Munich Personal RePEc Archive

Indian Industrialisation, Multinational Enterprises and Gains from Trade

Broll, Udo and Gilroy, Bernard Michael

1986

Online at https://mpra.ub.uni-muenchen.de/18057/
MPRA Paper No. 18057, posted 22 Oct 2009 11:10 UTC

INDIAN INDUSTRIALISATION, MULTINATIONAL ENTERPRISES AND GAINS FROM TRADE

UDO BROLL
B. MICHAEL GILROY

Reprinted from *The Indian Journal of Economics*
Vol. LXVII, Part II, No. 265, Oct., 1986

INDIAN INDUSTRIALISATION, MULTINATIONAL ENTERPRISES AND GAINS FROM TRADE

UDO BROLL; B. MICHAEL GILROY*

Introduction

In recent years there has existed a heated debate as to the allocative and distributive effects of multinational enterprises. Usually the hostile voices raised in industrialized nations have argued that the export displacement effect combined with the effect of imports by developed country multinational enterprises from their foreign subsidiaries outweights additional exports triggered by foreign direct investment.[1]

It is interesting to note in this context, however, that foreign direct investments from developing market economies such as India, although still amounting to only a small share of those from developed countries, have been growing faster than those of developed countries.[2] Indian firms now possess significant direct investments abroad (compare Table 1).

The growih of Indian foreign direct investment has grown rapidly since the 1950s in which India followed a policy of attracting foreign capital. Discrimination between Indian and foreign undertakings did not occur and reasonable quotas for repatriating profits and capital existed. The United Kingdom accounted for about 50 per cent of the supplied foreign capital till 1964, thereafter being replaced by United States investors as leading suppliers. After this period, Indian state-owned enterprises collaborated intensively with the Soviet Union and East European countries.[3]

* Teaching Assistants, Dept. of Economics, University of Konstanz, West Germany.

[1] See e. g. Donges and Juhl (1978), Agarwal (1985a).
[2] See Agarwal (1985a).
[3] For a good discussion of these developments see Bhagavan (1985).

Table 1

RANKINGS OF FIFTEEN DEVELOPING COUNTRIES, BY EXPORT OF MANUFACTURED GOODS AND FOREIGN DIRECT INVESTMENT

Country	Rank by 1963 export of manufactured goods to other LDCs	Rank by direct foreign investment (1979)	Foreign direct investment (1979) ($ million)
Singapore	1	2	370
India	2	4	88
Hong Kong	3	1	976
Mexico	4	10	23
Argentina	5	8	38
Philippines	6	3	276
Brazil	7	7	41
Korea	8	5	71
Chile	9	12	14
Venezuela	10	6	64
Colombia	11	9	35
Peru	12	13	4
Ecuador	13	11	19
Bolivia	14	14	3
Paraquay	15	15	0

Source: Wells (1983). pages 10 and 72.

From the late 1960s onwards, higher collaboration levels with western multinational enterprises where obtained again climaxing in the years 1976-1977. Thereafter, the stock of direct investment in India declined, reflecting partially host government regulation and a hostile economic climate.[4] The Indian State became the dominant investor in capital goods in the hope of obtaining technological self-reliance.

As Bhagavan (1985) has pointed out the government of Mr. Rajiv Gandhi in its budget of March 1985 and import policy statement of April 1985 have proposed to give a boost to those policies which

[4] Compare Hood and Young (1979), p. 26. For example, Indian Law requires foreign companies to divest 60 per cent of their equity to local shareholders unless they manufacture solely for export. See further Lall (1984), Wells (1983), and Kumar and McLead (1981).

favour the private sector and pr
some industrial sectors previously
the imports of capital goods and
disembodied technologies) are b
prohibited to foreign capital on
are now be opened up for foreign

The rate of industrialization
to a large extent be dependent u
policies as well as the level of i
firms will be able to achieve.[5]

The origin of an increasing
direct investment among develop
among industrial countries on the
similar levels of development as i
and their standards of living as
similarity.

As Tandon (1982) has alrea
phenomenon of multinational e
integration of economic life are co
which require intensified examinati
tions of intra-foreign direct invest
concerned. Intra-foreign direct i
specialization effect within the va
national economy combined with an
tiated product sortiments of the wo
sation of operations on a world ba
economies of scale through inte
Applying a revealed preference
two-factor, two-country model incl
cost margin distortions in Indian ma
in the following in which the effe
the gains-from-trade theorem may b

[5] Agarwal (1985b), for exa
parent companies of Indian Joint
their domestic expansion were an im
to go multinational.

[6] See Jain and Barthwal (1983)

favour the private sector and property-owning classes. Privatisation of some industrial sectors previously in the public hand are occuring and the imports of capital goods and project packages (i. e. embodied and disembodied technologies) are being liberalised. Industrial branches prohibited to foreign capital on a majority foreign equity share basis are now be opened up for foreign investment.

The rate of industrialization facing India in the near future will to a large extent be dependent upon the effective magnitude of these policies as well as the level of intra-foreign direct investment Indian firms will be able to achieve.[5]

The origin of an increasing international intra-industry foreign direct investment among developing countries on the one hand, and among industrial countries on the other, evolves largely out of their similar levels of development as inherent in their production technology and their standards of living as expressed in their ethnic and cultural similarity.

As Tandon (1982) has already pointed out in this journal, the phenomenon of multinational enterprises, internationalisation and integration of economic life are component aspects of national incomes which require intensified examination. The political economic implications of intra-foreign direct investment flows are far-reaching for all concerned. Intra-foreign direct investment flows indicate an intensive specialization effect within the various domestic branches of the international economy combined with an increasing expansion of the differentiated product sortiments of the world's multinational firms. Rationalisation of operations on a world basis allows firms to achieve increased economies of scale through international division of production. Applying a revealed preference argumentation a simple two-good, two-factor, two-country model including the empirically observed price-cost margin distortions in Indian manufacturing industries[6] is formulated in the following in which the effects of multinational enterprises upon the gains-from-trade theorem may be examined theoretically.

[5] Agarwal (1985b), for example, has found that 11 per cent of parent companies of Indian Joint Ventures stated that restrictions on their domestic expansion were an important factor behind their decisions to go multinational.

[6] See Jain and Barthwal (1983) in this Journal.

The Revealed Preference of Multinational Enterprises

Assuming that the sector X_i in which multinational firms are active is characterised by a convex production set even though internal increasing returns to scale exist,[7] it is well known that marginal-cost pricing will usually not occur, rather commodity priccs will exceed marginal costs for goods produced under increasing returns to scale international to the firm. The price-cost margin varies naturally with the market structure.

Following Markusen and Melvin (1984), one may interpret the international price-cost margin as a 'mark-up wedge' $w_i = 1/\epsilon_i$ between the free trade price p_i and the free trade marginal cost MC_i of commodity x_i, with ϵ_i representing the respective elasticity of demand.

Formulated in an ad valorem fashion the price-cost margin for output levels x_i are thus,

$$(1)\quad p_i\,(1-w_i)=MC_i \quad \forall x_i>0$$
$$p_i\,(1-w_i) \leqslant MC_i \quad \forall x_i=0.$$

Commodity x_0' on the other hand, is assumed to be produced in a competitive industry as embodied in the usual marginal cost pricing rule for profit maximisation (with $w_0 \equiv 0$);

$$(2)\quad p_0 = MC_0.$$

Marginal costs form a tangent to the production surface acting as a separating hyperplane at the free trade production point.[8] Thus, due to the assumed convexity of the production set it follows that (autarky situation is characterised with 'a').

$$(\;)\quad \sum MC_i\, x_i \geqslant \sum MC_i\, x_i^a$$

Accordingly, the necessary tangency condition to analyse the gains-from-trade in an environment characterised by multinational enterprises is,

$$(4)\quad \sum p_i\,(1-w_i)\,x_i \geqslant \sum p_i\,(1-w_i)\,x_i^a.$$

A country's balance-of-payments condition may be formulated as $\Sigma p.x = \Sigma p.c$ (c for consumption). In autarky it remains valid that

[7] See Herberg and Kemp (1969).

[8] For a discussion of separating hyperplanes as applied to economics consult Weintraub (1985), pp. 38-39.

$x_i^a = c_i^a \forall\, i$, production equals

equation (4) may be restated as

$$(5)\quad \sum p_i\, c_i \geqslant \sum$$

$$= \sum$$

Due to the increasing retu

on a multinational basis howev

levels x_i increase with trade (e. g

be restated as ;

$$(6)\quad \sum p_i\, c_i \geqslant \sum$$

$$=$$

with π_i representing profits in th

ing profits at the autarky output

Equation (6) illustrates that

the presence of multinational

profits at free trade prices p ar

under the restriction that $x_i > x$

One of the important char

there capability of repatriating

on the host country's balance of

of foreign direct investment of

to local financing.[9]

With regard to India's nee

recent start at industrialization,

national competitiveness, these

attention.

Denoting π_i^* as multination

[9] Agarwal (1985a) page 24

cash transfers were not permitte

investment took place by capitaliz

and services such as 'headquarte

then, however, cash investments

likely to stimulate exports.

$x_i^a = c_i^a \; \forall \; i$, production equals consumption. Using this information equation (4) may be restated as :

$$(5) \quad \sum p_i c_i \geqslant \sum p_i c_i^a + \sum p_i w_i \left(x_i - x_i^a \right) = \\ = \sum p_i c_i^a + \sum (p_i - Mc_i) \left(x_i - x_i^a \right).$$

Due to the increasing returns to scale present in sectors operating on a multinational basis however, $MC_i \leqslant AC_i \; \forall i$. Given that output levels x_i increase with trade (e. g. $w_i > 0$ and $x_i > x_i^a$) equation (5) may be restated as ;

$$(6) \quad \sum p_i c_i \geqslant \sum p_i c_i^a + \sum (p_i - AC_i) \left(x_i - x_i^a \right) = \\ = \sum p_i c_i^a + \sum \left(\pi_i - \pi_i^a \right).$$

with π_i representing profits in the free trade equilibrium and π_i^a signifying profits at the autarky output at free trade prices.

Equation (6) illustrates that there will still be gains-from trade in the presence of multinational enterprises given that the free trade profits at free trade prices p are larger than the autarky profits at p under the restriction that $x_i > x_i^a \; \forall i$.

One of the important characteristics of multinational enterprises is there capability of repatriating earned profits, having a direct impact on the host country's balance of payments. Furthermore, the financing of foreign direct investment of developing countries is often restricted to local financing.[9]

With regard to India's need for foreign exchange, her relatively recent start at industrialization, and India's presently limited international competitiveness, these aspects undoubtedly deserve due attention.

Denoting π_i^* as multinational enterprise profits repatriated, the

[9] Agarwal (1985a) page 246, interestingly points out that Indian cash transfers were not permitted at all until 1978 and foreign direct investment took place by capitalizing the value of exported capital goods and services such as 'headquarter' functions and licensing fees. Since then, however, cash investments have been permitted for those projects likely to stimulate exports.

balance-of-payments condition is now appropriately stated as ;

$$(7)\quad \sum p_i x_i = \sum p_i e_i + \sum \pi_i^* .$$

Substituting, one obtains ;

$$(8)\quad \sum p_i c_i \geqslant \sum p_i c_i^a + \sum \left(\pi_i - \pi_i^a - \pi_i^* \right).$$

Equation (8) simply states that gains-from-trade are guaranteed if the condition $\left(\pi_i - \pi_i^a - \pi_i^* \right) \geqslant 0$ is fullfilled. In other words, the host country must be capable of retaining a portion, $\left(\pi_i - \pi_i^* \right)$, of the multinational enterprise profits which is equivalent to the potential earnings of a domestic monopolist in the absence of multinational enterprises.

Furthermore, given that the multinational enterprise expands production, gains-from-trade arise. By the nature of their very existence in host countries one may argue that they are revealed preferred as postulated in equation (8). The existence of the multinational enterprise clearly makes some contribution to increasing the level of employment. Direct employment effects, as well as the indirect employment effects, must be taken into consideration.[10] Often it is argued that developing countries like India, in the process of their economic industrialization, need large amounts of foreign direct investment. Corporate profit taxes have become an important source of financing economic development policies.[11]

Future Trends and Prospects

The existence of multinational enterprises has raised the international mobility of financial (in the form of repatriated profits) as well as real capital (through foreign direct investments). The possibility of internalising world-wide production-and-marketing relations permits internationally active firms to achieve higher profit levels. These profit levels are the stimulators of the observed internationalisation of production.

Entrepreneurial strategies focusing on obtaining and securing through product differentiation strong market segments in international markets have also profited from the observed per-capita income increase among consumers which has been accompanied by a stronger diversi-

[10] Compare Hood and Young (1979); p. 203.

[11] See Subrahmanyam (1984).

fication of preferences. Multinational enterprises of industrialising nations are likely to react (with relatively low costs of adjustment) to the increasing diversification of preferences as a growing number of developing countries move up on the incomc escalator and their patterns of comparative advantages evolve along this path.[12]

Internationally active firms are in a position to transfer embodied factors, so-called firm specific assets such as management, marketing skills and technological know-how to service production plants in countries other than the country in which these inputs are employed.[13] The increase in international commodity transactions, along with investment transactions, within industrial sectors will lead to a more favourable economic development beneficial to all concerned Furthermore, as Agarwal (1985a) has remarked, foreign direct investments from industrialising nations such as India are complementary to developed country foreign direct investments insofar as they firstly increase the demand in host countries for capital goods and intermediate inputs supplied by developed country multinational enterprises.

Secondly, through their induced national income expansion effect demand for commodities and services from developed country multinational enterprises will increase. Finally, international joint venture involvements between developed and developing countries are becoming more and more common. With regard to India specifically, outward foreign direct investment flows are likely to increase rapidly as long as legal restrictions and political policies inhibit domestic growth.

The rise in intra-industry econnomic involvement between nations is not necessarily confined only to intra industry trade. It ls becoming more and more apparent as Norman and Dunning (1984) point out that the preferred form of international involvement is indeed taking the form of intra-industry production, e. g. production financed by intra-industry foreign direct investments. In place of, or in addition to externalized cross-hauling of final goods in a particular industry, there exist increasing levels of internalized cross flows of intermediate products in that industry.

Placing the above discussion into perspective, it is clear that the trend of India's industrialisation will depend to a large extent upon the success or non-success of an elimination of the market distortions

[12] See further Broll and Gilroy (1985), (1986).
[13] See Helpman (1984).

present in both the goods and factor markets.[14] Furthermore, the balance-of-payments restriction facing India requires that in order for a positive gains-from-trade effect to occur, repatriated profits of foreign multinational enterprises involved in India must not exceed certain critical limits.

[14] See further Khanna (1984).

References

Agarwal, J.P. (1985a); Intra-LDC's Foreign Direct Investment : A Comparative Analysis of Third World Multinationals. The Developing Economies, XXIII-3, (September), pp. 236-252.

Agarwal, J.P. (1985 b); Pros and Cons of Third World Multinationals : A Case Study of India. Kieler Studien, 195; Tübingen.

Bhagavan, M.R. (1985); Indian Industrialisation and the Key Role of the Capital Goods Sector. Journal of Contemporary Asia, Vol. 15, No. 3; pp. 305-328.

Broll, U. and B.M. Gilroy (1985); Developing Countries in Light of Intra-Trade. Asian Economies, December, No. 55, pp. 20-27.

Broll, U. and B.M. Gilroy (1986); International Division of Labour and Intra-Trade, Economia Internazionale (forthcoming).

Donges, J.B. and P. Juhl (1978); Deutsche Privatinvestitionen im Ausland: Export von Arbeitsplätzen ?. Kieler Arbeitspapier (discussion paper) No. 81; Institut für Weltwirtschaft, Kiel (December).

Helpman, E. (1984); A Simple Theory of International Trade with Multinational Corporations; Journal of Political Economy, Vol 92, pp. 451-471.

Herberg, H. and M.C. Kemp (1969); Some Implications of Variable Returns to Scale. Canadian Journal of Economics, August, pp. 403-415.

Hood, N. and Young, S. (1979); The Economics of Multinational Enterprise, London.

Jain, A. and R.R. Barthwal (1983); Variability of the Price-Cost Margin and its Components in Indian Manufacturing Industries. The Indian Journal of Economics, No. 251, April, Vol. LXIII, pp. 451-469.

Khanna, A. (198
India's Expor
Archiv, Vol.

Kumar, K. and
Countries; Le

Lall, S. (1985); M
Verlag, Frank

Markusen, J. and
with Increasin
polistic Comp

Norman, G. and
Investment ;
Archiv Vol. 1

Subrahmanyam,
Corporations.
Vol. LXV; pp

Tandon, R. (1982
vestment ; A
Economics, N

Weintraub, E.R.
approach. Ca

Wells, L.T. (198
Investment f
Mass.

Khanna, A. (1984); Market Distortions and Export Performance : India's Exports of Manufactures in the 1970's. Weltwirtschaftliches Archiv, Vol. 120, pp. 348-36 .

Kumar, K. and M.G. Mcleod (1981); Multinationals from Developing Countries; Lexington Books, Lexington.

Lall, S. (1985); Multinationale Konzerne aus der Dritten Welt; Campus Verlag, Frankfurt (West Germany).

Markusen, J. and J. Melvin (984); The Gains-from-Trade Theorem with Increasing Returns to Scale. *in*; Kierzkowski, H. (ed.); Monopolistic Competition and International Trade; Oxford, pp. 10-34.

Norman, G. and J.H. Dunning (1984); Intra-Industry Foreign Direct Investment ; Its Rationale and Trade Effects. Weltwirtschaftliches Archiv Vol. 120, pp. 522-540.

Subrahmanyam, M.S.U. (1984); Tax Inci dence and Multinational Corporations. The Indian Journal of Economics, No. 256, July, Vol. LXV; pp. 23-34.

Tandon, R. (1982); The Multinationals Corporations and direct Investment ; A Look into Past and Future. The Indian Journal of Economics, No. 24 , January. Vol. LXII, pp. 429-447.

Weintraub, E.R. (1985), Mathematics for Economists; an integrated approach. Cambridge University Press, Cambridge.

Wells, L.T. (1983); Third World Multinationals; the Rise of Foreign Investment from Developing Countries, MIT Press, Cambridge, Mass.