.⁴

That trade promotes competition, though generally good news for economic welfare, is *both* good news and bad in the world of trade politics. Politics, after all, is to some degree—perhaps a very large degree—a world of rent creation, and competition destroys rents. The tendency of politics, hence, inevitably is toward too little competition, including (especially) competition from imports.⁵ That tendency does not go unchecked, but the checks are not fully availing.

This paper explores both economic and political aspects of the relationship between trade and domestic regulation, looking particularly at lessons that can be drawn from regulation of communications and from export controls. We underscore the importance of trade as a corrective—though only a *partial* corrective—for ill effects of domestic regulation. Far from limiting the ability of national politics to design regulation favored by each nation's citizens, trade serves (under most conditions) to counteract antidemocratic tendencies in domestic governance, protecting individual liberty in a world of diverse tastes. Further, under some circumstances (ones that seem increasingly common), trade's competition-enhancing effects will be politically preferred to the competition-limiting effects of trade restraints. Unfortunately, trade restrictions still will be imposed too often, in part due to the bias inherent in democratic politics and in part due to personal stakes of decision-makers that are less readily deduced from interests tied to identifiable groups. This last point emerges from examination of export controls (an apparently incongruous set of trade rules) as well as from analysis of import restraints.

I. PRE-RACE REGULATION

Basics of Regulation: Public Interest vs. Public Choice

⁴ Compare Akerlof, 1970, with Tiebout, 1956. Although the Tiebout (voting-with-the-feet) effect can only reach Pareto-efficient results under certain conditions, Buchanan & Goetz, 1972, it suggests a mechanism for achieving closer correspondence of preferences and public choices. In that respect, it is closer to the trade paradigm than are the various incarnations of lemons effects.

⁵ E.g., Schattschneider, 1935; Baldwin, 1985; Destler, 1986; Bhagwati, 1988.

The starting point for most discussion of trade and regulation is the unexamined assumption that domestic regulation merits protection as the embodiment of popular preferences or alternatively as consisting of normatively attractive programs that advance public good. That is axiomatic if public good is defined as the outcome of governance processes or, perhaps, of governance processes that comport with basic norms of public-democratic decision-making. If the only test is the base acceptability of the governance process, the great bulk of government regulation in the first world passes muster.

This may be the proper test for government action in some settings perhaps for most forms of judicial intervention, for example but it is hard to see its appeal as an abstract normative standard. Actual acceptance by a majority of citizens, creation of greater aggregate utility or value or wealth for society, or promotion of individual liberty might be better normative goals for government.⁶

Unlike the assumption in the race metaphor, there is little evidence that much government regulation comports with those abstract norms. Writings in the *public interest* genre often assume that government regulation is both intended to and in fact does promote widely accepted normative goals, such as efficiency, but those writings do not explain the mechanism for creating public-interested regulations nor do they seriously assess the fit between government action in practice and the posited norm.

Public choice writings, which see government action as the product of self-interested individual behavior, predict systematic divergence of public actions from general public interests.⁷ On this view, government action typically serves the interests of individuals who can band together in sufficient number at low enough cost to secure a favorable vote on an issue of relatively intense interest to them.⁸ The interests of a majority of citizens *can* be served; just as commercial markets composed of individual actors pursuing their individual interests can produce public benefit, so too can government (under certain conditions).⁹ For example, government can provide public goods national defense, interstate highways, legal recognition of property rights, protection of public safety that would be underproduced in private markets.

Even so, the public choice model finds relatively little probability of

⁶ We find the concept of aggregate utility helpful despite frequently expressed reservations about it. Those reservations go more to the mechanism for assessing aggregate utility (or changes in aggregate utility) or to the choice of aggregate utility as the appropriate normative standard for a given decision than they do to the underlying notion that personal utility can have an aggregate that is meaningful.

⁷ See, e.g., Buchanan & Tullock, 1962.

⁸ See, e.g., Olson, 1965.

⁹ Note impossibility under Arrow conditions. Arrow, 1963.

beneficial government action. The opportunity to create rents for particular groups—benefitting a discrete group while doing much greater harm to the broader public, though seldom visiting a concentrated harm on anyone—has enormous political attraction. The tendency to create rents (typically by restricting competition) does not go unchecked. Three considerations act as counterweights to rent-seeking by interest groups. First, one person's rents are another person's costs. So far as the costs are visited on politically powerful groups, they will act to constrain the rents. Second, though rents commonly are more concentrated (on the supply side) than costs from them (the consumption or demand side), rents can be dissipated in various ways and often will be substantially smaller than costs.¹⁰ Third, political decision-makers' incentives will not be fully formed by the balance of rents and costs; other factors will affect the decisional calculus and may tilt it in a direction at odds with what many versions of interest group theory would predict.¹¹ All of these considerations—as well as direct economic effects—influence the political interaction between trade and regulation.

With some regularity, however, government action produces concentrated benefits for a relative few at greater cost to the many. Even where the government seems to be producing public goods, its actions have questionable benefit. In part that is because private markets, though underproducing public goods, still produce a significant level of public goods.¹² The comparison of government to private action, hence, cannot counterpose a world with government-provided public goods to a world bereft of public goods. Further, where government acts to provide public goods, it is apt to provide too many, largely because overprovision can generate private benefits that will be more concentrated than the public costs.¹³

In line with public choice predictions, writers who have examined regulatory programs critically find that many of them suppress competition in an industry, raising prices to consumers and returns to those who are in the industry.¹⁴ Often the regulatory program combines rules that limit competition with ones that mandate cross subsidies (redistribution of joint costs in a manner inconsistent

¹⁰ See, e.g., Hufbauer, Berliner & Elliott, 1994; Buchanan, Tollison & Tullock, 1980.

¹¹ See Niskanen, 1971; McKean, 1972; Peltzman, 1973.

¹² See, e.g., Coase, 1974. As Coase shows, the divide between ordinary goods and pure public goods is fictive. Markets produce many goods with significant public good characteristics.

¹³ Buchanan & Tullock, 1962.

¹⁴ See, e.g., Friedman, 1962; Spann & Erickson, 1970; MacAvoy, 1971; Gellhorn, 1976; Hazlett, 1991.

with Ramsey pricing) among services or customers.¹⁵ These regulatory schemes are at odds with allocative efficiency and possibly with other attractive norms.

Effects of Government Regulation: Efficiency Concerns

Most serious inquiries into regulations= congruence with public welfare have used efficiency as the standard and have found a series of problems. For the balance of this paper, we assume that the relevant norm is Pareto-efficiency or efficiency under the Bergson-Samuelson social welfare criterion. Regulatory initiatives that mandate (or induce) inefficient pricing tend to reduce output and wealth in the regulating nation. Regulation commonly misdirects resources within the regulated industry.¹⁶ Under most conditions, that misdirection is not simply an offset against other distortions in the economy (although that is a theoretical possibility).

In addition, regulation also commonly has indirect effects that reduce efficiency, effects tied to the overall level of government intervention rather than to a specific single regulatory scheme.. Three such effects are rent-seeking, lower returns to productive investment, and x-efficiency effects.

First, regulation induces what Professors Jagdish Bhagwati and Ted Srinivasan have termed *directly unproductive* activities and others have termed *rent-seeking* activities: those lobbying, litigating, and so on intended to secure, enforce, or retain inefficient regulations.¹⁷ The higher the level of inefficient regulation in a jurisdiction, the more resources are likely to be diverted to unproductive activities. That will occur because the high level of inefficient regulation most likely will be taken as a signal of decision-makers= greater propensity to enact inefficient regulation (which raises the expected returns from lobbying, etc.). Moreover, some people who would not find it worthwhile to invest in lobbying merely to move from a competitive arena to a favorable regulatory regime (given their expectations about the magnitude and durability of any rents that might be generated under such a regime) may make a different calculus if they believe that they are choosing between investing in gaining a favorable regime or failing to invest and facing a hostile regulatory regime.

Second, high levels of inefficient regulation, and corresponding investment in unproductive lobbying activities, reduce productive investment incentives. The prevalence of regulation suggests a heightened propensity to regulate, with

¹⁵ *E.g.*, Posner, 1971.

¹⁶ *See, e.g.*, Haring, 1984; Mitchell & Vogelsang, 1991.

¹⁷ Bhagwati & Srinivasan, 1980; Buchanan, Tollison & Tullock, 1980; Bhagwati, 1982; Collander, 1984.

a greater probability of future regulation and of the losses that regulation can impose. The prospect of such losses must be considered in making investment decisions.¹⁸ Of course, the prospect of gains from regulation will be offset against the potential losses. The net in this calculation, however, should be negative. The expected return on lobbying investment should be the competitive rate of return, and gains from regulation generally should follow lobbying investments; but the costs associated with regulation will be spread throughout the economy, lowering the expected rate of return to investment generally. So far as there are captive assets within the jurisdiction, their price will decline to reflect the lower expected return so that, in equilibrium with fully mobile capital, investment will generate the same real expected return. But these conditions are unlikely to hold; capital restrictions and factor mobility will lead to real variance in investment returns over time periods long enough to have consequence for investment decisions.

The third indirect effect of high levels of inefficient regulation in a polity is the creation of competitive slack, referred to variously as x-efficiency, x-inefficiency, or technical inefficiency. This will not be the result of all regulation, but occurs as a by-product of regulation that reduces competition.

X-efficiency is a concept that is not universally accepted; some academic commentary points out that, contrary to the notion of x-efficiency, even a fully protected monopolist has economic incentives to technical efficiency in production.¹⁹ Indeed, because the monopolistic firm (or more broadly, the firm with market power) is more likely than a firm operating in a fully competitive market to capture the benefits of innovations that increase technical efficiency, it is arguable that monopoly reduces such inefficiency rather than causing it.²⁰

For similar reasons, Judge Richard Posner discounts the prospect of monopoly inducing inefficiency through shirking. The common ground for both sides of the debate is that the absence of competitive pressure systematically produces not only higher monetary returns to producers but also higher non-monetary returns. Presumably, these are offsets, one against the other: personal utility functions include willingness to purchase a variety of goods in exchange for money, including a degree of protection against vigorous policing; and the salaries of the workers who enjoy decreased pressure to work hard should be reduced commensurately to account for their increased slack. Judge Posner, however, drawing on standard agency-cost analysis, observes that so far as the reduced monitoring/increased shirking impairs efficient production and is *not*

¹⁸ Kaplow, 1986.

¹⁹ *E.g.*, Posner, 1975.

²⁰ *Id.*; Posner, 1998, at 304-05.

offset by appropriate reductions in pay (fully reflecting reduced productivity) an efficient capital market will punish the firm and make it an attractive target for take-over.²¹

The x-efficiency question in general, thus, is whether the increased slack associated with market power will at any point affect the manner of production so that productivity is decreased or product design is impaired or innovation is reduced. And, if so, whether such effects are efficiently monitored by and reflected in capital markets. Those who doubt the reality of x-efficiency believe that efficient capital markets and labor markets adequately control for the potential effects of monopoly power on technical efficiency.

Regulation, however, is different from other bases for market power. Regulation can reduce competition *and* inhibit full functioning of the normal adjustment mechanisms. For example, regulation that constrains both entry and rates of return can induce inefficient investment in systems redundancy or in other forms of *gold-plating* that can increase the base on which returns are calculated.²² If salaries for top managers are politically sensitive and affect treatment by a regulatory authority, managers might substitute investment in the managers' offices for incremental additions to salary. In neither case is it obvious that the regulatory authority will perfectly police the investments, so that the inefficiency could be consistent with maximizing returns to the regulated firm.²³

Similarly, it is plausible to expect inefficient use of inputs by firms that are at once protected from competition and denied full incentives to capitalize on their market power. The normal take-over option often is unavailable given regulatory constraints on ownership as well as on entry. For these reasons, x-efficiency effects are a likely by-product of regulation, even if not otherwise prevalent in advanced economies.²⁴

Regulation and Efficiency: End-Notes

Although we believe that regulation tends to generate inefficiency effects, including x-efficiency effects, two caveats must be noted. First, we do not equate the observation of a tendency to inefficiency-inducing government action with a conclusion that all government action is normatively unattractive. Apart from the question of the right normative standard for judging government

²¹ *Id.* at 480.

²² Averch & Johnson, 1962. A-J-W effect literature.

²³ *See, e.g.*, Kahn, 1988, vol. 2 at 49-59.

²⁴ Our own belief is that advanced economies have sufficient distortions of efficiency-inducing mechanisms, including take-overs, that x-efficiency effects are not limited to pervasively regulated industries.

action which would require examination of our assumed standard of Pareto-preferred or Bergson-Samuelson-preferred choices that conclusion would have to rest on a comparison of real-world alternatives, including alternative institutional arrangements. We have not made that investigation. We do, however, conclude from our observations above that it would be wrong to deem all government action normatively attractive. Contrary to the assumption behind much rhetoric about trade and regulation, the mere fact that a regulatory regime exists is not proof that it is beneficial to the public; that a contemplated action undermines a regulatory regime is not proof that it is inimical to the public. Indeed, our prior is that, in many circumstances, the obverse more often is true.

Second, even if the effects are not fully dissipated through various adjustment mechanisms at any point, the effects of regulatory inefficiencies *will* be equilibrated through labor and capital markets. Our comments on x-efficiency are not to the contrary. Indeed, one major effect of high levels of regulation is to lower real wages throughout a jurisdiction by acting as a drag on productivity. The reduction in wages does not mean that wages in high-regulation jurisdictions inevitably lie below wages in low-regulation jurisdictions. Given its common adverse effect on productivity, we expect regulation to be correlated positively with wealth and, hence, with productivity.²⁵ High-regulation jurisdictions will tend to be high-productivity jurisdictions, but high-regulation jurisdictions will have lower productivity than they would have *but for* excessive government regulation. As we discuss below, recognition of that fact is implicit in much of the agitation for harmonization of regulation across jurisdictions.²⁶

The question in the trade-and-regulation discussion, thus, is neither how we prevent the erosion of domestic regulatory programs nor how we induce markets to adjust to regulation. The question must be whether the effects of liberal trade, which influence on-going market adjustments, are positive or negative in the particular changes they induce in domestic regulation.

II. REGULATION AND BUSINESS DECISIONS

The lever commonly focused on for transmission of trade's effects is the decision for businesses to locate production in a particular jurisdiction. The fear of some commentators, and hope of others, is that businesses will move production (locate productive facilities or increase production at such facilities) to jurisdictions that regulate less. Open trade, on this hypothesis, leads to pressure on governments to reduce regulations to levels consistent with exporting

²⁵ See also Schumpeter, 1942; Olson, 1982.

²⁶ See also Bhagwati, 1996; Cass & Boltuck, 1996; Leebron, 1996.

jurisdictions. The hypothesis leads different commentators to advocate freer trade, less free trade, or greater coordination of regulations across jurisdictions. Before looking at the transmission mechanism, we pause to ask how regulation intersects business interests.

Regulation and Business Desiderata

Business decisions depend primarily on the specific effects of regulation on a particular business, not on overall levels of regulation or their efficiency effects (though both considerations inform those decisions). From the standpoint of any business, regulation can be good or bad. Regulation can increase or decrease that business's costs or its returns, and it can do so in a one-off manner or in a way that affects marginal costs or marginal revenue. Although a large enough one-time effect can alter production location decisions, those decisions generally will turn on expectations for the marginal costs and marginal revenues of the business.

Revenues might be increased, for instance, by rules that protect local production against competition. Most of these rules, while dampening competition, offset an advantage a competitor who is unable (less able) to influence regulation would have in an unrestrained market. They do not keep competition fully at bay. The rise of non-price competition among airlines that were constrained in price competition under regulation is a frequently noted example.²⁷ Similarly, location of inefficient-scale production in a nation too small to sustain efficient-scale production on the basis of home market consumption often reflects competitive adjustments to regulations that inhibit imports and limit domestic competition.

On the cost side, regulation can help business by lowering marginal costs or harm a business by raising those costs. Rules that reduce the chance of disruptive labor unrest or currency instability or worker illness, that lower the cost of transporting workers to factories or goods to market, or that make it less costly to enforce contracts decrease businesses' marginal costs. Regulation of this sort helps attract business. In contrast, business incentives to locate in the regulating locale are reduced by regulations that impose conditions on work practices costing more than their benefits in greater safety, workers' job satisfaction, or other good; or by rules that limit production methods to achieve gains not internalized by the business (such as environmental improvements that the business will not receive credit for from its customers. At least not enough credit to offset the costs of compliance plus the costs of alerting its customers to the good deed it has done).

²⁷ See Douglas & Miller, 1974; Bailey, Graham & Kaplan, 1986.

Not all regulation that appears adverse to business interests will result in higher marginal costs for business. In many circumstances, additional costs imposed by regulation will be absorbed without affecting marginal costs of production. Land use regulations, for example, tend to be capitalized into the price of land, with new regulatory impositions effectively creating windfall losses (or gains) to affected landowners.²⁸ By and large, however, the effects of regulation will not be fully captured in ways that do not affect on-going business calculations.

Regulations that affect marginal costs and revenues typically divide between sectoral business regulation and general, economy-wide regulation. Sectoral regulation often will advantage a particular business, increasing revenues through direct subsidies (to agriculture, for example) or restrictions on competitive entry. The latter restrictions include direct limitations (as in licensing schemes), import quotas (as with audiovisual industries outside the United States and textiles including the United States), and entry-disadvantaging technical standards.

Although these restrictions are sought by business and serve immediate business interests, it is less clear that they promote long-run health in the protected industry. Indeed, outside a few, narrowly circumscribed exceptions,²⁹ unless they are effective at preventing trade (which often is an intended consequence), competition-limiting sectoral regulations will tend to serve as inducements to trade by increasing the gap between the insulated industry's firms and firms producing the same good outside the protected jurisdiction that compete in the global market.³⁰ Nonetheless, it seems fair, based on short-run effects, to class sectoral regulation generally as marginal-revenue enhancing.

Environmental and Labor Regulation

In contrast to sectoral regulation, which typically is friendly to the most interested domestic business firms, much of the general, economy-wide regulation in advanced economies raises marginal costs for domestic business. Labor and environmental regulations—the focus of so much political attention in the trade-and-regulation debates—largely, but not entirely, fall into these camps.

²⁸ The term "windfall" should be qualified here, as the losses/gains from regulatory actions can be as predictable as losses/gains from changes in consumers' tastes or other matters that affect business. *See, e.g.*, Kaplow, 1986.

²⁹ The protection of an "infant industry" may be such an exception. *See, e.g.*, Corden, 1971. Undeniably, claims that conditions apposite to such protection obtain far exceed instances in which such protection is beneficial.

³⁰ Bhagwati, 1988; Crandall, 1991; Cass & Haring, 1998.

Let us start with the qualifying phrase, "not entirely." Some environmental regulations may improve health and increase aggregate utility without raising marginal costs, so far as the environmental gains are internalized within the regulating jurisdiction and the regulatory program represents an efficient mechanism for satisfying workers' tastes for higher air quality or water quality than would otherwise be provided.³¹ Some set of labor rules, at least if treated as waivable, default rules, may fit the same model.³² But, for the reasons given in the public choice literature, these will be exceptional.

The divergence of environmental regulations from public interests follows from the general disinterest of most citizens about environmental issues coupled with intense interests of several groups. Three groups can be expected to play a disproportionately (relative to voting population or overall value attached to decisions) large role in setting environmental rules. The first group consists of people with unusually high taste for environmental protection. Their interests will be represented both by political entrepreneurs and by individuals whose profession is the representation of others with unusually intense preferences for environmental protection.³³ The second group consists of people whose livelihood is tied to activities congruent with those tastes for environmental protection. That group includes people in firms engaged in environmental clean-up, in the production of technologies that are, at least, that seem to be environmentally friendly, and those whose businesses use production methods that are less efficient but more environmentally friendly (in some dimension) than their competitors. The third group consists of people whose livelihood is closely tied to activities especially harmful to the environment, such as those in the leather tanning industry. As Bruce Ackerman and William Hassler's study of the process that produced the economically and environmentally disastrous coal scrubbing rules illustrates, the compromises among these groups almost certainly will produce rules that are neither efficiently tailored to environmental protection nor representative of median citizen preferences.³⁴

Labor regulations generally follow a similar course. The group most intensely interested in labor regulations consists of people who, in a market not subject to those regulations, would not be able to secure the result mandated in

³¹ See, e.g., Stewart, 1993; Deardorff, 1997.

³² For explication of the role of default rules from somewhat different perspectives, see, e.g., Ayres & Gertner, 1989; Gillette, 1990.

³³ Public and private representatives of broadly held interests often are treated together as political entrepreneurs, though we use the term solely for public representatives. See Shepsle & Bonchek, 1997.

³⁴ Ackerman & Hassler, 1981.

the rules.³⁵ Thus, people who would not be hired or promoted or retained in jobs but for a legal imposition have a greater interest in the legal order than those who expect to be similarly positioned in any event. People who expect to be paid far in excess of the minimum wage, who do not expect to face discriminatory job actions, who expect to have the ability to secure employment settings with appropriate pay and perquisites seldom invest in lobbying or other efforts in respect of labor regulations. How many managers who now complain about, for example, the Americans with Disabilities Act (or its state analogues) invested in the legislative debate that framed the act?³⁶

Lobbying on labor rules is not, of course, wholly one-sided. Business firms and their representatives routinely contest against labor rules that organized labor presses for, but the contest is uneven. The reason for that reflects the basis for the increased concern over trade among organized labor's representatives: while labor, especially low-skilled labor, is only modestly mobile, capital is immensely mobile, is to some degree a substitute (as well as a complement) for labor, and can seek other venues if labor rules become overly constraining. Hence, business representatives do not have the same intensity of interest in the contest as representatives of that segment of labor most affected by the rules. This does not mean that the labor interest necessarily prevails. After all, the skew of interest groups operates as an overlay on the dominant influence of the median voter.³⁷

But the skew generally will be in the direction of too much regulation to protect organized labor interests. And, other things equal, the larger and more prosperous the regulating jurisdiction, the more exaggerated this skew is likely to be.³⁸

III. LOSING POWER? TRANSMISSION PROBLEMS?: BUSINESS LOCATION AND THE DEREGULATION RACE

Given the expected bias in favor of inefficient regulation in advanced economies of revenue-raising, competition-inhibiting sectoral regulation and of cost-raising regulation of labor practices and environmental quality, what will the effect of liberal trade be? Will businesses locate production in other

³⁵ We do not here posit any particular set of legal rules or wealth distributions as defining the pre-regulation market. We simply indicate that there is a *status quo ante* the regulatory action, and whatever that is would not support the result desired by those who seek the regulation. Were that not so, investment in securing the regulation would be pointless.

³⁶ For discussion of difficulties with this and other regulations, see Howard, 1994; Olson, 1997.

³⁷ See, e.g., Olson, 1965; Mueller, 1989.

³⁸ See Schumpeter, 1942; Olson, 1982.

jurisdictions in order to avoid the adverse regulations? And, if so, how will the government of the regulating jurisdiction respond?

Underlying Assumptions

The argument that governments will be engaged in a deregulatory race to the bottom contains implicit answers to these questions in that the race metaphor necessarily rests on four assumptions. First, it assumes that business location decisions will evidence a strong preference for avoiding many of the regulations championed by political supporters of labor and environmental regulation. Second, the argument assumes that open trade will transmit competitive pressure from jurisdictions with less regulatory drag to jurisdictions with higher regulatory cost. Third, it assumes that the response to that pressure will be movement or threatened movement of production to the low regulatory cost jurisdiction. And, finally, it assumes that, faced with that threat or reality, the political balance will tilt against regulation.

All of these are reasonable assumptions, subject to two qualifications. First, they state directions of effects, not all-or-none absolutes; moreover, they indicate *ultimate* directions, not necessarily immediate directions. Second, each of the assumptions must be qualified by the standard *ceteris paribus* caveat, and *ceteris* only rarely is *paribus*.

Checking the Assumptions: Building Pressure for Change

Let's turn to the assumptions. Businesses generally *will* want to avoid cost-raising regulations. The exception is when cost-raising regulations impose greater inefficiencies on rivals than on the business at issue. But, other things equal, cost-raising rules are dispreferred. So much for the first assumption.

The second assumption—transmission of pressure from jurisdictions with less regulatory cost to jurisdictions with greater regulatory cost—is true as well, but less self-evidently. The international trade theory that most directly suggests a mechanism for such transmission is the Heckscher-Ohlin theorem. In its stark form, the theorem posits that trade in goods between two nations (with immobile factors of production) will be determined by differences in factor endowments, with each nation exporting the good that intensively uses the factor it has in relative abundance and importing the good that intensively uses the factor it has in relative scarcity. Extensions of this theorem have given rise to many different explanations of the way that firms and factors of production compete across national boundaries.³⁹ The Stolper-Samuelson theorem is the best known of these. It asserts that (in a world of perfect competition and zero transportation

³⁹ See, e.g., Dixit & Norman, 1980; Helpman, 1985.

costs) with mobile goods and immobile factors in trading nations, imports reduce the price of the factor used intensively in the imported good to the point at which factor prices in the two trading nations are equalized.⁴⁰ Although the stark conditions of the Heckscher-Ohlin and Stolper-Samuelson models are not duplicated in the real world, those models may be suggestive of real world outcomes under many conditions.⁴¹

Whether the specific models indeed can be generalized is important for some purposes. It is not, however, important to the central point: trade increases competition. Even before Eli Heckscher and Bertil Ohlin, the connection to competition was implicit in the work of Smith, Ricardo, and Mill. The Ricardian notion of comparative advantage as the difference, not in factor endowment but in labor-productivity with respect to particular goods, implies competition along that margin under all but the most restrictive conditions. That competition can be conceived simply as a rivalry over technical expertise, but it also can be conceived as a contest among those whose productivity in a given capacity determines the mix of imports and exports. Thus, even where factor-price equalization does not occur, trade-linked competition among factors (among workers) seems likely under any model of trade.⁴²

The competitive pressure from international trade is not uniform across goods and circumstances. It does not invariably lead to full factor-price equalization, at least not in a world with many goods, many nations (but not the same number as goods), diverse preferences, and limitations on both goods and factor mobility.⁴³

Freer trade, however, clearly does transmit increased competitive pressure on producers of the traded goods, and the result logically is increased pressure on all factors used to produce those goods.⁴⁴ The pressure on businesses, thus, is to obtain cheaper or more productive labor, lower-cost/higher quality physical inputs, and so on, to facilitate more effective competition with those whose goods now are available in the same markets.⁴⁵

This pressure does not mean, as the third assumption would hold, that businesses= production location decisions will adjust instantly or fully to take

⁴⁰ Stolper & Samuelson, 1941; Samuelson, 1948; Samuelson, 1949.

⁴¹ *See, e.g.*, Bhagwati & Srinivasan, 1983, chaps. 6-7.

⁴² *See, e.g.*, Jones & Scheinkman, 1977; Dixit & Norman, 1980; Grossman & Helpman, 1989. *See also* Becker, 1952; Lancaster, 1980.

⁴³ *See, e.g.*, Deardorff, 1979; Bhagwati & Srinivasan, 1983, chaps. 7-8.

⁴⁴ *See* Bhagwati & Srinivasan, 1983, chap. 33.

⁴⁵ Alternatively, businesses could ease the competitive pressure by persuading governments to raise their rivals= costs. *See* Salop & Scheffman, 1983; Krattenmaker & Salop, 1986.

advantage of lower regulatory costs in a given jurisdiction. Those costs will be reflected in the cost of labor (if a regulation essentially is a tax on employment or reduces labor productivity) or in the cost of capital (if a regulation functions as a tax on capital). The balance of those costs with other costs—the costs of communications, transportation, management, plant construction, energy, and other factors—will determine where production is sited. In some instances, firms rapidly can move production in response to small, discrete changes in a single factor's costs. More often, the production location decisions are lumpy and will not be driven solely by the cost of any single factor, such as regulation-related costs.

The modulated response of business production location to regulatory costs resembles the findings respecting the migration of jobs to take advantage of lower wages. The simplified model presented by trade troglodytes such as Ross Perot or Dick Gephardt or Pat Buchanan (presidential candidates in three political parties) is that in a world of open trade jobs migrate to the places with the lowest wages, thereby sparking a race to the bottom in wages, especially in wages of the unskilled. (Note that this model does not explain how the race stops shy of infinite payments to secure work, though we can be fairly confident that it does—it is a game with a beginning but without a defined ending.)

There is much argument about the effect of trade on wages of the unskilled, but manifestly the effect does not come from massive job flight to the world's lowest-wage nations.⁴⁶ The world's production has not migrated to places like Bangladesh or Burundi or Burkina Faso. Nor do most businessmen in the United States or Europe spend much time worrying about moving to or competing with production from those nations. A more common concern throughout the industrialized world focuses on the impact of imports from countries that have wage structures much closer to those of the importing nations than to Bangladesh. Look at US businessmen's worries over imports from Japan and Germany in the 1980s or European businessmen's worries about US and Japanese exports. The concern is not exclusively with import competition from high-wage nations, but that is a far larger concern than would be plausible if the world was engaged in the hypothesized wage race.

Even though there is no evident reason to believe that there will be a race to the bottom in wages—and no evidence that such a race *is* taking place—that does not mean that the claim of a relation between trade and wages is utterly without merit. There is evidence of a growing dispersion of wages in most developed economies and evidence that returns to those in the lowest wage brackets in

⁴⁶ See Bhagwati & Kusters, 1994.

developed economies have declined.⁴⁷ Thoughtful commentary suggests that trade has played some part in the declining wages of less skilled workers, even if other forces account for much more of the change.⁴⁸ The relation between trade and wages suggests that, although businesses do not key production location strictly to wages, wages (adjusted for productivity) do play a role in those decisions, producing backward pressure on wage rates.

We should expect the same effect with regulation. Increased competition from jurisdictions with lower regulatory drag will increase pressure against inefficient regulations to which businesses are sensitive, either because the domestically-located businesses will increase their investment in fighting the regulations or because the support for the regulations will diminish as previous supporters see their own positions or livelihoods threatened by adherence to those regulations.

Regulatory Change: From Pressure to Diamonds?

This brings us to the last of the four assumptions underlying the race-to-the-bottom prediction, the forecast of regulatory change. Although the forecast seems to us generally accurate, it is accurate in the same way that a long-range weather forecast is accurate. We can predict with confidence that on average it will be colder during the winter months than during the summer months, but we have a great deal more difficulty specifying which day during the winter will be balmy and which day we'll experience blizzard conditions. Surely, the increased pressure to alter inefficient regulations that raise businesses' marginal costs will have an impact on the regulatory process; and surely the effect will be to restrain some additional cost-raising measures that, without the added competitive pressure, would have been adopted and to moderate some cost-raising measures now in place. But can we say more than that?

We offer three observations of regulatory response to competitive pressure. First, we look at the overall picture in telecommunications services, tracing a substantial pro-competitive effect transmitted through trade. Next we turn to cable television, presenting a picture of regulatory resistance to attempts to introduce substantial competition in ways that threatened an existing regulatory structure. The cable story also illustrates how regulation changes, even under those conditions. Finally, we examine a telecommunications pricing problem that pits efforts to gain competition-driven efficiencies running at cross-purposes with resistance to the erosion of subsidies that depended on monopoly rents.

Telecommunications Services. Telecommunications services have been

⁴⁷ See, e.g., Kusters, 1994.

⁴⁸ Welch & Murphy, 1993; Bhagwati & Dehejia, 1994; Deardorff & Hakura, 1994.

regulated by every nation, largely through national monopoly control but also through restrictions on private provision of telecommunications services. In the United States, the vertically-integrated Bell system which provided most US telecommunications services on a monopoly basis, began losing monopoly control over some service offerings as early as the late 1950s, though the assault on the Bell monopoly did not significantly affect American telecommunications until the 1970s. In 1984, the Bell system was dis-integrated, with local services and long-distance (inter-exchange) services separated from each other and local services separated as well from the entity that had provided equipment to the Bell companies.⁴⁹

Following the breakup, there was an acceleration of competition, both domestic and foreign, in the US telecommunications market. Telecommunications imports to the US soared in the 1980s; prices for most telecommunications services dropped dramatically; many attractive new services and service combinations were offered, generally by two or more competitors; and demand for telecommunications skyrocketed.⁵⁰ From the mid-1980s to the mid-1990s, radiopaging services in the US increased tenfold and cellular telephone services showed a 10,000 percent increase.⁵¹ Over this period, American telecommunications providers increasingly offered customers what by world standards was an exceptional deal: exceedingly low prices, exceptional service quality, an array of advanced services rarely available elsewhere, prices that were far below those of almost all other telecommunications firms, and the ability to package a variety of services together to handle a business's needs effectively under one roof.⁵²

The contrast with telecommunications services in many other nations was striking. While a few nations, most notably the United Kingdom, had moved aggressively to induce competition in telephony, most nations were loth to abandon the regulatory structures they had, with large numbers of state-paid workers, state-produced or national champion-produced equipment, and centralized control. The reasons for the resistance to change were the same as underlie the reluctance of key decision-makers in the United States to let go of the postal monopoly, which provides employment for roughly one-third of the civilian federal workforce and spends a far higher proportion of its budget on

⁴⁹ For background, see Brock, 1981; Evans, 1983; Faulhaber, 1987.

⁵⁰ See Crandall, 1991; Cass & Haring, 1998.

⁵¹ See, e.g., Huber, Kellogg & Thorne, 1992, at 4.15-4.23; Cellular Tel. Indust. Ass'n, 1994.

⁵² Haring & Shooshan, 1993; Cass & Haring, 1998. AT&T was limited in its ability to offer business users a full, tailored, end-to-end package, a matter of dispute for some years. See Haring & Shooshan, 1994.

personnel than any of its competitors.⁵³ And the results of the telecommunications monopolies in most of the world, including nations with advanced economies such as Germany, were, until quite recently at least, appalling by US standards. In 1995, one commentator noted that, even then, the German telephone provider, Deutsche Telekom, was a subject of derision: Aits rotary dialing technology is a source of German jokes, and the company still cannot itemize long-distance charges.⁵⁴

Many business firms that competed with American businessesCthrough exports to the American market, against US imports into their home market, or as mutual exports to a third-country marketCfound themselves at a competitive disadvantage because the American competitor had superior telecommunications services at significantly lower prices. With telecommunications and related information services of increasing importance in many lines of business, business representatives in many different nations pressed for change in the structure of telecommunications. What has followed is more than three dozen privatizations of state-owned telecommunications monopolies announced or completed, with concomitant metamorphosis of the service offerings and prices in many nations. At the end of the day, the threat to important, domestic, profit-seeking businessesCwith the implicit risk that some would shift production elsewhereCovercame resistance from public workers and their supporters. In telecommunications, the pro-competitive ratchet, with trade as the essential transmission fluid, has been working, producing welfare gains around the world.⁵⁵

As the ratchet works its way around the globe, while the relationship to prior changes remains strong, the exact reason for the change becomes less evident. It seems plain that the change from monopoly provision by government to private (and to some degree competitive) provision becomes more saleable to governments as more governments make that change. But it is not clear whether the later changes build on the signal that this is what successful economies do, from external pressure (e.g., from lenders, especially governmental and quasi-governmental), or from domestic pressure.

Insofar as the change builds on signaling from early movers, the signals must be difficult to interpret. The United States= telecommunications firms, though initially disadvantaged by having to compete with other firms in the US while not enjoying access to their competitors= home markets, found themselves well-

⁵³ See Mayton, 1994, at 107; Priest, 1994; Sidak & Spulber, 1997.

⁵⁴ Nash, 1995.

⁵⁵ This story is given in greater detail in Cass & Haring, 1998.

positioned to compete effectively as world markets opened.⁵⁶ The US experience in that respect does not necessarily foretell similar success for other nations=telecommunications firms. Indeed, it is quite probable that the first movers in this venture have been nations with the greatest opportunities to be homes to telecommunications providers that are competitive in world markets as well as being nations with great competitive pressure on firms that are major consumers of telecommunications services.⁵⁷ As privatizations proceed, the politics of competitive provision of telecommunications may become more problematicCthe gap between the domestic telecommunications firms and the international standard will be higher, making the gain from opening the market to competition greater but raising the costs of change to the existing service provider as well. Still, for now, the symbiotic relationship between trade and welfare-enhancing deregulation holds.

Cable Television. The same, positive story will not be repeated for every regulatory arena. Indeed, often the response of regulatory authorities when the industry they oversee faces increased competition is to find a way to extend the inhibition of competition to the new players. This tendency is sufficiently common that it is known generically as the regulatory tar-baby effect.⁵⁸ We use cable television to illustrate the effect, despite the absence of a trade component, because we find the regulatory response so predictable and the official explanation so implausibleCand the peregrinations of the regulatory process so delightful, a sort of modern day *Gulliver's Travels*.

The story begins with regulation of broadcasting, ostensibly because broadcast spectrum space is scarce. Prior to Ronald Coase's article on the US Federal Communications Commission, even economists regularly discussed broadcast spectrum as though its scarcity somehow distinguished it from other goods. Coase rightly pointed out that every good is scarce; in market economies, price is our habitual mechanism for coping with scarcity.⁵⁹ The broadcast spectrum seemed different from the run-of-the-mine good, if at all, only because the government had declared the spectrum to belong to the public, outlawed formal property rights in the spectrum, and parceled out licenses at no explicit cost. Things that are given away without charge often seem in short supply.

Although Coase was not the first to observe the hollowness of scarcity as a rationale for broadcast regulation, long after his publication the FCC and the courts continued to accept scarcity as a justification not merely for government

⁵⁶ Crandall, 1991; Cass & Haring, 1998.

⁵⁷ *See id.*, chaps. 6-8.

⁵⁸ [phrase attributable to Kahn?]

⁵⁹ Coase, 1959.

allocation of spectrum parcels but for government restriction of many aspects of broadcast operation. Among the government-imposed requirements exacted in exchange for holding a scarce communications channel as a "public trust" was the requirement that stations devote significant time to addressing important public issues. Just as steamy novels tend to sell better than monographs on economics (other than how to make money like Bill Gates or Warren Buffett or whoever is the mogul du jour), the public didn't really want broadcast stations to spend time—particularly not when people would find it convenient to tune in—discussing important public issues. The FCC "solved" the problem by allocating a group of channels for non-commercial, educational use, at once reducing the likelihood of real competition in many locales and making the problem of scarcity, such as it was, more severe. If there aren't many channels to begin with, how much better are we by preventing the few there are from going to those who most want them or to the uses most wanted of them? In any case, the courts accepted the rationale.

Then along comes cable television, at first only a minor player able to extend the distance at which broadcast signals can be received, but later a serious contender to be the primary route for entertainment and information direct to your home. Cable appeared to solve the scarcity problem. Cable can deliver hundreds of channels over a single cable, and the carrying capacity of the cable is growing by leaps and bounds—advances in only one element of the transmission chain allowed the capacity of cable fibres already in place to rise 50 percent per year for more than a decade.⁶⁰

The regulatory reaction, surprisingly, was not a decision to declare victory and go home. Instead, the FCC declared that cable had to be carefully regulated, and its operations tightly restricted, to prevent it from undermining the scheme for allocating broadcast channels. Of special concern was the prospect that people would watch cable instead of broadcast television. The Commission worried that cable television would fragment audiences, siphoning off viewers from commercial television stations; the loss of audience then would reduce revenues to those stations, making them unwilling to continue uneconomic public affairs programming and diminishing the quality of broadcast services (which, the Commission feared was the only television to which poor consumers would have access). The Commission also worried that viewers would prefer entertainment programs available over cable television to the offerings of educational, nonprofit stations; as set forth above, allocations to these stations had been supported in large measure to help solve the problem that time on the scarce commercial channels was too economically valuable to use for extended

⁶⁰ Pitsch, 1994.

discussion of public issues. The FCC headline could have been: Abundance undermines rationing plan; new stores of grain burned to preserve plan.⁶¹ Again, the courts gave the FCC's response their blessing.⁶²

Over the next fifteen years, the FCC added new restrictions to cable, largely at the urging of broadcasters who saw cable as its primary competitor, then saw the courts overturn several regulations and the cable industry gain audience, revenues, and political support. The FCC then began paring back regulations that had not been overturned in court, going from aggressive regulation to near-complete deregulation. As the cable industry began to express its preferences in the political marketplace more effectively, federal legislation was enacted that significantly constrained regulatory powers of *local* franchising authorities and substantially relaxed government controls on cable service pricing.⁶³

Both cable regulation and deregulation appear to be examples of a focused producer interest overcoming diffuse consumer interests. In the first instance, broadcasters prevailed over both cable and consumer interests. Later, it was the cable industry's turn to gain at consumers' expense. There was little consumer (or other) opposition to cable deregulation in the early 1980s. Within a few years, however, the run-up in cable prices that occurred after deregulation sparked considerable consumer interest in re-regulating cable. Although the cable industry vigorously opposed re-regulation in the early 1990s, consumer interests (with both official and private champions) were at the forefront of the march toward re-regulation. Cable's broadcast and satellite competitors also supported re-regulation, even though they are potential beneficiaries of higher cable prices. Perhaps, as Tom Hazlett and Matt Spitzer urge, the inability of regulators to control both the price and content of cable television packages to control the size of the candy bar along with its price explains the competitors' position.⁶⁴

The Telecommunications Act of 1996 includes a provision for sunset of cable rate regulation, and that sun has recently set despite the pronouncements

⁶¹ See Cass, 1981.

⁶² United States v. Southwestern Cable Co., 392 U.S. 157 (1968).

⁶³ See Johnson, 1994; Hazlett & Spitzer, 1997.

⁶⁴ Their thesis is that the cable companies had sufficient market power to control price and quality, so that in the face of a price constraint, cable firms would degrade the quality of the packages they offered. This, then, would be consistent with the observation that price controls did not shrink cable profits. The broadcast and satellite competitors may have felt that they would benefit more from a change in the quality of cable television packages than from a constraint on price. See Hazlett & Spitzer, 1997. It is not evident, however, why the cable firms' optimum trade-off between price and quality would be simultaneously beneficial to their interests and to those of competitors.

of regulators that cable firms earn monopoly profits.⁶⁵ This very likely sets the stage for another round of legislative intervention to mollify contesting producer and consumer interests.

Three lessons emerge from this story that are relevant to the trade-and-regulation context. One is that the response to competition that threatens to undermine a regulatory regime often is to extend the regime to cover the new threat. In the trade context, that requires the cooperation of other nations, through agreement to adopt the same regulatory framework, or the exclusion of goods that threaten to introduce disruptive competition. Both responses can be seen in the European Union's continuing integration. French officials, for example, have endeavored to extend throughout the Union regulations that, limited to France alone, would disadvantage its workers.⁶⁶ They also have attempted to gain backing from the other member-states for Union-wide regulations that would inhibit imports of American movies and television series. These reactions are not peculiarly French. Officials in the United States have tried to persuade other nations to embrace the restraints we have on certain fishing methods that, while quite cost-efficient (viewed strictly from the perspective of the fishermen), threaten species we like. And, barring foreign acquiescence, the United States simply banned imports of fish caught with the more efficient, less dolphin-sensitive methods.⁶⁷

The second lesson is that the regulatory response will change over time as the market facts change. Market change not only alters the perceived costs and benefits of regulatory restraints on competition; it also shifts the political calculus. Cable's growing success in the face of hostile regulation reflected the rising value that a population increasingly attached to television and (with increasing amounts of leisure time) placed on additional television choices. Greater success gave cable entrepreneurs and suppliers increased incentives to press for a more congenial regulatory environment and provided increased amounts of ready cash to press with but also caused politicians to reassess the personal advantages of government policies that disfavored cable television.

Changes in market forces also played a role in substantial deregulation of the airline and trucking industries in the US during the late 1970s and early 1980s, following an oil shock that altered cost structures in those industries and made route realignment much more critical. The changes in costs came when business support for the existing regulatory structure already had declined, as non-price

⁶⁵ See FCC, 1996; FCC, 1997.

⁶⁶ [cite]

⁶⁷ The bodies adjudicating treaty obligations under the GATT were not impressed with US arguments, finding that US actions violated treaty provisions. GATT, 1991; GATT, 1994.

competition eliminated rents from the old regulatory system for all but a few segments of the labor force (most notably, pilots). A role may have been played as well by diffusion of understanding about the ill effects of restrictive regulation on public good, about which Milton Friedman and others have been preaching for years. Education can be a powerful force—but it is much more powerful when time and circumstance have eroded the rents it attacks.⁶⁸ Finally, the individuals who held the regulatory levers should get some credit—but not so much as they might claim.⁶⁹ After all, without the other changes, especially market changes, it is unlikely that the deregulatory heroes would have been put in positions of authority or given leeway to exercise it.

The final lesson from the cable story is that political imperatives revolve around deal-making, not around efficiency. The hope of public interest theorists that regulation and efficiency go hand-in-hand looks like the ghost of a bygone era (or, more likely, a fantasy that never was) when seen beside the rough and tumble of three decades of fighting over cable. Elected politicians care precious little whether a price constraint is inefficient when besieged with complaints from constituents or with contributions from industry, and, care as they might, those in the bureaucracy know who calls the tune.

Telecommunications Pricing. Our third story of regulatory response to change takes us back to the US telecommunications system. The system ran for a long time as a regulated, vertically-integrated monopoly, with numerous constraints on pricing particular services that doubtless generated cross-subsidies across a variety of service offerings and customer types.⁷⁰ One subsidy ran from customers in high-density/high-traffic locations to customers in low-density/low-traffic (remote, rural) locations. Another subsidy ran from business to residential consumers, and another yet ran from long-distance service to local basic, telephone service.⁷¹

These subsidies often were discussed jointly under the heading of universal service.⁸ The basic notion, conceived before economists gave explicit attention

⁶⁸ See, e.g., Cass, 1988.

⁶⁹ For a sympathetic view of the role individuals can play, see Levine, 1987; a less sympathetic view is in Cass & Beermann, 1991.

⁷⁰ We use the term *cross-subsidy* to indicate a division of joint costs out of line with Ramsey-pricing dictates (so that services/users with higher price elasticity of demand bear disproportionately *high* burdens and those with lower price elasticity bear disproportionately *lower* burdens). Even though ordinary Ramsey-pricing must be adapted to account for consumption externalities, it remains a useful benchmark. See Mitchell & Vogelsang, 1991, chap. 4.

⁷¹ Brock, 1981; Faulhaber, 1987; Haring, 1995; Vogelsang & Mitchell, 1997.

to network externalities, was that general public interests are served by having everyone linked to a single, interconnected telecommunications system. The subsidies were and still are defended as essential to that end.⁷²

As competition has been introduced into the system, however, it has become harder to maintain the cross-subsidies. Although initially competitive services operated only at the margin, leaving almost everyone little choice but to use the switched access system with its embedded subsidies, the spread of competition to more and more parts of the system has changed that. Consumers now can choose service alternatives that avoid one or another of the charges that form the basis for the subsidies, as unbundled network elements are generally available and can be combined to substitute almost completely for taxed network offerings.⁷³ To some degree, the competitive ratchet referred to earlier was facilitated by the successive regulatory retrenchments as one after another part of the network was under pressure from competition, and regulators unwilling to rein in competition were impelled to relax regulatory inhibitions on firms offering the taxed services. The regulators were never quite willing to free up all competitors, but did give considerable ground.

The US Congress finally dealt with this far-evolved field in its Telecommunications Act of 1996.⁷⁴ The Act promoted the expansion of competitive alternatives, even in local telephony, but it did not abandon the imperative for universal service. Indeed, it gave the universal service mandate both a more secure statutory base and a broader definition than before.⁷⁵ Among other things, the Act specifies that schools and libraries are to receive access to advanced telecommunication and information services at affordable rates.

The Federal Communications Commission has been struggling with the conflict between the Act's directives. It decided to impose an additional charge on telecommunications providers to underwrite internet access for schools and libraries. AT&T and MCI both proposed to break this charge out separately, identified as a federally imposed charge to subsidize schools and libraries. At present, the FCC is debating whether to remove the charge to prevent having to confront citizens (and their representatives) who are angry about the explicit tax.

In this arena, the regulators are caught between two important interests: those of the firms being taxed to support a service that would not be provided in the same way at the same price without regulatory command, and those of the public who often resent specific cross-subsidies, even if they strongly support the

⁷² *But see* Mueller, 1997.

⁷³ *See, e.g.*, Haring, 1995.

⁷⁴ Pub. L. No. 104-104, 110 Stat. 56.

⁷⁵ *Id.*, at ' 254. *See* Mueller, 1997.

imperative to keep charges on one service below market rates. The regulators=instinct, judging from their actions, has been to see new technologyCof which the internet is merely the latestCas offering opportunities to impose new taxes that enable the regulators to offer new subsidies. But the game only works if you don't get caught. Regulators depend on obfuscation of the costs such a subsidy entails, as opacity with respect to costs allows an unambiguous best outcome for the regulators.⁷⁶

We draw three lessons from this episode. First, competition exerts pressure on regulation to force greater efficiency in the way the government goes about accomplishing its objective. The further rates are from Ramsey-optimal, the less efficient and also the less sustainable in the face of competition. Second, competition also forces greater transparency in what government regulations do and in what they are designed to do and greater accountability in government as a result. At times, that will preclude actions that regulators otherwise would take. Efficiency in telecommunications pricing would dictate accounting for network externalities by a direct subsidy, rather than by loading charges onto users or services not based on costs imposed directly by those users or those servicesCbut politics will not always support direct subsidies. That brings us to our third lesson: politicians (elected or appointed) typically look to make decisions that will improve their standing with particularly vocal or well-positioned groups, and those decisions rarely will be motivated by strong concerns with efficiency. The FCC's decision on internet access will not be based on technical considerations or on estimates of the efficiencies gained or lost from making internet services available to schools and libraries; it will be based on the line-up of political forces and the intensity with which they press their points.⁷⁷ Whatever the long-term trend in regulation, any given decision operates under political maximands that are *informed* by efficiency (because it affects political positions) but that are not by any means *equivalent* to an efficiency criterion.

Looking at the three episodes of regulatory response to changes in the market or political domain, it is difficult to sustain the conviction that auguries respecting the race to the bottom contain: that trade-transmitted competition threatens to undermine beneficial regulation. Increased competition will, as generally thought, lead to reduced regulatory strictures, but the form of the regulatory response will vary with the balance of political interests. More important, the regulatory response in a competitive environment will tend over time toward efficiency, with respect to both the substantive objective for

⁷⁶ See, e.g., Shepsle, 1972.

⁷⁷ See, e.g., Robinson, 1978; Wilson, 1989; Robinson, 1991.

regulation and the manner in which the objective is pursued. Trade-induced competition, like competition from other venues, promotes transparency in government and restrains regulators from actions that yield political benefits only so long as their effects remain opaque. The stories of regulatory change suggest beneficial, not deleterious, effects of competition.

Sovereignty and Regulatory Reform

So far as claims for national sovereignty go, it should be plain that international trade is no threat. At least, it is no threat unless sovereignty is defined as the right of those who favor a current policy to maintain that policy without cost. That is not a definition of sovereignty anyone would hold out for, but it is the only definition (or close to it) that makes trade a problem for sovereignty.

What international trade does is provide options not available under autarky. It does not take away any alternative for production that would be present without trade. If a nation has the money and materials and manpower to make widgets or wines or silicon wafers in autarky, it possesses those capabilities and more once trade is introduced.

Trade does, however, by *lowering* the cost of having some goods, make plain the cost of their domestic production. If a particular good is being produced domestically today, just before trade is introduced, and it is more efficient to import that good, the good will not be produced domestically tomorrow.

The issue is what happens next. In a world of zero domestic distortions, factors employed in the production of the newly importable good will quickly and almost costlessly be redirected to other uses. But that, of course, is where the problem arises, because that is not our world. In a world with many impediments to the efficient transfer of resources within the domestic economy, the substitution of imports for domestically produced goods will have costs that may not be fully reflected in the price of the goods and, therefore, not accounted for in the purchase decision.⁷⁸

The fact that regulatory distortions, wage rigidities, mobility limitations, and other domestic distortions of economic efficiency interact with trade to impose costs on workers and others who own specialized resources does not mean that it is *trade* that should be eliminated from the equation. Economists long have understood that the efficient solution is not to reduce trade, but to correct the efficiency-distorting government rules.⁷⁹ For those who understand and value efficiency as an expression of the maximum value attainable by a group of

⁷⁸ This does not, of course, make the case for any particular claim of what is left out of consumers' calculations or of what policy response is best. See, e.g., Bhagwati & Ramaswami, 1963; Corden, 1974.

⁷⁹ Bhagwati & Ramaswami, 1963.

people with diverse preferences—which is to say, for economists—that is an end to the question of what to do.⁸⁰

It is not, however, sufficient answer for most people. The principal reason is simple: stated in the abstract, the well-understood economics of trade lack the appeal that a good story or saying has—such as Ross Perot’s prediction that, if the US approved NAFTA, we would all hear the giant sucking sound of low-wage, low-regulation Mexico taking in what had been US jobs. That does not mean most people would reject the economist’s concept of efficiency if explained differently, perhaps through description of particular instances in which trade restriction hurts more people than it helps, with losses to consumers (the group harmed)—often to the consumers who can least afford the additional costs they must bear—substantially exceeding the additional gains to producers (the group helped by trade restraints).⁸¹

Consider, for example, that the biggest total costs to US consumers from trade restrictions are attached to impositions on food and clothing, goods on which poor people spend a disproportionately large share of income. Barriers to textile and clothing imports into the United States, for example, are estimated to cost consumers more than \$24.4 billion each year, about \$145,000 per job protected.⁸² The *net* cost to the economy from these protections (subtracting the gains to textile and apparel workers, investors, government revenues, and so on) is estimated to be more than \$16 billion annually.⁸³ Other US import constraints, although less harmful to the national economy, are even more costly per job protected, with an estimated cost in 1993 exceeding \$325,000 per job.⁸⁴ Apart from neurosurgeons, investment bankers, and very successful Wall Street lawyers, not many people earned 1993 salaries in that range. It is apparent that the actual gain to workers from import protection is quite small in comparison to the cost to consumers. That means a lot of poor people doing without a pair of shoes or trousers or without enough milk or sugar for their families in order to offer quite modest protection to investors and workers in the domestic textile and clothing and agriculture industries.⁸⁵

⁸⁰ For an intelligent argument that this position does not adequately reflect the full array of values that informs, and should inform, public decision-making, see Howse & Trebilcock, 1997.

⁸¹ *E.g.*, Bhagwati, 1988; Hufbauer & Elliott, 1994. Making these costs clear, however, does not guarantee that a majority would accept the notion that efficiency is a sufficient guide for public decisions. Howse & Trebilcock, 1997.

⁸² Hufbauer & Elliott, 1994, at 15, 86-88.

⁸³ *Id.* at 88-80.

⁸⁴ *Id.* at 15.

⁸⁵ This point holds even though different estimates of the exact costs and benefits of trade restrictions can be generated using different methodologies and different parameters. *See, e.g.*,

Competition among producers, consequent to international trade, helps redress the balance between import-sensitive producer interests and consumer interests. As stated above, producers who also are consumers of imported or import-competing goods have an interest in working to reduce impediments to those imports. The greater those producers' exposure to international competition, the greater the likelihood that they will actively oppose protectionist measures and other regulatory impositions that increase prices for their key inputs.

Far from being a stumbling block to sovereignty, to governance that comports to the will of the people, an increase in such activity makes it likely that the political-regulatory system will more accurately reflect the interests of the majority. That is the most plausible implication of a correction to the much-discussed producer bias in regulation of everything from imports to medical licensure. Under most conditions, it is improbable that the increased participation of business firms in the political-regulatory process, pushing for greater sensitivity to consumer interests in competitive provision of goods that are inputs to business activity and for reduced distortions of economic incentives, will over-correct the bias toward rent-creation in public decision-making (including the bias toward over-protection of import-competing industries).

It also is improbable that the increased pressure from business firms worried about competing in a global market will yield a single, uniform set of regulations—whether sectoral or economy-wide—across all nations, unless that is forced by other circumstances. All nations need not, in a world of open trade, have the same rules. If tastes differ across nations, workers in one nation will be willing to trade more of their potential cash income for more in the way of environmental or safety protection, for greater assurance that their health care needs will be looked after or that their income during retirement will be assured.⁸⁶ In fact, people in one nation will not only be prepared to trade different amounts of money for different *levels* of safety (and so on); people in different nations will reveal differing preferences for particular *kinds* of protection. In some nations, people are more sensitive to perceived risks from radiation, in others to such risks from genetic engineering, and in others to risks from bacterial infections (to take three alternatives for the focus on food safety). Regulations responsive to those differences could survive in a world of open trade.⁸⁷ To the extent that businesses shift production among locales, the shifts should better align diverse

US International Trade Commission, 1990.

⁸⁶ Bhagwati, 1996; Cass & Boltuck, 1996; Leebron, 1996.

⁸⁷ See generally Bhagwati & Hudec, 1996. See also Revesz, 1992 (making same point in domestic, interstate context).

preferences, so that risks are distributed in accord with the different values placed on avoiding particular levels and kinds of risks. A response no different than movement of production to take account of other sources of advantage, which, after all, is one of the cornerstones for gains from trade.⁸⁸

Sovereignty, Again: Trade, Spillovers, and Welfare

That is, however, only one possibility, though we think it the most likely. It also is possible that open trade could undermine divergent regulatory regimes, even though each regime is optimal for the particular nation in a world without trade.⁸⁹

That is especially true for environmental problems that involve substantial spillover effects. As, for example, if smokestack pollution in Canada primarily results in greater pollution for residents of the US or if pollution of the Rio Grande river in the US primarily interferes with use of the river in Mexico.⁹⁰ The existence of spillovers increases the probability of underprotection against harms occurring outside the nation, but it is not of itself a problem for trade.

Rather, the trade problem arises from differences among nations in the degree to which effects of regulation are internalized. Such differences will generate divergent incentives with respect to the harm at issue. The greater the internalization, the more likely it is that a nation will behave in ways that are jointly (globally) optimal. For instance, if harm from smokestack pollution in the US falls almost entirely on US citizens while Canadian pollution falls almost entirely outside Canada, the US is apt to have far more stringent regulation of pollution than Canada (other things equal). Open trade with Canada could reduce US incentives to adhere to pollution regulation that is otherwise optimal because Canadian producers would have lower pollution-regulation costs.

In that setting, both domestic and global welfare could be enhanced by agreement between the nations, avoiding what often is referenced as a Prisoners Dilemma-type problem.⁹¹ In the absence of agreement, the threat of exclusion of Canadian goods (at least those with lower marginal costs by virtue of production in ways would violate US pollution regulations) from the US market or imposition of a tax to offset the advantage gained through suboptimal regulation could lead to increased welfare.

We must be careful, however, in evaluating particular claims for welfare-

⁸⁸ See, e.g., Samuelson, 1962; Findlay, 1970; Deardorff, 1979.

⁸⁹ Deardorff, 1997; Howse & Trebilcock, 1997.

⁹⁰ Deardorff, 1997.

⁹¹ In fact, while agreement could reach welfare-improving results for both nations, the payoff structure suggested by the hypothetical in text is not a Prisoners Dilemma game. The Prisoners Dilemma, however, is the best-known of games in which cooperation leads to welfare improvement; hence, the typical reference to that game.

improving trade restriction to correct differential spillover effects. Many, if not most, domestic policy choices involve some spillover effects. The bulk of these choices will have effects that differ across nations. US monetary policy, for example, will affect other nations to a much greater degree than other nations' monetary policies will spill over outside their borders. The question in each instance is how much that difference in spillover effects is reflected in national regulations, how much of *that* difference passes through into prices of goods, and how likely trade restraints are to appropriately re-balance goods prices.

The primary problem with arguments tied to adjustment for effects that undermine incentives for optimal regulation is that we begin with a world in which those incentives are unlikely to exist. The point of the public choice literature, in large part, is that for perfectly understandable reasons public decisions consistently depart from the optimal. The *possibility* that the US in the hypothetical above could achieve a welfare-improving result through trade restriction is not by any means outside the realm of the plausible. But it is far more consistent with what we know of the world of politics and regulation to suppose that the incentives of politicians and regulators will diverge substantially from optimizing public welfare. To test this assumption, imagine a congressman announcing his view that closure of the military base in his district is preferable to closing the base in another district, given the efficiencies involved in operation of the *Aforeign@ base*. Can you doubt that you've just imagined a one-term congressman?

If those who make and implement policy are (at least under an array of ordinary circumstances) not likely to produce welfare-enhancing results, we must proceed more slowly from the predicate of a possible welfare-enhancing move to the conclusion that we know the right prescription for government action. As with second-best arguments generally, the assertion here is *not* that we know enough to say that trade restriction will push us in toward welfare reduction. Instead, it is that we cannot draw the opposite conclusion from information that a single factor points toward the possibility of welfare-enhancing trade restraint.

To be fair, what is required for the spillover argument to support trade restriction is not that the US policy (in our US-Canada pollution example) be *optimal* for both parties (or more generally be globally optimal), only that it be *closer* to optimal than the Canadian policy. But this does not avoid the problem of second-best analysis. Given the other factors influencing public decision-making, it will be difficult to project the difference in degree of proximity to optimal merely from the one variable—differences in spillover effects—identified here. We know the direction in which this variable moves decisions, but we cannot know how close to or far from the ideal a decision will be.

In addition, the variance from optimal policy between the two nations may

be much smaller than the focus on that one factor suggests. Recall that the transmission mechanism for ill effects on welfare is a divergence in the US and Canadian policies= effects on product prices. Differences between the nations with policies closer or further from the ideal (on a specific issue) largely should be offset by changes in returns to labor or capital in the regulating nation, rather than flowing through to changes in price. If the regulations produce only slight effects on price, the trade sanction would have to be quite finely tuned to yield higher expected value.

Absent confidence that there will be large welfare effects of asymmetric regulation (differing in the extent to which spillovers are captured) it is dangerous to recommend trade restriction as a remedy. Trade regulation unambiguously departs from welfare-maximization in the direction of too much restriction, and the departure's effect generally is thought to be quite large.⁹² Those conclusions hold whether the trade restriction is legislated or subject to administrative discretion.⁹³ Hence, making trade restraint an option to combat suboptimal environmental regulation by other nations generates a serious risk that the option will be exercised too frequently with too great costs.

The problem is made worse by the difficulty of separating sources of difference in environmental (or other, similar) regulations—the regulations that provide the spillover argument for trade restriction. As postulated above, a difference in externalities can lead to different regulations; but as we discussed earlier, so can a difference in tastes or in wealth. Those cases are not readily distinguished and are not likely to be distinguished in the application of trade restraints.

Trade sanctions are apt to be triggered by differences in *regulations* rather than by differences in the degree to which regulation is informed by a full accounting for *spillovers*. For good reason, trade action cannot be tied to the rationale articulated in defense of a regulation, and anyone whose business is harmed by competition has an incentive to complain of the differential burden of regulation, whether or not that has actual implications for global welfare.⁹⁴

One last consideration reinforces the preceding caution. Combining what we know about the politics of regulation generally with what we know of the administration of trade laws yields the following unhappy prediction. Not only will countenancing trade restriction as a corrective to unduly lax environmental

⁹² See, e.g., Finger, Hall & Nelson, 1982; Baldwin, 1985; Bhagwati, 1988; Hufbauer & Elliott, 1994; Krueger, 1995.

⁹³ Finger, Hall & Nelson, 1982; Baldwin & Richardson, 1986; Goldstein, 1986; Cass & Schwartz, 1990; Baldwin & Moore, 1991; Cass & Knoll, 1997.

⁹⁴ See, e.g., Trebilcock, 1990; Nivola, 1993; Krueger, 1995.

regulation generate too much restriction of trade; it also will produce too little change in other nations' environmental rules as well.⁹⁵ The forces that drive domestic policies also influence other nations' policies. Officials do not respond to sanctions simply because such a response could increase global, or even national, welfare. Threatening trade restriction at times will be justified and at times will secure action that will advantage both the threatening and threatened nation.⁹⁶ But the threat will not always succeed. If the threatened action is an optimal tariff on the imports, exactly offsetting the advantage conferred by insufficient accounting for spillover effects, the tariff should be imposed directly. In other cases, imposing the tariff or other restriction will increase the harm to the restricting nation.

IV. EXPORT CONTROLS: ANOTHER REGULATION, ANOTHER RACE?⁹⁷

Almost all discussion of trade's intersection with regulation focuses on the manner in which imports affect regulation or regulation affects imports. Either domestic regulations are threatened by imports or foreign regulations operate to frustrate imports (which we care about because those are *our* exports). Economists view exports as necessary to pay for imports, much as giving away something of value in a barter deal is needed to induce the other party to give something of value to you. What makes the deal work is that each party gets something he values more than what is traded away. From a national welfare vantage, exports are good only so far as they make welfare-improving imports possible. The real good is imports.

In the politics of trade, things are reversed: the basic rule of trade politics is that imports are bad, but exports are good. Each of those claims responds to the natural bias of public decision-making in favor of readily identified, easily organized, groups of people intensely interested in an issue. That often translates to a bias in favor of producers of the good at issue. Domestic producers do not want to face competition (from imports or otherwise) in their businesses, and are more likely to achieve success in combating import competition than other domestic competition.⁹⁸ Domestic producers also want to sell into other markets, and (without opposition, at least not on an equal footing, in the domestic political market) are likely to find domestic politicians sympathetic to that interest.

⁹⁵ See, e.g., Bhagwati, 1994; Hudec, 1996; Cass & Haring, 1998, at 66-73, 157-95.

⁹⁶ Sykes, 1990; Sykes, 1992.

⁹⁷ Part IV is adapted from Cass & Haring, 1998, chaps. 4 & 9.

⁹⁸ Baldwin, 1985; Bhagwati, 1988; Krueger, 1995.

The Politics of Export Control

This account of the common tendencies of trade politics leaves us with a question: if those tendencies explain import constraints and export promotion, how can we account for export controls? Export controls generally provide gains to a broad, diffuse, unorganized populace (so far as the controls are effective) while the losses are borne largely by a few producers. That formula seemingly should work against the imposition of controls, and yet export controls are imposed with some frequency, often in circumstances where, because of the availability of close substitute sources of supply, they are seemingly incapable of producing any beneficial consequences.⁹⁹ J. David Richardson estimates that export controls cost the U.S. economy about \$29 billion in lost export sales in 1991, and other commentators have given significantly higher estimates.¹⁰⁰

Export controls can be explained readily in only two or maybe one-and-a-half instances. First are voluntary export restraints, which are a combination of import restriction and cartel facilitation.¹⁰¹ That fits the standard public choice explanation of political decision-making. Similarly, export controls involving restrictions on export of natural resources present a more traditional setting for government action. In these cases, the principal consumers (for whom the resources are inputs to production of other goods) frequently form a more concentrated group than producers. Because export controls tend to reduce the price of the exportable good, this may be a case of relatively concentrated benefits and more diffuse costs.¹⁰²

The more common sort of export controls, however, involving finished goods appear to present the opposite situation. This poses something of a conundrum for public choice theory. We offer two hypotheses that might bridge the apparent gap between fact and theory.

Recalibrating Value and Cost

One hypothesis is that the apparent misfit between export controls and public

⁹⁹ Hufbauer, Schott & Elliott, 1990.

¹⁰⁰ Richardson, 1993. Richardson does not consider restrictions on the sale of pure weaponry and does not estimate costs of compliance with government export controls. Estimates of US losses from export controls on dual-use (military or civilian) technology run as high as \$125 billion. *See, e.g.*, Hearings on H.R. 2912, Sep. 1993, at 13-16 (testimony of Robert E. Allen, Chairman & CEO, American Tel. & Tel.); BNA Special Report, Sep. 1993.

¹⁰¹ Jones, 1994.

¹⁰² We are grateful to Henry Manne for making this point. For a description of the economics of export restraints and their benefits to domestic consumers, see Corden, 1971, at 15B16.

choice theory disappears on examination. The reason is that both the value and cost of export controls might differ from what appears at first blush.

Let us start with the benefit side. Typically, the value assigned to export controls is their effect at preventing negative externalities. That goal is served most obviously by denying an enemy goods that are helpful to that nation and harmful to the restricting nation. Alternatively, the goal is served by influencing actions of a regime that is at least potentially hostile to the restricting nation. Again, the obvious means of influence through export controls is to threaten denial of access to important goods. Frequently, however, export controls are imposed despite the fact that the restricting nation lacks the ability to deny the target nation access to the restricted goods.¹⁰³ On its face, these instances seem to be all cost, no benefit government actions. Even for the most skeptical observers of government, that is an implausible paradigm.

The first place to look, then, to unravel this enigma is the supposition that the control yields no benefit. If the exporting nation cannot deny technology to an opposed nation, what is gained by export controls?

In addition to the goal of denial, export controls also could serve three other goals for national policy: delay, cost-raising, or signaling. Where denial aims to prevent the target nation from acquiring the restricted good, delay seeks only to maintain some temporal advantage in access to the restricted good. This goal is sometimes derided—it is, on its face, a strategy that results merely in being eaten by the alligator slowly rather than all at once. But, in many circumstances, it may be preferable to be eaten by the alligator more slowly, especially if slow and fast are the only alternatives. To take an example from another context, a dominant firm confronted by entry rarely has the option of maintaining its profits at pre-entry levels, but it often can optimize the tradeoff between cutting prices and losing market share.¹⁰⁴

The third goal, cost-raising, is more modest yet. In some circumstances, even delaying access to a good is difficult (i.e., too costly). Still, in many contexts, competitors can gain an advantage from raising rivals' costs.¹⁰⁵ Restrictions on export are likely to do this to some degree even if they are only partially successful, in part for the same reason that trade theorists generally favor multilateral liberalization and oppose reciprocal trade agreements: unimpeded, trade will tend to take its most efficient route, while constraints that apply differently to different sources or destinations for trade, even if they cause

¹⁰³ Hufbauer, Schott & Elliott, 1990; Richardson, 1993; Burnham, 1994; Cass & Haring, 1998.

¹⁰⁴ See, e.g., Stigler, 1964.

¹⁰⁵ See Salop & Scheffman, 1983; Krattenmaker & Salop, 1986.

minimal distortion in production, will cause trade to be diverted to second-best channels.¹⁰⁶ Inevitably, there is additional cost associated with trade diversion.

Further, if restrictions remove many of the most efficient sources of supply, the effect on rivals' costs and competitive advantage could be significant. Some observers have opined that the effect of the multinational export control regime directed against the Soviet Union—the Coordinating Committee for Multilateral Export Controls (COCOM)—largely was of this provenance, increasing Soviet expenditures for technology, including expenditures on espionage and bribery to acquire technology from the west and expenditures on less efficient production of similar technology at home.¹⁰⁷

Finally, even if utterly ineffective at any of the goals set out above, the gesture of restricting exports may possess (political) utility. The action serves as a signal. It lets both domestic and foreign audiences know what we think of particular nations at specific times. The signaling effect may be especially useful if it can be calibrated by the sort of goods in which trade is limited. When you don't get F-18s or Minuteman missiles, that is one thing; when you're off the list to receive silicon chips, that's another; when you stop getting potato chips, things are really serious. The signal of export controls is almost certainly more clear than most diplomatic language and less dangerous than even very moderate military options (such as calling up reserves or other steps toward mobilization).¹⁰⁸ A signal of this sort may well influence action by other nations despite its hollowness as a serious constraint on acquisition of restricted goods.

The value of export controls as foreign policy tools, thus, may be substantially greater than would appear from their ability to constrain access, but that still does not answer the question, why would public decision processes favor using this tool? Perhaps this is an example of a general public interest so widely shared and deeply held that officials charged with the government's foreign policy functions and elected officials whose assent is significant gain from acting as political entrepreneurs championing this interest.¹⁰⁹ That seems a plausible explanation for export controls aimed at the Soviet Union and associated states. As with many issues of general public policy, some members of the public are apt intensely to favor particular policies while others strongly oppose them. Political benefits from export controls flow not simply from general public support but asymmetrically from those who are most intensely

¹⁰⁶ Lindsey, 1960; Bhagwati, 1994. This does not, however, mean that all preferential arrangements are trade-reducing. See Deardorff & Stern, 1994, at 27B75.

¹⁰⁷ Artemiev, 1991; Hillenbrand, 1992, at 68; McDaniel, 1993, at 117.

¹⁰⁸ McDaniel, 1993; Cass & Haring, 1998.

¹⁰⁹ See, e.g., Ordeshook, 1986, at 184-87; Mueller, 1989, at 180-93.

supportive of the particular controls.¹¹⁰ The analysis can be extended beyond the decision to impose sanctions to the type of sanctions imposed.¹¹¹ Hence, even if producer interests play a disproportionate role in decisions respecting export controls, there may be sufficient incentive for officials to impose controls.

The other side of the cost-benefit equation—the cost of export controls to producers—may be more amenable to these decisions than would first appear. The principal effect of export controls in many—but by no means all—instances will be to alter trade patterns rather than to change any firm's sales.

Consider the following hypothetical example. We begin with three, not implausible, conditions: (1) a world market exists for the class of products at issue, with neither production nor consumption concentrated in a single nation; (2) economies of scale are exhausted at volumes of production below the level of consumption (under current conditions and at current prices) in a large economy; and (3) products in this class are differentiated but are reasonably close substitutes. Under these conditions, products will travel across borders, with some imports shipped even to nations that are net exporters of the products at issue.

Let the principal producer-exporter nations in this hypothetical be the United States, Japan, and the members of the European Union. When export controls are introduced by one nation—say, a US restriction on sales to Iraq—a short-run shift in supply occurs in that nation as domestic (US) producers seek to sell goods in the home market that previously were expected to be sold in the embargoed market (Iraq). Demand for imports of the product class from noncontrolling nations (Japan and European nations) falls in the controlling nation (the United States), but demand for these imports rises in the embargoed nation (Iraq). Supply from other nations shifts from the controlling nation to the embargoed nation (so that US sales to Iraq are replaced by Japanese or European sales while similar sales of Japanese or European products to U.S. customers are replaced by sales from US producers). Although trade flows change, the new equilibrium output for each firm need not differ appreciably from prior output levels.

Under these conditions, although producers of the controlled products will object to export restrictions, the objection may be quite muted. The restrictions will have an adverse effect on the producers, but the effect need not be large. Indeed, the less effective the government is at gaining international support for the restrictions, the less harm may be done to domestic producers.

¹¹⁰ See Kaempfer & Lowenberg, 1988.

¹¹¹ See Spindler, 1995.

Asymmetric Official Incentives

An alternative, and quite different, explanation for export controls is that self-interested behavior of public officials, *not* serving broader public interests, produces a bias toward overimposition of controls even though the controls impose a real and serious cost on the restricted domestic industries.¹¹² This hypothesis tracks Sam Peltzman's explanation for the Food and Drug Administration's bias toward too much delay in approvals for new drugs.¹¹³ Peltzman observed that if a drug was approved that created significant harm to those who used it, the officials who approved the drug would be castigated. If, however, many people were harmed by delays in approval of beneficial drugs, that would lead to less criticism. One error produces costs that are quite readily visible to the public—the Thalidomide scandal, for instance—while the opposed error does not.

With drug approvals, as with export controls, there is a concentrated harm from the less publicly visible error—the companies that seek drug approvals lose profits from the sales they would have made just as the would-be exporters lose profits from the export sales forgone. But in neither case is the risk of offending these firms as great a problem for the public official as the risk of public scandal from an erroneous affirmative grant of authority. The public outcry over our sales of scrap metal to Japan preceding World War II and of arms to Iraq preceding the Gulf War are illustrative.

Perhaps in these circumstances the diffuse public interest in national security is replaced by more personal—but still very widespread—concern that the offending action could be responsible for the loss of a loved one, a family member or friend. Or perhaps in some instances public-interested considerations have greater effect on citizens' behavior than considerations tied more directly to their private interests.¹¹⁴ These are not matters as to which we have sufficient information to draw definite conclusions. We suspect, however, that some aspect of each hypothesis explains the seeming anomaly of export controls.

CONCLUSION

International trade offers the prospect of increased competition for many businesses. That competition will increase complaints about trade, including complaints that trade undermines domestic regulation. Indeed, trade does in

¹¹² Cass & Haring, 1998. *See also* Long, 1989, at 69-107; Spindler, 1995.

¹¹³ Peltzman, 1973.

¹¹⁴ *See* Kau & Rubin, 1979; Kalt & Zupan, 1984; Peltzman, 1984. *See also* Kaempfer & Lowenberg, 1988.

some instances undermine domestic regulation precisely because it increases competition. Firms competing with businesses that are not subject to the same regulation may agitate for regulatory change to reduce burdens that raise the prices of domestic firms' products, and in some instances they will secure the kind of change they demand. The successive changes in the structure of many countries' telecommunications services largely tells a story of this type.

Such changes, though inevitably decried by some, generally will benefit the public. Much of the regulation that will be altered is supported primarily by intensely interested groups despite its costs to a larger portion of the public. Costs that tend to be significantly larger than gains to the regulations' proponents. Increased competition will help redress the political imbalance between those who are helped and those who are hurt by much regulation.

Not all regulation is inimical to public interests, and some that will be under pressure as a result of trade could be regulation that is relatively helpful to public welfare. These instances in the main will involve spillover effects captured to different degrees in various nations. In such settings, there is a clear role for international agreement to regulate harms that are not sustainably regulable by individual nations with open trade. Even here, however, trade closure almost surely will not be a first-best solution and is not predictably the best second-best solution.

The opposition to trade's effects, captured in the race-to-the-bottom metaphor, misleads in arguing that there is a simple, direct connection between trade and regulatory change, in arguing that the change leads to a single, low-regulation system globally, and in arguing that the change impairs domestic welfare. In fact, regulation will change at different paces in a variety of ways, at times moving against the grain that increased trade-generated competition suggests. Trade rarely will lead to a single, uniform regulatory system. And the change will tend to promote, not impair, welfare, as the strong tendency is toward too much restriction of competition, including too much restriction of trade. Even in circumstances where trade restriction seems at odds with conventional political dynamics, as with export controls. The one place the race to the bottom seems to be occurring as trade expands is in the rhetoric used to describe how trade and regulation interact.

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