north-western plain region of India, which had adequate and assured irrigation water supplies, fertile, alluvial soils, dynamic, hardworking farmers and well developed physical and social infrastructures. Although the Punjab took an early lead in the revolution and the increase in productivity associated with the green revolution was the maximum in it, the revolution extended also to the irrigated areas of Haryana, western UP and the three canal irrigated districts of western Rajasthan. During the late 1970s and the 1980s, it has spread (and is still spreading) further east to pockets with adequate and assured irrigation, in eastern UP, Bihar and West Bengal, and south into Rajasthan and Madhya Pradesh. It is the result of the complex of factors mentioned above.

The emigrants' remittances undoubtedly contributed to the Punjab's leadership in these respects. But equally important was the Punjab farmers' willingness to make large investments in land improvement and to take the risks involved in adoption of the new technology.

Furthermore, Punjab had an infrastructure which included, besides a very high proportion of area with assured irrigation, a dense network of good roads and well developed facilities for road transport, a highly dynamic state government dominated by farmers and a network of economic institutions particularly credit co-operative societies, land mortgage banks and marketing committees, which were highly responsive to the farmers' interests. With these advantages, which were far superior than those of the other states, Punjab would have taken the lead in the green revolution even without the remittances.

A related economic effect was inflation. Prices of agricultural land increased by more than 7 times in Jandiali in 25 years. "An acre of land in Jandiali cost around Rs 4,000 in 1954, but in 1968 it rose to Rs 12,000; in 1971 it cost Rs 25,000 per acre and by 1978 the cost was around Rs 30,000. Not only had the price risen drastically, but in 1970, it was difficult to buy land at any price. Landholders, whether in Jandiali or England, were not willing to sell the land which was their security" (p 387).

The cost of living increased so much that Jandiali began to develop an 'external economy' in which influx of outside capital became necessary for a family to maintain its prosperity and a decent standard of living. "For those who neither had strong outside contacts from emigrants nor a rich background village life became miserable. The inflation rate in the village increased more rapidly than they had means to increase their income. In fact, with the mass emigration from Jandiali, it almost seemed like emigrating or having close contacts with emigrants was the only way for survival, especially for the middle income and poor" (p 389).

Notes

1 Todaro, M P, *Internal Migration in Developing Countries*, ILO, Geneva, 1976.
2 The tensions have been greatest and the conflicts most frequent in and around centres like the Heavy Engineering Complex near Ranchi, where the local tribal population, dispossessed of its agricultural lands and access to forests has been forced to take up the lowest paid jobs such as unskilled wage labour and domestic service, while all the better paid professional and skilled labour jobs have been taken by the in-migrants.
3 *Draft Regional Plan 2001: National Capital Region*, National Capital Region Planning Board, Ministry of Urban Development, Government of India, 1987, p 18, Table 2.5.
4 According to Premi, "The work participation rates of migrant males are almost double those of non-migrants. Similarly, the work participation of migrant females is about one and half times those of non-migrant females" (p 73).
5 DRP, op cit, p 19, Table 2.7.
6 Graves, Nancy B and Graves, Theodore, 'Adoptive Strategies in Urban Migration' in *Annual Review of Anthropology*, Vol 3, Palo Alto, CA, 1974.

Economics of Modern Trade Warfare

Indira Rajaraman

Strategic Trade Policy and the New International Economics edited by Paul R Krugman; Cambridge, Mass: MIT Press, 1986; pp 313.

THIS book is a collection of papers presented at an international conference on the 'new' trade theory in Washington DC in October 1984, to mark the fiftieth anniversary of the American EXIM bank. The stated aim of the conference was to develop a dialogue between academics who have contributed towards the development of the 'new' trade theory, and non-academic practitioners working in the area of trade policy. However, the papers presented in the volume are all by academics, although not all are confined to the general-interest, normative framework of economic theory. There are papers also providing historical detail (the 'positive' approach) on Japanese industrial and trade policy, by Kozo Yamamura, and Michael Borrus *et al* (the latter has a special focus on Japanese policy towards its semiconductor industry), on American policy towards textiles, steel and cars by William Cline, on American export credit subsidies by Jonathan Eaton, and a comparative essay by Geoffrey Carliner on Japanese and US trade policy.

The dominance by academics notwithstanding, the papers are uniformly accessible to the lay reader. The book is consequently an excellent introduction to the economics of modern trade warfare for anyone with no prior exposure to the field. There is however no summary in the book of the discussions at the conference, so we do not know if it did succeed in its stated aim of developing a dialogue between academics and practitioners. Nor, in his editorial introduction, does Paul Krugman do more than touch, very delicately, on the contradictions and mutual inconsistencies between the papers, of the kind that are inevitable between a set of papers presented at any conference.

The 'new' trade theory attempts to narrow the very wide gulf that once existed between empirical reality on the one hand and standard trade theory on the other. Neither the assumptions of the standard theory (of perfect competition, no economies of scale) nor the predictions flowing from it (that trade would have an inter-industry character) were borne out by the post-war trade experience. Nor, correspondingly, did the free trade prescription flowing from the standard theory have much practical appeal. Economies of scale proved in reality to be the rule rather than the exception, and competition, frequently, between few rather than many players. Comparative advantage was no longer determined by statically given resource endowments, but drifted dynamically in accordance with technological leads and lags, giving post-war trade its well known intra-industry character.

In such a setting it is clearly possible that any policy, *including* protection, that serves to help a firm slide down its learning curve towards lower unit costs of production might, given certain assumptions, actually be welfare-*superior* to the free trade prescription of standard theory. One of those assumptions, which is central to most theoretical demonstrations of the welfare-superior outcomes of strategic policy interventions, is the existence of *high-profit* industries, characterised by increasing returns to scale over a wide range of output, the latter posing the high barriers to entry necessary to prevent the profits from being easily competed away. Strategic policy intervention involves a nursing of the aspiring domestic entrant through a market expansion that reduces unit cost sufficiently so as to secure entry for, and shift some of those high profits to, the domestic firm. Variants of this argument, advanced by Krugman and others, belonging in the general 'neo-infant industry' class, are summarised in the survey paper by James Brander. As Brander points out, some of the authors, Krugman among them, have not always ventured a conclusion on the welfare implications of their suggestions, as distinct from the impact on comparative advantage. Protection imposes a cost on domestic consumers (usually; the Venables case is a possible exception, which will be discussed further below). There has to be a more than compensating welfare gain, in terms of garnering a share of those rents in the high-profit avenues, for the result to be actually welfare-superior. But many historical cases of strategic trade promotion, including those of the oft-cited Ministry of International Trade and Industry (MITI) of Japan, do *not* offer such compensations. The Yamamura account of the MITI strategy to promote the TV industry in Japan clearly identifies the high cost paid by the Japanese purchaser of

TV sets because of the tariff wall behind which the domestic TV industry expanded its scale of operations. The offsetting gains were certainly not a higher share of *rent* since, according to Yamamura, these firms obtained low profits, normal at best, on their export operations, in markets characterised by high domestic competition in the importing country. A possible welfare advantage might have been the reduction in unemployment consequent upon expansion of the TV industry, but other strategies might have achieved the same result at lower cost. Ultimately, the only reliable *welfare* justification for such a strategy has to be spillover effects, broadly defined to include both concurrent and future externalities favourable to the development of the Japanese electronics industry, and by the same token all but impossible to measure. In practice, however, considerations of economic welfare were probably the last thing on the minds of the MITI policy formulators. The policy was in all likelihood just another example of the victory of concentrated special interest groups able to articulate their interests (the Japanese TV producing industry in this case) over dispersed groups (Japanese consumers) without a voice. These aspects of trade policy, on the inner mechanics of policy formulation (or why what happened, happened), are areas where practitioners alone can shed some light, and this is the only respect in which the book is somewhat disappointing. The nearest the book gets to those with practical experience of trade policy is the paper by William Branson and Alvin Klevorick, which reports on efforts over the years by academics to interact with and gain information from the office of the United States Trade Representative. For a conference explicitly directed towards bringing together academics and practitioners, the absence of any direct voice for the practitioner in the collection of papers that emerged is a little unfortunate. But perhaps there are policy practitioners who will come forth in the years to come with the kind of insight only they can provide on the policy formulation process.

Meanwhile the responsible economist, with his general-interest orientation, continues to have to address very carefully the following question. Given the conditions and circumstances under which strategic policy interventions can be shown to lead to welfare-superior outcomes, is the outcome in each case robust, i e, does it survive minor alterations of assumption or circumstance? There is an excellent paper in the book by Gene Grossman which identifies, in a few selected cases, the fragility of the outcome. For example, the Brander-Spencer two-firm case of the welfare-improving impact of a generalised production subsidy uses a Cournot model where firms vary their output levels, letting prices adjust accordingly, in response to changing market conditions. Grossman demonstrates that in the same two-firm case, if it is assumed that the decision variable for each firm is the *price* of its product rather than its output level, then the welfare improving strategic policy would be an export *tax*, not a subsidy. Again, the Venables case, one of the few where the welfare advantage is obtained in a many-firm imperfectly competitive market structure rather than few-firm high-profit oilgopoly, requires that the domestic market should be large enough to enable *several* domestic firms to operate at a scale large enough to lower average unit cost, so that protection leads to lower prices for the domestic consumer. Needless to say, where the domestic market is not large enough, the outcome could well be the reverse. Another example pointed out by Krugman in his introduction arises where the fall in unit costs has to come from technological leadership rather than the simple expansion of scale needed for a technological follower; an R and D subsidy can be seriously counterproductive in a situation where small firms are the most innovative, but do not have the formal research establishment necessary for taking advantage of the subsidy. The leap, therefore, from theory to actual policy targeting can be long, and tricky.

Commenting on the surprising lack of an empirical basis for policy targeting, Avinash Dixit asks in his excellent paper setting forth a research agenda, "Where's the rent?" If the prize for successful policy strategy is grabbing a share of above-normal profits, there is little empirical work on identifying which exactly are the industries where such profits are to be had. Oligopoly may be necessary, but certainly not sufficient, for high profits, a case in point being the civilian aircraft industry. The problem is further compounded by the fact that high-profit industries are in practice often entry-barriered as a *result* of restrictive trade practices. The paper by Barbara Spencer on characteristics of potential industries for targeting is at a very general level; the actual information required before such a policy can be implemented exceeds that listed in the paper by several orders of magnitude. The Branson-Klevorick exploration of possible policy options in five major industries—semiconductors, civilian aircraft, telecommunications equipment, automobiles and steel—is more empirically grounded, but underlines very clearly how much more needs to be known before strategic moves can be made with any confidence.

Finally, the perils of policy targeting include, of course, the danger of retaliation. Brander's survey paper has a very useful summary of the work on game-theoretic outcomes of predatory trade policy, and the same ground is covered also in a paper by David Richardson; not surprisingly, the winning strategy in most games is 'tit for tat', i e, co-operation first, with a non-co-operative response if the rival defects first. All these games are of course played at a high level of abstraction, and preclude the many kinds of covert trade practices that characterise trade policy today. Ultimately, the GATT type of co-operative strategy may be the only way by which to handle these.

Another conference is to be held at Helsinki in August 1988 on the 'new' international economics. Perhaps some of the empirical gaps identified by Dixit will be filled by the papers to be presented there.

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