Is Free Trade Passé? Author(s): Paul R. Krugman Source: *The Journal of Economic Perspectives*, Vol. 1, No. 2 (Autumn, 1987), pp. 131-144 Published by: American Economic Association Stable URL: http://www.jstor.org/stable/1942985 Accessed: 31-12-2017 12:04 UTC

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at http://about.jstor.org/terms



American Economic Association is collaborating with JSTOR to digitize, preserve and extend access to The Journal of Economic Perspectives

Is Free Trade Passé?

Paul R. Krugman

f there were an Economist's Creed, it would surely contain the affirmations "I understand the Principle of Comparative Advantage" and "I advocate Free Trade." For one hundred seventy years, the appreciation that international trade benefits a country whether it is "fair" or not has been one of the touchstones of professionalism in economics. Comparative advantage is not just an idea both simple and profound; it is an idea that conflicts directly with both stubborn popular prejudices and powerful interests. This combination makes the defense of free trade as close to a sacred tenet as any idea in economics.

Yet the case for free trade is currently more in doubt than at any time since the 1817 publication of Ricardo's *Principles of Political Economy*. This is not because of the political pressures for protection, which have triumphed in the past without shaking the intellectual foundations of comparative advantage theory. Rather, it is because of the changes that have recently taken place in the theory of international trade itself. While new developments in international trade theory may not yet be familiar to the profession at large, they have been substantial and radical. In the last ten years the traditional constant returns, perfect competition models of international trade have been supplemented and to some extent supplanted by a new breed of models that emphasizes increasing returns and imperfect competition. These new models call into doubt the extent to which actual trade can be explained by comparative advantage;

Paul R. Krugman is Professor of Economics, Massachusetts Institute of Technology, Cambridge, Massachusetts. they also open the possibility that government intervention in trade via import restrictions, export subsidies, and so on may under some circumstances be in the national interest after all.

To preview this paper's conclusion: free trade is not passé, but it is an idea that has irretrievably lost its innocence. Its status has shifted from optimum to reasonable rule of thumb. There is still a case for free trade as a good policy, and as a useful target in the practical world of politics, but it can never again be asserted as the policy that economic theory tells us is always right.

Rethinking International Trade Theory

From the early nineteenth century until the late 1970s, international trade theory was dominated almost entirely by the concept of comparative advantage, which we can define loosely as the view that countries trade to take advantage of their differences. In formal models, economies were assumed to be characterized by constant returns to scale and perfect competition. Given these assumptions, trade can arise only to the extent that countries differ in tastes, technology, or factor endowments. The traditional Ricardian model emphasizes technological differences as the cause of trade; the Heckscher-Ohlin-Samuelson model emphasizes differences in factor endowments. Additional models can be generated by varying assumptions about the number of goods and factors, by placing restrictions on the technology, and so on. These alternative models have different implications in important respects; for example, income distribution effects are absent in the Ricardian model, extremely strong in the Heckscher-Ohlin-Samuelson model. Nonetheless, the underlying commonality among conventional trade models is such that until a few years ago international trade theory was one of the most unified fields in economics.

Thoughtful international economists have long known that comparative advantage need not be the whole story, that increasing returns can be an independent cause of international specialization and trade.¹ Ohlin himself repeatedly emphasized this point. Furthermore, at least since the late 1950s empirical workers and informal observers have been dissatisfied with formal trade theory, so that there has been a sort of "counter-culture" in international trade research, a set of informal arguments stressing sources of trade other than those represented in the formal models. Authors such as Steffan Burenstam-Linder (1961) and Raymond Vernon (1966) emphasized endogenous technological change, while many authors have discussed the possible role of economies of scale as a cause of trade separate from comparative advantage. A few papers attempted formal models of trade under increasing returns. However, all such efforts were plagued by the problem of modeling market structure. Except under the

¹There have been many surveys of the new developments in international trade theory. For a synthetic presentation of much of the positive side of this work, see Elhanan Helpman and Paul Krugman (1985); for an informal presentation of arguments for and against new forms of trade intervention, see the volume edited by Paul Krugman (1986); for a survey that also covers related topics in the border area between trade and industrial organization, see Paul Krugman (forthcoming).

implausible hypothesis that economies of scale are completely external to firms, increasing returns must lead to imperfect competition. Yet until the late 1970s, there was no generally accepted way to model imperfect competition in general equilibrium. Since mainstream trade theory derived its power and unity from being stated in formal general equilibrium terms, alternative views were relegated to the footnotes. As recently as 1980, many textbooks—and even survey articles on the theory of international trade—failed even to mention the possibility that trade might arise for reasons other than exogenous differences in tastes, technology, and factor endowments.

During the 1970s researchers in industrial organization began to develop models of imperfect competition that, while admittedly lacking generality, were easy to use and apply. In particular, Chamberlinian large-group competition was given a grounding in utility maximization and placed in a general equilibrium framework by such authors as A. Michael Spence (1976) and Avinash Dixit and Joseph Stiglitz (1977). It quickly became clear to trade theorists that these new models supplied the necessary framework for formal modeling of the role of increasing returns as a cause of international trade. Simultaneously and independently, Avinash Dixit and Victor Norman (1980), Kelvin Lancaster (1980), and this author (1979) published papers in which economies of scale led to arbitrary specialization by nations on products within monopolistically competitive industries. These models immediately established the idea that countries specialize and trade, not only because of underlying differences, but also because increasing returns are an independent force leading to geographical concentration of production of each good. Indeed, at a logical level, increasing returns are as fundamental a cause of international trade as comparative advantage.²

The role of increasing returns in trade was not, as already noted, a new idea, although the new models gave it more clarity and precision than in the past. The main new insight from these models was that to the extent that trade driven by economies of scale is important in the world economy, imperfect competition is important as well. International trade theory thus becomes inextricably intertwined with industrial organization. In retrospect this conclusion is obvious. After all, most trade is in the products of industries that economists classify without hesitation as oligopolies when viewing them in their domestic aspect. For international economics, however, this was a radical reorientation.

Although the new models of trade challenged the traditional view that all trade represents exploitation of comparative advantage, the new trade theory did not at first challenge the proposition that trade is of mutual benefit to the trading nations. Indeed, if anything, the introduction of increasing returns and imperfect competition into trade theory strengthens the case that there are gains from trade. In addition to

²One need not, of course, abandon comparative advantage entirely. From early in the development of new trade theory most models have represented trade as arising from both increasing returns and some form of comparative advantage, such as differences in factor endowments. This behavior of such models depends on the underlying parameters. For example, if scale economies are large and countries are similar in their factor endowments, the model will behave very differently from when scale economies are weak and countries differ greatly; in the latter case traditional trade theory yields the right predictions, in the former it does not.

benefitting from complementary differences in resources and technology, trading countries can specialize in the production of different goods, achieving increased scale of production while maintaining or increasing the diversity of goods available. Admittedly, a second-best world of imperfect competition offers no guarantee that potential benefits from trade will necessarily be realized. In most formal models, however, it turns out that the presence of increasing returns increases rather than reduces the gains from international trade. Furthermore, by creating larger, more competitive markets, trade may reduce the distortions that would have been associated with imperfect competition in a closed economy. Thus the initial implication of new trade theory seemed, if anything, to reinforce the traditional view that trade is a good thing, and thus to strengthen the case for free trade.

However, showing that free trade is better than no trade is not the same thing as showing that free trade is better than sophisticated government intervention. The view that free trade is the best of all possible policies is part of the general case for laissez-faire in a market economy, and rests on the proposition that markets are efficient. If increasing returns and imperfect competition are necessary parts of the explanation of international trade, however, we are living in a second-best world where government intervention can in principle improve on market outcomes. Thus as soon as the respectability of non-comparative-advantage models in international trade was established, international trade theorists began to ask whether the new view of the *causes* of trade implied new views about appropriate trade *policy*. Does acknowledging economies of scale and imperfect competition create new arguments against free trade?

New Arguments Against Free Trade

The new view of international trade holds that trade is to an important degree driven by economies of scale rather than comparative advantage, and that international markets are typically imperfectly competitive. This new view has suggested two arguments against free trade, one of which is a wholly new idea, the other of which is an old idea given new force. The new idea is the *strategic trade policy* argument, which holds that government policy can tilt the terms of oligopolistic competition to shift excess returns from foreign to domestic firms. The old idea is that government policy should favor industries that yield *externalities*, especially generation of knowledge that firms cannot fully appropriate.

Strategic Trade Policy

The strategic trade policy argument begins with the observation that in a world of increasing returns and imperfect competition, lucky firms in some industries may be able to earn returns higher than the opportunity costs of the resources they employ. For example, suppose that economies of scale are sufficiently large in some industry that there is only room for one profitable entrant in the world market as a whole; that is, if two firms were to enter they would both incur losses. Then whichever firm manages to establish itself in the industry will earn super-normal returns that will not be competed away.

A country can raise its national income at other countries' expense if it can somehow ensure that the lucky firm that gets to earn excess returns is domestic rather than foreign. In two influential papers, James Brander and Barbara Spencer (1983, 1985) showed that government policies such as export subsidies and import restrictions can, under the right circumstances, deter foreign firms from competing for lucrative markets. Government policy here serves much the same role that "strategic" moves such as investment in excess capacity or research and development (R & D) serve in many models of oligopolistic competition—hence the term "strategic trade policy."

The original Brander-Spencer analysis and the literature that followed it uses the machinery of duopoly analysis: firms choose levels of R & D and/or output conditional on other firms' choices, and an equilibrium occurs where the reaction functions of firms intersect. The essence of the strategic trade policy concept, however, is so simple that it can be conveyed with a numerical example. Indeed, focussing on such an example may convey the essentials more clearly than a more formal treatment.

Suppose, then, that two countries are capable of producing a good. For concreteness, let the good be a 150-seat passenger aircraft, and call the "countries" America and Europe. Also, let there be one firm in each country that could produce the good: Boeing and Airbus, respectively.

To focus attention on the competition for excess returns, assume that neither America nor Europe has any domestic demand for the good, so that the good is intended solely for export; this allows us to identify producer surplus with the national interest. Also, assume that each firm faces only a binary choice, to produce or not to produce. Finally, assume that the market is profitable for either firm if it enters alone, unprofitable for both if both enter.

Given these assumptions, the game between Boeing and Airbus may be represented by a matrix like that shown in Table 1. Boeing's choices to produce (P) or not to produce (N) are represented by upper case letters, Airbus's corresponding choices by lower case letters. In each cell of the matrix, the lower left number represents Boeing's profit (over and above the normal return on capital), the upper right number represents Airbus's profit.

As the game is set up here, it does not have a unique outcome. To give it one, let us assume that Boeing has some kind of head start that allows it to commit itself to produce before Airbus's decision. Then in the absence of government intervention, the outcome will be Pn, in the upper right cell: Boeing will earn large profits, while deterring entry by Airbus.

Clearly Europe's government would like to change this outcome. The strategic trade policy point is that it can change the outcome if it is able to commit itself to subsidize Airbus, at a point before Boeing is committed to produce. Suppose that Europe's government can commit itself in advance to pay a subsidy of 10 to Airbus if it produces the plane, regardless of what Boeing does. Then the payoff matrix is shifted to that represented by Table 2. The result is to reverse the game's outcome.

Table 1Hypothetical payoff matrix

		Airbus					
		I)	n			
Boeing			-5		0		
	Р	-5		100			
			100		0		
	Ν	0		0			

Table 2 Hypothetical payoff matrix after European subsidy

		Airbus					
		F)	n			
			5		0		
	Р	-5		100			
Boeing							
	NT		110		0		
	N	0		0			

Boeing now knows that even it if commits itself to produce, Airbus will still produce as well, and it will make losses. Thus Boeing will be induced not to produce, and the outcome will be Np instead of Pn. The surprising result will be that a subsidy of only 10 raises Airbus's profits from 0 to 110! Of this, 100 represents a transfer of excess returns from America to Europe, a gain in Europe's national income at America's expense.

The strategic trade policy argument thus shows that at least under some circumstances a government, by supporting its firms in international competition, can raise national welfare at another country's expense. The example just presented showed this goal being achieved via a subsidy, but other policies might also serve this purpose. In particular, when there is a significant domestic market for a good, protection of this market raises the profits of the domestic firm and lowers the profits of the foreign firm in the case where both enter; like an export subsidy, this can deter foreign entry and allow the domestic firm to capture the excess returns. As businessmen have always said, and as economists have usually denied, a protected domestic market can—under some circumstances!—promote rather than discourage exports, and possibly raise national income.

The strategic trade policy argument is immensely attractive to noneconomists, since it seems to say that views always condemned by international trade theorists as fallacious make sense after all. In defense of free trade, a number of analysts have quickly acted to point out the weakness of strategic trade as a basis for actual intervention. Before considering these arguments, however, I turn to the other justification for government intervention in trade suggested by the new theory.

External Economies

There is nothing new about the idea that it may be desirable to deviate from free trade to encourage activities that yield positive external economies. The proposition that protection can be beneficial when an industry generates external economies is part of the conventional theory of trade policy.³ However, the rethinking of international trade theory has given at least the appearance of greater concreteness to the theoretical case for government intervention to promote external benefits.

It is possible to imagine bees-and-flowers examples in which externalities arise from some physical spillover between firms, but empirically the most plausible source of positive externalities is the inability of innovative firms to appropriate fully the knowledge they create. The presence of problems of appropriability is unmistakable in industries experiencing rapid technological progress, where firms routinely take each others' products apart to see how they work and how they were made. In traditional international trade models with their reliance on perfect competition, however, externalities resulting from incomplete appropriability could not be explicitly recognized,⁴ because the knowledge investment by firms that is the source of the spillover could not be fitted in. Investment in knowledge inevitably has a fixed-cost aspect; once a firm has improved its product or technique, the unit cost of that improvement falls as more is produced. The result of these dynamic economies of scale must be a breakdown of perfect competition. As a result, perfectly competitive models could not explicitly recognize the most plausible reason for the existence of external economies. This did not prevent trade theorists from analyzing the trade policy implications of externalities, and in fact this is a well-understood topic. Since investment in knowledge was not explicitly in their models, however, external economies seemed abstract, without an obvious real-world counterpart. In traditional trade models, one industry seems as likely as another to generate important external economies—so that the theory seems remote from operational usefulness.

Once increasing returns and imperfect competition are seen as the norm, this problem of abstractness is reduced. The dynamic scale economies associated with investment in knowledge are just another reason for the imperfection of competition that has already been accepted as the norm. External economies can now be identified with incomplete appropriability of the results of R & D, which immediately suggests that they are most likely to be found in industries where R & D is an especially large part of firms' costs. So by making tractable the modeling of a specific mechanism

³See, for example, W. M. Corden (1974). As the conventional literature points out, however, protection is only a second-best policy; direct correction of the domestic market failure is preferable.

⁴The one exception is the case of *zero* appropriability. In this case technological progress will occur only through learning-by-doing, because there will be no incentive for firms to invest deliberately in knowledge creation; since the fixed costs associated with knowledge investment are absent, perfect competition may be preserved.

generating externalities, the new trade theory also seems to offer guidance on where these externalities are likely to be important.

The emphasis on external economies suggested by new trade theory is similar to the strategic trade policy argument in offering a reason for government targeting of particular sectors. However, the external economies argument differs in one important respect; policies to promote sectors yielding external economies need not affect other countries adversely. Whether the effect of one country's targeting of high-externality sectors on other countries is positive or negative depends on whether the scope of the externalities is national or international. There is a conflict of interest if knowledge spills over within a country but not between countries. Suppose that the research of each computer firm generates knowledge that benefits other computer firms. This is only a case for sponsoring production of computers in the United States as opposed to Japan if U.S. firms cannot benefit from Japanese research.⁵ In many cases it seems unlikely that spillovers respect national boundaries; a firm can "reverse engineer" a product made abroad as well as one made at home. The best candidates for nationally limited externalities are where knowledge spreads largely by personal contact and word of mouth. This is a much more restricted set of activities than R & D in general, although it is presumably the force behind such spectacular agglomerations of high-technology industry as Silicon Valley and Route 128.

Despite the restriction that only externalities at the national level make industrial policy a source of international conflict of interest, it is clear that the changes in trade theory have strengthened the view that nations are competing over who gets to realize these externalities. This reinforces the new strategic trade policy argument in offering a more respectable rationale for deviating from free trade than has been available until now.

Critique of the New Interventionism

The positive economics of the new trade theory, with its conclusion that much trade reflects increasing returns and that many international markets are imperfectly competitive, has met with remarkably quick acceptance in the profession. The normative conclusion that this justifies a greater degree of government intervention in trade, however, has met with sharp criticism and opposition—not least from some of

⁵Even if externalities are national in scope, one might argue that no conflict need be involved; simply let each country provide the optimal subsidy. There are three answers to this. First, in practice countries often pursue industrial policy objectives with second-best trade policy tools. It is interesting to ask why they do this, but as long as they do the attempt to promote sectors is an attempt to promote them at other countries' expense. Second, much of the practical argument over industrial policy in the U.S. concerns the urgency of action when we are reluctant to intervene: if foreign countries' policies crowd out externality-generating domestic sectors, then the costs of not subsidizing become larger. Finally, if economies of scale (internal or external) are large enough, conflict of interest becomes unavoidable. Suppose there is room for only one Silicon Valley in the world, yet the agglomeration will yield valuable external economies to the country that gets it. Then the conflict cannot be avoided except through side payments.

the creators of the new theory themselves. The critique of the new interventionism partly reflects judgements about the politics of trade policy, to which we turn below. There are also, however, three economic criticisms. First, critics suggest that it is impossible to formulate useful interventionist policies given the empirical difficulties involved in modeling imperfect markets. Second, they argue that any gains from intervention will be dissipated by entry of rent-seeking firms. Third, it is argued that general equilibrium considerations radically increase the empirical difficulty of formulating interventionist trade policies and make it even more unlikely that these policies will do more good than harm.

Empirical Difficulties

The previous numerical example assumed that the European government knew the payoff matrix and knew how Boeing would respond to its policy. In reality, of course, even the best informed of governments will not know this much. Uncertainty is a feature of all economic policy, of course, but it is even greater when the key issue is how a policy will affect oligopolistic competition. The simple fact is that economists do not have reliable models of how oligopolists behave. Yet the effects of trade policy in imperfectly competitive industries can depend crucially on whether firms behave cooperatively or noncooperatively, or whether they compete by setting prices or outputs.⁶ Furthermore, in many oligopolistic industries firms play a multistage game whose rules and objectives are complex and obscure even to the players themselves.

The externality argument for intervention runs up against the empirical problem of measuring external economies. By their nature, spillovers of knowledge are elusive and difficult to calculate; because they represent non-market linkages between firms, they do not leave a "paper trail" by which their spread can be traced. A combination of careful case study work and econometrics on the history of an industry may be able to identify significant external economies, but what we need for trade policy is an estimate of the future rather than the past. Will a dollar of R & D in the semiconductor industry convey ten cents worth of external benefits, or ten dollars? Nobody really knows.⁷

By itself, the argument that making policy based on the new trade theory is an uncertain enterprise would only dictate caution and hard study, not inaction. When it is linked with the political economy concerns described below, however, it raises the question of whether the political risks associated with action outweigh any likely gains.

 $^{^{6}}$ In a widely cited paper, Jonathan Eaton and Gene Grossman (1986) showed that in a duopoly model where the optimal strategic policy was an export subsidy with quantity competition, it was an export *tax* with price competition.

⁷Of course, one response is to try to find out. The central direction of current research in the new trade analysis is the effort to produce quantitative models of competition in imperfectly competitive industries. These efforts are currently primitive, and even the authors are skeptical about the robustness of the results, but it is encouraging to see an effort to make the theory operational. See in particular Avinash Dixit (forthcoming), Richard Baldwin and Paul Krugman (forthcoming), Anthony Venables and M. Alasdair Smith (1986), Dani Rodrik (1987), and Richard Harris and David Cox (1984).

Entry

Suppose that a government is somehow able to overcome the empirical difficulties in formulating an interventionist trade policy. It may still not be able to raise national income if the benefits of its intervention are dissipated by entry of additional firms.

Consider first the case of a strategic trade policy aimed at securing excess returns. Our example was one in which there was room for only one profitable firm. Suppose, however, that the market can actually support four or five firms, a sufficient number so that the integer constraint does not matter too much and free entry will virtually eliminate monopoly profits. In this case, as Ignatius Horstmann and James Markusen (1986) have emphasized, a subsidy, even if it succeeds in deterring foreign competition, will be passed on to foreign consumers rather than securing excess returns for domestic producers. Or as Avinash Dixit has put it, when there is a possibility of new entry we need to ask, "Where's the rent?"

A similar issue arises with policies aimed at promoting external economies. Suppose that external economies are associated with the manufacture of semiconductor chips, seemingly justifying a subsidy to chips production. If additional resources of labor and capital are supplied elastically to the industry, the external benefits of larger production will not be confined to the promoting country. Instead, they will be passed on to consumers around the world in the form of cheaper chips. The *national* advantage can come only to the extent that some factors are supplied inelastically to the industry—Santa Clara valley real estate?—or external benefits conveyed by the semiconductor industry to other industries. The point is that entry of new factors and new firms further reduces, though it does not eliminate, the extent to which competition for external economies represents a valid source of international conflict.

General Equilibrium

Even in a world characterized by increasing returns and imperfect competition, budget constraints still hold. A country cannot protect everything and subsidize everything. Thus interventionist policies to promote particular sectors, whether for strategic or externality reasons, must draw resources away from other sectors. This substantially raises the knowledge that a government must have to formulate interventions that do more harm than good.

Consider first the case of strategic trade policy. When a particular sector receives a subsidy, this gives firms in that sector a strategic advantage against foreign competitors. However, the resulting expansion of that sector will bid up the price of domestic resources to other sectors, putting home firms in these other sectors at a strategic disadvantage. Excess returns gained in the favored sector will thus be offset to at least some extent by returns lost elsewhere. If the government supports the wrong sector, the gain there will conceal a loss in overall national income.

The implication of this general equilibrium point is that to pursue a strategic trade policy successfully, a government must not only understand the effects of its policy on the targeted industry, which is difficult enough, but must also understand all the industries in the economy well enough that it can judge that an advantage gained here is worth advantage lost elsewhere. Therefore, the information burden is increased even further.

A similar point applies to externalities. Promoting one sector believed to yield valuable spillovers means drawing resources out of other sectors. Suppose that glamorous high-technology sectors yield less external benefit than the government thinks, and boring sectors more. Then a policy aimed at encouraging external economies may actually prove counterproductive. Again, the government needs to understand not only the targeted sector but the rest of the economy to know if a policy is justified.

The general equilibrium point should perhaps not be emphasized too much. Sectors of the economy differ radically and visibly in both the extent to which they are imperfectly competitive and in the resources they devote to the generation of knowledge. There may not be a one-to-one correspondence between small numbers of competitors and excess returns, or between high R & D expenditure and technological spillovers, but there is surely a correlation. Governments may not know for sure where intervention is justified, but they are not completely without information. However, the general equilibrium critique reinforces the caution suggested by the other critiques.

To say that it is difficult to formulate the correct interventionist policy is not a defense of free trade, however. Thus the economic critique of the new interventionism is only part of the post-new-trade-theory case for free trade. The other indispensable part rests on considerations of political economy.

The Political Economy Case for Free Trade

Like most microeconomic interventions, the interventionist policies suggested by new trade theory would affect the distribution of income as well as its level. The well-justified concern of economists is that when policies affect income distribution, the politics of policy formation come to be dominated by distribution rather than efficiency. In the case of trade interventions, this concern is at two levels. First, to the extent that the policies work, they will have a beggar-thy-neighbor component that can lead to retaliation and mutually harmful trade war. Second, at the domestic level an effort to pursue efficiency through intervention could be captured by special interests and turned into an inefficient redistributionist program.

Retaliation and Trade War

Strategic trade policy aimed at securing excess returns for domestic firms and support for industries that are believed to yield national benefits are both beggar-thyneighbor policies that raise income at the expense of other countries. A country that attempts to use such policies will probably provoke retaliation. In many (though not all) cases, a trade war between two interventionist governments will leave both countries worse off than if a hands-off approach were adopted by both. For example, consider the case of the European telecommunications equipment industry. This industry is a likely candidate for targeting on both oligopoly and external economy grounds. It is also a sector where nationalistic procurement by government-owned firms allows countries to pursue protectionist policies without violating agreements on international trade. The result of such protectionist policies, however, is by most accounts harmful to all concerned. Each country tries to be largely self-sufficient in equipment, and no country is able to realize the scale economies that would come from supplying the European market as a whole. Arguably, the structure of the game between countries in telecommunications equipment, and probably in other sectors as well, is that of a prisoners' dilemma where each country is better off intervening than being the only country not to intervene, but everyone would be better off if nobody intervened.

The way to avoid the trap of such a prisoners' dilemma is to establish rules of the game for policy that keep mutually harmful actions to a minimum. If such rules are to work, however, they must be simple enough to be clearly defined. Free trade is such a simple rule; it is easy enough to determine whether a country imposes tariffs or import quotas. New trade theory suggests that this is unlikely to be the best of all conceivable rules. It is very difficult to come up with any simple set of rules of the game that would be better, however. If the gains from sophisticated interventionism are small, which is the import of the economic critique of the last section, then there is a reasonable case for continuing to use free trade as a focal point for international agreement to prevent trade war.

Domestic Politics

Governments do not necessarily act in the national interest, especially when making detailed microeconomic interventions. Instead, they are influenced by interest group pressures. The kinds of interventions that new trade theory suggests can raise national income will typically raise the welfare of small, fortunate groups by large amounts, while imposing costs on larger, more diffuse groups. The result, as with any microeconomic policy, can easily be that excessive or misguided intervention takes place because the beneficiaries have more knowledge and influence than the losers. Nobody who has followed U.S. trade policy in sugar or lumber can be very sanguine about the ability of the government to be objective in applying a policy based on the Brander-Spencer model.

How do we resolve the problem of interest group influence on decision-making in the real world? As in the case of the problem of international conflict, one answer is to establish rules of the game that are not too inefficient and are simple enough to be enforceable. To ask the Commerce Department to ignore special-interest politics while formulating detailed policy for many industries is not realistic; to establish a blanket policy of free trade, with exceptions granted only under extreme pressure, may not be the optimal policy according to the theory but may be the best policy that the country is likely to get.

The Status of Free Trade

The economic cautions about the difficulty of formulating useful interventions and the political economy concerns that interventionism may go astray combine into a new case for free trade. This is not the old argument that free trade is optimal because markets are efficient. Instead, it is a sadder but wiser argument for free trade as a rule of thumb in a world whose politics are as imperfect as its markets.

The economic cautions are crucial to this argument. If the potential gains from interventionist trade policies were large, it would be hard to argue against making some effort to realize these gains. The thrust of the critique offered above, however, is that the gains from intervention are limited by uncertainty about appropriate policies, by entry that dissipates the gains, and by the general equilibrium effects that insure that promoting one sector diverts resources from others. The combination of these factors limits the potential benefits of sophisticated interventionism.

Once the expected gains from intervention have been whittled down sufficiently, political economy can be invoked as a reason to forego intervention altogether. Free trade can serve as a focal point on which countries can agree to avoid trade wars. It can also serve as a simple principle with which to resist pressures of special-interest politics. To abandon the free trade principle in pursuit of the gains from sophisticated intervention could therefore open the door to adverse political consequences that would outweigh the potential gains.

It is possible, then, both to believe that comparative advantage is an incomplete model of trade and to believe that free trade is nevertheless the right policy. In fact, this is the position taken by most of the new trade theorists themselves. So free trade is not passé—but it is not what it once was.

References

Baldwin, Richard, and Paul Krugman, "Market Access and Competition: A Simulation Study of 16K Random Access Memories." In Feenstra, Robert, ed., *Empirical Research in International Trade*. Cambridge: MIT Press.

Brander, James A., and Barbara J. Spencer, "Export Subsidies and International Market Share Rivalry," *Journal of International Economics*, 1985, 18, 83-100.

Brander, James A., and Barbara J. Spencer, "International R & D Rivalry and Industrial Strategy", *Review of Economic Studies*, 1983, 50, 707-722.

Burenstam-Linder, Steffan, An Essay on Trade and Transformation. New York: Praeger, 1961.

Corden, W. Max, Trade Policy and Economic Welfare. Oxford: Clarendon, 1974.

Dixit, Avinash K., "Optimal Trade and Industrial Policy for the U.S. Automobile Industry." In Feenstra, Robert, ed., *Empirical Research in International Trade*. Cambridge: MIT Press, forthcoming.

Dixit, Avinash K., and Victor Norman, Theory of International Trade. Cambridge: Nisbet, 1980.

Dixit, Avinash K., and Joseph E. Stiglitz, "Monopolistic Competition and Optimum Product Diversity," *American Economic Review*, 1977, 67, 297–308.

Eaton, Jonathan, and Gene M. Grossman, "Optimal Trade and Industrial Policy Under Oligopoly," *Quarterly Journal of Economics*, May 1986, *Cl.*2, 383-406.

Harris, Richard, and David Cox, Trade, Industrial Policy and Canadian Manufacturing. Toronto: University of Toronto Press, 1984. Helpman, Elhanan, and Paul Krugman, Market Structure and Foreign Trade: Increasing Returns, Imperfect Competition, and the International Economy. Cambridge: MIT Press, 1985.

Horstmann, Ignatius, and James R. Markusen, "Up the Average Cost Curve: Inefficient Entry and the New Protectionism," *Journal of International Economics*, May 1986, 20:3/4, 225-248.

Krugman, Paul R., "Increasing Returns, Monopolistic Competition, and International Trade," Journal of International Economics, 1979, 9, 469–479.

Krugman, Paul R., ed., Strategic Trade Policy and the New International Economics. Cambridge: MIT Press, 1986.

Krugman, Paul R., "Industrial Organization and International Trade." In Schmalensee, Richard, and Robert Willig, eds., *Handbook of Industrial Organization*. Amsterdam: North-Holland, forthcoming.

Lancaster, Kelvin, "Intra-industry Trade Under Perfect Monopolistic Competition," Journal of International Economics, 1980, 10, 151-175.

Rodrik, Dani, "Imperfect Competition and Trade Policy in Developing Countries," Harvard University mimeo, 1987.

Spence, A. Michael, "Product Selection, Fixed Costs, and Monopolistic Competition," *Review of Economic Studies*, 1976, 43, 217–235.

Venables, Anthony J., and M. Alasdair Smith, "Trade and Industrial Policy Under Imperfect Competition," *Economic Policy*, 1986, 3, 621-672.

Vernon, Raymond, "International Investment and International Trade in the Product Cycle," *Quarterly Journal of Economics*, May 1966, 80:2, 190-207.