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US CORPORATIONS AS INVESTORS IN INDIA

A study of their experience 1955-1978

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The power wielded by transnational corporations has been the concern of many national governments, matched by enquiry as reflected in the voluminous literature on transnationals. They attracted especial attention in Western Europe in the sixties when it was feared that technological leadership would be lost to Europe through the takeover by US firms. Servan-Schreiber's (1967) famous book, Le Defi americain, unleashed a lively discussion in all West European countries. More recently, the powerful role of multinationals in Latin America has evoked much empirical analysis; Oswaldo Sunkel (1972) and Constantine Vaitsos (1974) are the best known outside among the Latin American analysts. But here again the literature is extensive.^{1/}

By comparison, the volume and depth of enquiry in India are limited. After Kidron's (1965) and Kurien's (1966) books there have been no comprehensive studies of foreign corporate investment in India: the latest by Singh (1978) is a "popularizer" as the author calls it. Tomlinson's (1970) and Markensten's (1972) studies are thorough but cover only the investments of British and Swedish firms respectively. Nor have Baranson's (1967) and Kapoor's (1973) excellent case studies been followed up by further ones. Lal (1975) has made an interesting application of benefit-cost analysis to foreign investment in India, but his sample too is a limited one of five firms.

^{1/} For comprehensive references see Hellman (1970), Savant and Lavipur (1976), Bergsten et al (1978).

It is beyond the scope of a paper to present a comprehensive picture of foreign investment or foreign technology imports as a process. The present paper tackles the more limited task of reviewing the experience of US corporate investments in India. The approach is neither a pure case-study one, nor does it apply a standard technique to a large number of cases. Instead, we have chosen twenty Indian companies in which US corporations made investments - subsidiaries, joint ventures and Indian-controlled companies - and which have a minimum manufacturing (exceptionally, trading) experience of ten years, and tried to draw general conclusions from it.

Brief information about the companies is given in Table I. In the rest of the paper, we first deal with issues that primarily refer to the US corporations - those relating to entry into India and choice between trading, manufacturing for the domestic market and exporting. Next we take up issues relating to their Indian partners - choice of the US collaborator and the way in which he is to be paid. Then we deal with certain common issues - expansion, diversification, location, financial performance and treatment of outside shareholders. Finally we turn to government policy.

(a) Entry into India

A number of the corporations covered were exporting to India for years before they went into manufacture; some of them like Remington, Goodyear, Caterpillar, Union Carbide and Tide Water Oil had subsidiaries to handle imports set up before independence while others like Warner-Lambert had local agents. They had thus already entered India as regular exporters while imports were relatively free. A few others like Pfizer and G D Searle took an optimistic view of India as a growing and protected market, and took

a positive decision to invest. Mansfield and Ashland probably came in in reaction to the entry of their US competitors into India. But in the majority of the cases the initiative apparently came from Indian businessmen-- sometimes erstwhile importers, sometimes manufacturers, often just people who saw an investment opportunity - and the decision for the respective US corporations was not whether to go into India or not but whether the terms offered by the Indian collaborators were financially attractive or not. In other words, the commitment involved was not so much one of setting up a plant in India with its attendant profits and risks but a commitment to help build a plant in return for consideration of which equity investment was only a part. How the price was determined in such cases will be discussed more fully below. It should, however, be stressed here than even in the case of substantially owned subsidiaries it was seldom a case of taking on full risks in return for prospective profits, for the US principals also either took a royalty on sales, or sold materials or equipment, or charged a technical fee, or combined these forms of payment. The returns on investment (or, indistinguishably, the price of technology) were a package whose net present value would have well covered costs however it was discounted for uncertainty. If this implies that the US corporations took no risk, it is only a particular application of the general proposition that business groups that are large enough seldom take known risks. The differences are not so much in respect of the attitude to risk but of command of information, of which knowhow is a part.

(b) Trade vs manufacture

The decision whether to export to India or to manufacture in India confronted mainly those who were already exporting to India, and for them too local manufacture involved loss of exports from their

home factories only if the Indian market was not going to be lost to domestic producers anyway. For corporations which were not exporting to India, a share in manufacturing operations in India gained a market with no corresponding loss elsewhere; and for those that did export to India, defensive investment against capacity being set up in India made good sense. It was only the corporations which were long-standing exporters to India and which did not foresee competition emerging within India that faced a difficult choice.

Again, this choice was not an all-or-nothing one. Domestic manufacture could be made to depend to a varying extent on imports from the parent corporation. So the choice was generally one of the degree of processing or conversely of procurement within the country. The choice made varied greatly between corporations.

Remington Rand had exported to India since almost the beginning of the century, and had a strong position in the typewriter market. To protect this position Remington set up a typewriter factory in Calcutta in 1955. Initially it was an assembly operation with virtually all components imported. But by 1965 the import content was negligible. Remington then introduced a new model, for which Sperry-Rand, the parent corporation, was paid a technical fee for ten years. In 1975 Remington set up a new factory in Faridabad to make portable typewriters. There was also considerable business in ribbons and office stationery, wholly indigenous, but whose degree of manufacture was probably not high. Remington's policy of maximum indigenization was not a success in terms of growth and profits, and currently it also sells its imported electric model to exporters who have import entitlements - a throwback to the pre-1955 import business.

At the other extreme, the Tide Water Oil Corporation, which set up a sales agency in 1922, minimized manufacture in India. Its original business was to import lubricants and heavy oils and sell them to retailers. When the oil majors set up refineries in India in the early fifties, Tide Water also began to buy from them; but lubricant manufacture lagged behind in India, so Tide Water had a good import business till 1964. Then the government got its own company, Indian Oil Corporation, to import lubricants, and told its departments to buy exclusively from IOC. In 1965 it cut Tide Water's import licences. This was an all-out war, and Tide Water fought astutely. It gave larger commissions, discounts, longer credit. In 1967 it set up a bulk storage plant; then it began to set up blending plants and grease kettles in major cities to give customers quicker and better service. Finally it cut out intermediaries and began to sell directly to industrial consumers in 1973. But none of these innovations availed it in the end against the big guns. Its profits virtually vanished in the seventies; its style of business had reached a dead end.

A less extreme and more successful exponent of domestic manufacture minimization was Caterpillar which set up a selling and servicing agency, Tractors (India), during the war. Imports of Caterpillar equipment for mining, quarrying, earthmoving and construction continued and the subsidiary flourished right into the fifties. Import restrictions from 1956 onwards made import of new equipment difficult, but business continued to be brisk till the mid-sixties on account of two factories: first, the heavy wear-and-tear of the fleet of Caterpillar machines in the country generated considerable repair and servicing business; and secondly, machinery was often sold to US-aided projects - for instance, the Parakka barrage generated orders worth Rs.18 million in 1964.

But import restrictions were slowly biting, and even import of spares was restricted from 1965 onwards. The response of the subsidiary was twofold. First, it took up selling agencies for a number of Indian equipment manufacturers like Dynacraft and Garden Reach. Second, it started a small factory to make mobile cranes and lorry-loaders. By 1970 the import business was badly hit, less by import restrictions than by emergence of local competition. Then the company stressed manufacture more and tried to diversify into heavy duty truck cranes, hydraulic cranes and fire tenders. But competition was ahead by that time, and it was no longer so easy to capture new markets. Nevertheless, because of its specialization and technological advantage Caterpillar was financially more successful than Tide Water Oil - indeed, one of the most successful among our corporations.

Other corporations made a choice between imports and domestic manufacture which was less extreme than that of the three above. But none except Remington went into domestic production independent of imports with nothing but equity dividends for a return. Some built up import-dependent manufacture operations, others obtained a return in other forms such as royalties, technical fees or profits on machinery exports.

Thus given a pure choice between exports to India and import substitution virtually all corporations would have opted for exports. What modified their choice in practice was not simply import restrictions, but the threat of the loss of a market posed by the emergence, actual or potential, of competition within the protected market.

Nor did profitability in the sense of return on capital or rate of dividend attract the corporations to India. It has often been pointed out that the average rate of profit of foreign subsidiaries was higher than that of their parent corporations, and this difference has been assumed to be a sufficient explanation of foreign investment in India. The rate of profit is a misleading indicator which ignores international differences in taxes, in tax treatment of dividends, royalties and technical fees, and in the temporal pattern of profits which can strongly influence decisions in these days of DCF return. But even if the rate of profit were a reliable indicator, comparison of ex-post profits tells us nothing about the profit expectations entertained by US corporations which invested in India in the late fifties or early sixties. Virtually all of them earned more, often much more, if the form of profits on exports to India, technical fees, royalty on sales etc than they did in the form of repatriated profits. This is additional evidence that they were attracted to India not so much by high profits but by the necessity of having an entree to a small but potentially important market.

(c) Domestic vs export market

If it is realized that it was the market rather than the profits that brought US corporations into India, the rationale of export restrictions will be clear. It was not to prevent competitive Indian firms from capturing markets abroad. There were virtually no cases of a complete ban on exports. Subsidiaries were generally not subject to an express condition since their exports could be regulated informally. Among the rest, exports were restricted to certain areas. The Indian affiliate was generally allowed to export to neighbouring countries, often also to Africa and the Middle East.

Some could export anywhere subject to consultation with the licensor, others where the licensor had no branch or licensee (United Nations 1971: 20, 21). Thus the whole idea was to effect an orderly division of the world market among the licensor's and his affiliates' plants, rather than to restrain an ebullient Indian affiliate.

This was the intention of export restrictions. However, things often worked out differently in practice. When, in the sixties, Indian firms' imports became increasingly tied to their exports, they generally turned to their collaborators abroad to find foreign markets; and often the collaborators passed on to their Indian affiliates orders in the Indian Ocean area. These connections were especially important in the export boom of 1973-1977, when Middle East orders could be best met from India. Searle (India), which had a heavy export obligation, was helped to export about 10 per cent of its output almost from the beginning by G D Searle. It even earned Rs 435,000 from export of knowhow in 1976. Vickers Sperry was passed on a number of export orders by Sperry-Rand. Madras Rubber Factory was originally permitted by Mansfield to export everywhere except to the USA and Canada; but later Mansfield gave MRF US orders it did not wish to supply, such as orders for tyres for antique cars and racing cars.

US Corporations - like most industrial enterprises - have a commitment to profit and growth, and not to imports and exports as such. If a US corporation could supply a market more profitably through an Indian affiliate, it would do so even if it thereby lowered its own sales. It is precisely this tendency that has led to the demand in the United States for restrictions on the export of

technology by US multinationals which, it is argued, reduced employment in the USA by reducing exports of goods and, more seriously, by increasing imports of goods made abroad by US corporations with US technology (Hufbauer 1978). If the affiliates of US corporations in India have stressed imports and import substitution more than exports, they have done so on grounds of relative profitability rather than of an absolute preference for one or the other.

(d) Choice of US collaborator

It is difficult to get a clear view of the process of choosing the collaborator when all we know is the choice ex-post. But we can make a few inferences from circumstantial information.

Ideally a typical Indian entrepreneur would like an exclusive licence, with a right to the trade mark, of the leading manufacturer in the world. But generally he would not get the licensor of his choice. India is a small and uncertain market. US corporations are not well-informed about it as a rule. And they have had considerably larger and more attractive investment opportunities in Western Europe and South America. It is remarkable that most of the leaders of innovation in the American pharmaceutical industry have no stake in India - for instance, Lilly, Parke-Davis, Merck and Merrell (Mansfield et al 1971: 164-166). Burroughs Wellcome and Squibb are the only ones which have, and their subsidiaries in India are among the smaller ones of US pharmaceutical subsidiaries.

Indian government's policy of having blanket rules regarding equity participation and royalty equally work towards keeping out the larger or the more innovative firms (the two are not necessarily the same in the United States). If they decide to come in,

they will generally want to set up a subsidiary, which is not greatly approved by the government. Or they will want to sell their knowhow at a price that will not fit into the government straitjacket of 3 per cent for 5 years.

So the Indian promoter must choose among corporations - US as well as non-US - of the second rank. They must not, however, be too small: they must have the experience of multiplant operations at least, if not of exporting technology and making it work under unfamiliar conditions. They must not already have a subsidiary or affiliate in India. And they must be prepared to spare the resources required to set up a plant in India, and proving its performance. The number of such enterprises is generally small - often smaller than the number of Indian entrepreneurs who want their help. It was even smaller in the fifties.

Among such US corporations, those that know India well enough to be convinced of the viability of operations there would have been tempted to set up subsidiaries rather than to take in an Indian partner. Of the five corporations in our sample with subsidiaries in India - Remington, Warner-Lambert, Union Carbide, Goodyear and Pfizer - all except the last one had been exporting to India since before the War. Those that were prepared to collaborate with an Indian partner were corporations which had no marketing experience in India; they looked for all-India marketing capability in the partner. There were five Indian affiliates which could qualify as joint ventures on the basis of a substantial equity stake of a US corporation - Vickers Sperry, Schrader-Scovill Duncan, Searle (India), Caronandel Fertilizers and IDL Chemicals. The Indian partners in the first three - Mahindras, Goenkas and Tatas - were large business groups capable of marketing on a national scale.

EID-Parry were taken into Coromandel as minor partners and selling agents; and when they proved inadequate Rallis were also appointed selling agents in 1970. IDL Chemicals had a secure market for explosives: mines and quarries furnished a stable demand, and Indian Explosives, the only competitor, could not meet it in full. All five joint ventures were thus a marriage of US technology and Indian marketing ability. In companies that did not command a secure, lucrative market or whose Indian part-owners did not have proven marketing ability, the stake of US corporations was minor, and was generally overshadowed by returns unrelated to equity such as technical fees and royalties.

On the Indian side, the most significant factor in the choice of US collaborator, apart from his technological capacity, was probably the availability of credit. Most of the firms with US investment got loans from the investing US corporations or from US banks and guaranteed by the US collaborators. Many also obtained dollar credit from Exim Bank, and rupee credit from USAID, both below commercial interest rates.

(e) Payment for technology

It was observed above that US corporate investment were a marriage of US technology and Indian marketing. In cases where US corporations had experience of selling in India it was pure export of technology to India. How was the price of this technology determined?

We lack an element in this price fixation, namely the cost of technology generation and transfer. But if, as was argued above, the Indian buyer of technology could not generate it on his own, and faced a seller's market, the cost of generation of technology

had perhaps no significant influence on its price. A more serious difficulty is that in almost all cases it is virtually impossible to know the full price of technology since some of its elements, such as profits on materials and machinery supplied, are hidden. We only know the technical fees, royalties, shares issued and dividends paid; they only permit certain general observations.

In no case was the price for technology paid entirely as part of return on investment. The investing corporations distinguished between the price of technology and return on investment and tried to realize the two separately even from their subsidiaries. When the Indian government began to disallow separate payments for technology sold to subsidiaries in the midsixties, the inflow of technology distinctly slowed down, and subsidiaries looked for avenues of import-dependent production or export production. Some also set up R & D facilities, which are believed to be sources of unrequited exports in kind to parent corporations in the form of research findings, though this belief is unverifiable by its very nature.

Royalties on sales and prefixed payments were in most cases substantial, and in the case of minority investments their ex-post total was generally many times greater than the equity stake. Ex-ante calculations would have put a smaller figure on royalties since most firms expanded their production faster than could have been expected. But if it was the Indian partners' intention that US technology suppliers should share in the risks through equity and thereby furnish a performance guarantee, this intention was often defeated by the high price they paid in the forms other than equity dividends.

This reinforces our point, made earlier, that US corporations did not consciously take significant risks (no good businessmen ever do). Where equity investment was not an instrument of management control, it was a device to reassure Indian buyers of technology - more of a psychological device than an objective performance guarantee. This is not say that there were no other performance guarantees, nor that they were ineffective. While defects were not infrequently found in the equipment sold or procured by the suppliers of technology, they were also generally corrected expeditiously.

(f) Expansion vs diversification

Almost all companies have increased their capacity several-fold since inception. This expansion often involved certain types of diversification, for instance, to offer a fuller range and to remove upstream and downstream bottlenecks. Thus both Goodyear (India) and Madras Rubber Factory progressively increased the range of tyres made. Interestingly, both began with truck and automobile tyres and diversified down to bicycle tyres; Remington similarly from typewriters to ribbons and files. Diversification of product range was a part of the business of engineering companies like Vickers Sperry. The other common type of diversification was upstream integration. Especially where imports became more difficult and local sources of supply did not exist or were unsatisfactory, companies went into the manufacture of raw materials and intermediates - Chemicals and Plastics into alcohol distillation, Union Carbide into manganese dioxide, IDL into PETN for detonators.

Forward integration was attempted only by Hindustan Aluminium, which built up capacity for rolled and extruded products up to a quarter of its metal output before it was stopped by the Government.

But its motivation for diversification was common to a number of firms which were subject to government controls, special taxes or the competition of government enterprises with their ability to suffer unlimited losses. We have earlier described the defeat of Tide Water Oil Company by government enterprises. Alcohol-based industries were particularly subject to drastic changes in alcohol excise or restrictions on its use and movement. Consequently chemicals and Plastics built a captive distillery, Union Carbide changed its polythene plant in Bombay from alcohol to petrochemical base, Synthetics and Chemicals also changed over to petrobenzene and diversified into nitrile rubber and ABS plastics.

Government action was not the only source of risk; more often it was competitors with an edge - for instance, bigger light manufacturers with better marketing networks in the case of Sylvania and Laxman, low-wage competition in the case of Union Carbide's flashlights and batteries. Sylvania diversified into speciality lamps, Union Carbide into polythene, pesticides, trawling and garments.

(g) Location

The location of factories of joint ventures and companies with a passive US investment was generally decided by Indian partners, and depended as much on their home base as on economic factors. But two trends are noteworthy: the move out of West Bengal, and the move out of cities.

Three of the companies studied by us initially set up factories in West Bengal - Remington, Union Carbide and Phillips Carbon Black. Remington was a subsidiary, Union Carbide a subsidiary

with substantial Indian participation, and Phillips Carbon Black was largely run by Duncan Brothers, a Calcutta-based business group. Of the three, Remington and Phillips carried out expansions in the mid-sixties, but none set up new factories in West Bengal, and all did so outside. There was no deliberate shift, so there are no declared reasons. But the commonly mentioned problems in West Bengal were labour and power. Remington complained of low productivity and strikes, Phillips had expensive accidents where sabotage was suspected. Both complained of power shortage. Even without accepting the companies' perception of the labour situation, its influence on location decisions can be accepted.

Outside West Bengal there was some tendency to move out of the metropolitan cities. Madras Rubber Factory, after some serious strikes, moved out of Madras to Arkonam, 45 miles away, and also set up a new factory in Goa. Vickers Sperry, after setting up a factory in Kandivli (Bombay), wanted to expand further in Pimpri 100 miles away, but had to await MRTP approval. More shifts would have been made if the government had been more liberal in allowing them. While industry may not necessarily wish to move to "backward" areas, and while expansions in a single location offer considerable economies as long as they are feasible with the available space, Indian industry is quite willing to move out of established areas even without incentives, as is evident in the rapid industrialization of second-rank cities; and in view of local labour and power problems it probably looks upon geographical dispersion as a risk-spreading tactic.

(h) Financial performance

It would take too much space to analyse the financial performance of all 20 companies, since there are many individual variations. It will serve our purpose here if we just refer to the four least and four most successful companies.

We have four companies whose financial performance was distinctly poor - Remington Rand, Sylvania and Laxman, Chemicals and Plastics, and Synthetics and Chemicals. Of these, Remington failed largely as a result of wrong product strategy. It stuck to the office typewriter, and there was discrimination against it by the government, which was the biggest buyer. Sylvania and Laxman entered the lamp market at the wrong time against powerful competitors: it was its marketing and financial strength that failed. Chemical and Plastics set up a plant on too small a scale and based on an obsolescent process. Synthetics and Chemicals too chose an obsolescent feedstock. Its financial performance was so bad that it had to have its loans rescheduled. It was the view of Firestone that Kilachands, the Indian partners, mismanaged the company and milked it at the expense of shareholders by taking a commission on sales while the company made losses. Firestone was sure the company could be run profitably, and made a public appeal to shareholders in 1972 to throw out Kilachand directors. But the government backed Kilachands and saved them. In the case of Chemicals and Plastics as well as Synthetics and Chemicals technology was a factor in their failure, but it was the wrong choice of technology and not a malfunctioning of the chosen technology.

Coming to the four most successful corporations - Hindustan Aluminium, Phillips Carbon Black, IDL Chemicals and Tractors (India) - what is interesting is their relative reliance on a single product or a narrow range. They all specialized in products with a rapid rate of growth of demand, and their technology was good enough for a rapid build-up of production. Hindustan Aluminium was initially licensed to make 20,000 tons. Its plant was built in 18 months and commissioned in 1962. In 1965 it was expanded to 48,000 tons, in 1967 to 60,000 tons, in 1969 to 80,000 tons and in 1970 to 100,000 tons, after which difficulties with the government slowed down expansion. Admittedly, most of the equipment was imported; but it was expeditiously installed, commissioned and operated. Phillips Carbon Black was planned for an initial capacity of 22 million lb. The construction of its plant began in 1961; at the end of 1962 it was commissioned with a capacity of 40 million lb. It was expanded to 50 million lb in 1968. Then the expansion of the Durgapur plant was discontinued, but a 9,000-ton plant was commissioned in Haryana in 1977, and another 10,000-ton plant in Gujarat in 1978.

IDL's explosives plant was not even constructed by its technical collaborator, Atlas, but was designed by Komplex Trading Company of Hungary. Atlas Chemical Industries came in only later as technical collaborators, and their major contribution was not simply to a rapid build-up of production but to diversification of the range. When Atlas was bought up by ICI, which had a competing plant in India, IDL changed over to Dow Chemicals, and later to Nobels of Sweden whom Dow sold their explosives interests. IDL also freely bought technology from other firms besides their principal partner. Thus technology imports were a significant factor in the success of IDL.

The success of Tractors (India) is surprising in view of its policy, earlier described of minimum manufacture in India: import restrictions made imports into India a hazardous and generally unprofitable base. It was obviously due to the technological edge Caterpillar equipment had over indigenously produced equipment in specialized uses.

These instances suggest that good technology - technology which permitted rapid expansion and diversification without excessive teething troubles or which gave an edge over competition - was a necessary, though evidently not a sufficient condition for financial success. Poor technology was not a necessary or even a common condition of failure, but poor initial choice of technology was.

(i) Treatment of shareholders

We have remarked that US corporations took little risk in recovering the price of technology. This was equally true of their Indian partners, who took much of the profits in the form of commissions, salaries, etc. Who then took the risk? Evidently, the capital risk was carried by shareholders, unsecured creditors and secured creditors in that order, while the income risk was shareholders'. This leads us to the question: how did the corporations and Indian promoters treat the shareholders?

A corporation or business group which values its public image will try to give its shareholders a commercial return and something more, adding together dividends and capital gains. Where its interest is contrary to giving a return on equity, it will prefer not to take in outside shareholders. The preference of some corporations for holding 100 per cent of the equity arises partly out of the fact that it is advantageous for them from the tax point of view to take the profits in other forms like profits on imported parts and materials.

This is particularly true of closely held US subsidiaries, whose profits are taxed at 66 or 70 per cent in India. This can also be a reason, though not the only one, for not wanting a joint venture with Indian businessmen. Once outside shareholders are admitted, the commitment to give them a commercial return is implicitly accepted; the next limit then is a 51% shareholding to prevent the possibility of a takeover. The reason US (and others) corporations bargain with the government over holdings between 51 and 100 per cent is that they know that when the government forces the next dilution, the higher their current holding the higher the holding they will be left with.

Most Indian promoters handle outside shareholders less delicately. There are plenty of public companies in India with a poor dividend and growth record, and Indian promoters see nothing wrong in making ordinary shareholders carry the risk in fact as much as in name. Some large business houses form an exception to this rule, but even some of their companies - generally those in government-controlled industries or industries entered by government enterprises - have had a poor growth and profit record.

(j) Government policy

The view gained ground from mid-sixties onwards that imports of foreign technology were overpriced and were designed to perpetuate dependence (Kidron 1965). The information available on technology imports came from the government, whose chief interest was in foreign exchange costs and export restrictions. Hence Indian studies (for instance, Subramaniam 1972, Balasubramanyam 1973) also tended to concentrate on the financial and restrictive aspects of technology imports to the neglect of the technology itself. The NCAER studies

(NCAER 1971; United Nations 1971) drew attention to the relationship between the quality of technology and the price paid for it, but in the absence of an unequivocal index of quality their observations did not have much impact.

The view that imported technology was overpriced and designed to perpetuate dependence gained political support in the late sixties, especially after the Industrial Licensing Policy Inquiry Committee reported in 1968. The support came from various quarters: from firms that had imported technology earlier and were keen to prevent the import of further competing technologies, from public sector laboratories that found their own know-how difficult to sell, from ideologues who found the import of technology from the West unwelcome, and from intellectuals who genuinely believed that the import of technology inhibited the built-up of indigenous technological capability. As a result, Government policy was progressively tightened in the following directions:

(1) Some industries were not allowed to import technology at all. The list of such industries was closely tailored to import control; thus its underlying principles were the following: (a) non-"inessential" article should be produced with fresh imports of technology - which meant that producers of most consumer durables got automatic protection against both imports and new competition; (b) where domestic capacity was "adequate", no technology should be imported - with the result, inter alia, that manufactures of machinery for many established industries, such as for cement, sugar, coal mining and washing, tea processing, oil mills, etc, similarly got protection against new technology imports.

(2) Among industries where technology imports were allowed, the maximum rate of royalty was laid down.

(3) In some designated industries, foreign investment was allowed in principle, but sanction in individual cases was a matter of administrative decision.

(4) The normal permissible period of agreements was reduced from ten years to five, and renewals were generally frowned upon.

(5) Export and other marketing restrictions were generally not allowed, and often an obligation to export a certain proportion of the output was insisted on.

(6) A clause was often inserted into agreements that the importer would be free to sub-license the technology.

(7) The CSIR was allowed to look at applications for approval of technology imports, and if it expressed willingness to supply the technology, approval was withheld or at least delayed.

How far the above restrictions affected fresh US corporate investment, we cannot say on the basis of the information we have collected on the pre-1970 investments. There was undoubtedly a slackening, as much due to the slower industrial growth as to government policy; but the inflow did not stop, for a number of companies with US equity investment, especially joint ventures, date around or after 1970.

Whatever influence the restrictive government policy might have had on new investment, it could not have much on investments already made. As Table 1 shows, the sales growth of most companies with US involvement was slower after 1970. But its slackening was no greater than the slowdown in general industrial growth; if anything,

TABLE 1

Some Indian companies with US corporation investment

Indian Company	US Corporation	Incorpo- ration	Commis- sioning	First profit	US share in equity		Equity bought in kind	Reserves/ equity ^{1/} ratio	Rate of growth of sales			
					Initial	Final			Long- tern ^{2/}	1970-77 ^{3/}		
P e r c e n t												
1	Tide Water Oil Co (India)	Tide Water Oil		1922			100	100	33	477	16.2 ^{3/}	28.3 ^{4/}
2	Tractors (India)	Caterpillar		1949			100			716	17.2 ^{5/}	27.4
3	Remington Rand (India)	Sperry Rand		19 58	1962	1965	100	55	100	95	8.9	17.5
4	Pfizer (India)	Pfizer		1951	1951	1951	89	89		324	14.1 ^{6/}	15.1
5	Warner Hindustan	Warner-Lambert		1963	1964	1964	88	50	0	266	26.6	15.5
6	Goodyear (India)	Goodyear		1922			80	60	100	319	11.8 ^{5/}	10.9
7	Union Carbide	Union Carbide		1934			60	51		471	16.3 ^{6/}	12.1
8	Coromandel Fertilisers	Chevron, Int.Muneral		1961	1965	1966	54	54	28	272	31.2	14.4
9	Schrader-Scovill Duncan	Scovill		1961	1963	1965	51	50		391	17.3	15.9
10	IDL Chemicals	Atlas, later Dow		1962	1967	1968	50	40	0	455	22.9	28.4
11	Sylvania and Laxman	Gen.Telephones		1963	1967	1969	45	30		15		17.4 ^{7/}
12	Searle (India)	G D Searle		1967	1970	1970	45	39	0	93		19.7
13	Vickers Sperry	Sperry-Rand		1967	1968	1969	44	44	100	96		
14	India Carbon	Great Lakes		1961	1963	1963	40	40	25	220	25.2	16.1
15	United Carbon	Ashland		1963	1967	1968	40	40	23	262	14.4	13.2
16	Chemicals and Plastics	B F Goodrich		1963	1968	1974	31	31	33	55	30.6	15.0
17	Phillips Carbon Black	Phillips Petroleum		1960	1963	1964	30	30	30	508	19.9	28.7
18	Hindustan Aluminium	Kaiser Aluminium		1958	1962	1963	25	25	94	604	17.4	9.9
19	Synthetics and Chemicals	Firestone		1960	1963	1967	25	25	0	90	27.4	10.7
20	Madras Rubber Factory	Mansfield		1960	1961	1961	20	20	100	261	25.7	14.8

^{1/} Bonus issues are included in reserves since they represent capitalization of reserves.

^{2/} From the first year of profit to 1977

^{3/} 1958-1976

^{4/} 1970-1975

^{5/} 1960-1977

^{6/} 1958-1977

^{7/} 1971-1976

it was less. By curbing fresh imports of technology, government policy curbed the emergence of fresh competition, which helped our sample of companies in common with all established firms. Admittedly, profit margins in the seventies were no longer so fat as in the palmy days before 1965. But as capacity utilization increased and since capital requirements of expansion were modest compared to initial investment, the rate of return on investment remained attractive.

The experience of US subsidiaries was slightly different. The government was determined to reduce the share of foreign investors to 40 per cent in the general case and 51-60 per cent in exceptional cases. To this end it enacted the Foreign Exchange Regulation Act in 1973 and imposed a number of disabilities upon companies in which foreign investment was higher than permitted. As a consequence, a handful of US corporations - including notably IBM and Coca Cola - closed down their operations, a few ceased to extend operations in India, while the rest - including Sperry-Rand (in Remington), Warner-Lambert, Union Carbide and Goodyear - diluted their holdings. There was, however, no reduction in their management control.

The general ineffectiveness of government policy can be traced to three basic causes. First, the best argument a government can employ in bargaining with a foreign corporation is the prospect of a large and growing market. The Indian government has lacked this argument owing to the slow industrial growth since 1965. Second, the way to bring down the price of technology from abroad is to be able to generate or transfer it within the country. This was not possible during the first stage of industrialization in the fifties and early sixties when many industries were set up for the first time. It was possible to an increasing extent in the

second stage. It also occurred to a limited extent: for instance, Phillips Carbon Black set up a new plant on its own and gave technical knowhow to another, while Madras Rubber Factory set up a second tyre plant. But most firms would prefer to set up their own plants elsewhere rather than build them for potential competitors; and most firms that were capable of doing so belonged to big business groups whose expansion was curbed in pursuit of the government's anti-monopoly policy. Finally, failing an alternative domestic source of technology the price of one supplier can still be brought down by allowing technology imports from another supplier. This the government could not do because of its penchant for general guidelines covering all technology imports.

(k) Conclusion

If this somewhat diffuse account of the experience of US corporations in India has a theme, it is that both the international market for technology and the domestic markets for industrial products are oligopolistic. The counters in the oligopolistic bargaining are technology, marketing ability and command over finance. US corporations contributed technology and often also commanded finance; Indian firms' contribution was chiefly in terms of marketing. Given their relative strengths and weaknesses, there is little scope for influencing the terms of technology import: all the government can do is to decide, consciously or unconsciously, whether a deal would go through or not. If it wants to influence the terms, it has to be able to influence the three basic factors: technology, markets and finance.

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