

CONTROL AND TRANSFER OF TECHNOLOGY AGREEMENTS

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The transfer of technology from developed to underdeveloped economies invariably involves conflict between the supplier, the recipient and the host state. The severity of this conflict of course varies from situation to situation and few generalizations can be made to cover all types of technology transfers in differing political and economic environments.

Recognition of the existence of these conflicts is not to argue that benefits are derived by the respective parties in the transaction. What we are concerned to show here is that these conflicts are recognised and that frequently they are explicitly covered in the agreement governing the transfer.

The conflicting interests will be settled in the interests of the dominant party in the transfer, (for this is the operational meaning which is given to the concept of power). In a situation of unchanging relative powers, such as in a wholly owned subsidiary secure from threats of expropriation, etc., there may be no need to recognise explicitly these conflicting interests. But where the relative power of the various parties may change over time, it is usual that the conflicts are made explicit. In this case it is in the interests of the initially dominant party to attempt to 'freeze' the environment so that its own interests are ensured in a changing environment. Conversely, the initially weaker party will be concerned to make the agreement as flexible as possible to allow for its growing power over time.

There are a wide range of instruments which the Head Office of the technology supplier is able to use to enforce its power at the subsidiary level. Some of these controls are formally specified, and others operate at the non-formalized level. Vernon sums up the position with regard to wholly-owned subsidiaries: 'when a parent expects to control its subsidiary effectively, formal restrictions are

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redundant; where they exist, the motivation is partly or wholly to ensure against the possibility that the parent may one day lose control of the subsidiary, through expropriation or otherwise. As long as control is secure, however, a rational parent will not hesitate to use the wholly-owned subsidiary for any purpose – consistent or not consistent with the restrictions – provided that the use contributes to the strategy of the system as a whole.’ (Vernon; 1971 p. 135).

The position *vis-a-vis* joint ventures or management contracts is different in the sense that controls have to be more carefully specified, due to the greater likelihood of conflict with the host partner or host state. In this case, it is in the interest of the technology supplier to freeze the initial balance of power to avoid the risk of decreasing relative dominance over time. In these circumstances it is more usual to find that the instruments of control are carefully specified in the agreement, and less reliance is placed by the technology supplier on ‘informal’ control instruments.

We shall be looking at four types of formalized instruments of control in the transfer of technology, while remaining aware that in wholly owned subsidiaries, control may be exercised without necessarily being formalized. The first of these instruments is the use of specific contracts, such as management, sales and purchase contracts. The second instrument is the memorandum and articles of association of the joint venture. The third is the use of restrictive clauses. The fourth concerns the legal status of the agreement. In the case of the first two instruments, the discussion will take the form of an examination of a joint-venture agreement in Zambia between the host state and the Anglo American Corporation.

1. Agreed Contracts

Management purchasing and marketing contracts vary in their scope with the technical knowledge and managerial capability of the host partner and the host state. We shall be examining a representative set of management purchasing and marketing agreements agreed between the Government of Zambia and the Anglo American Corporation, following the partial (51 per cent) nationalization of Anglo’s copper operations in Zambia in 1969.

(i) *The management contract*¹

The general duty of the management in this exclusive contract was 'towards the general management of the Company's business and specifically directed towards the optimization by the Company of the production and profit'. No specification was made if there should prove to be a conflict between output and profit (easily envisaged in the extraction of variable grade ores) in the operation of the mines. The company had the right to appoint the Managing Director. As part of the agreement Anglo was to provide technical services which inter alia include 'capital expenditure estimates'; short and long term plans, viability studies and the like for maintaining, expanding or improving operations and production; advise on 'operating problems' and 'the scheduling of copper production'; 'recommend policy on ore reserves and mining'; 'advise on research and development'; 'and advise on and procure technical change'.

Anglo had also to provide General and Advisory Services with advice inter alia, on production and marketing; preparation of financial statements, reports and accounts; computer and management services; and labour relations. Anglo was also to keep the joint venture 'promptly informed of significant developments relating to the mining and production of copper and cobalt throughout the world of which Anglo is from time to time aware and the extent to which such information is available for release.

'Anglo shall provide or procure the provision of senior staff as may be required from time to time by the Company'. Any invention and know-how resulting from the activities of this staff would be available to the joint venture 'PROVIDED ALWAYS that the Company . . . shall co-operate with Anglo . . . in procuring the registration (for Anglo) . . . as licensee of all such Invention Rights,' (their emphasis).

A number of prints emerge from this agreement, which reflected and reinforced Anglo's dominant position in the joint venture. First, Anglo controlled the flow of information to the host state with regard to production, financial flows and technical change. Second,

¹ Government of Zambia, 1970a.

Anglo controlled the appointment of senior staff, and third, Anglo obtained the property rights over technical change. When the management contract is read in association with the articles of association, which provide Anglo with control over capital investment, the strength of Anglo's position is plain.

(ii) *The purchasing contract*²

In this exclusive agreement Anglo undertook 'to negotiate and conclude all arrangements for the supply and delivery of all goods required by the Company and its subsidiaries at the best prices that can be obtained, as well as to arrange transport, insurance and clearing facilities.' While this agreement gives Anglo considerable scope for transfer pricing if it so desires, there is a clause which allowed Anglo to increase the commission costs if the agreement appeared to result in an 'overall financial loss to Anglo'. Because the price of copper is fixed at the London Metal Exchange, there is little scope for transfer pricing at the output side of the operation³. It is more likely, however, that if transfer pricing does occur it will be at the input side. Notably, Anglo subcontracts the construction of new pitheads to companies with which it is associated. The scope for transfer pricing in the supply of intermediates is limited to some extent by the small relative size of these intermediate purchases.

2. The Memorandum and Articles of Association

In this nationalization the Master Agreement (referred to as the 'Heads of Agreement'⁴ and the Memoranda and Articles of Association cover much of the same ground. We will therefore confine ourselves to a discussion of the Heads of Agreement (which summarizes the other two agreements) in an attempt to show how this, read in conjunction with the contracts discussed above, enabled Anglo American to exert control over the important decisions in the operation of the technology to mine and refine copper in Zambia.

With regard to the payment stream, the host state agreed that as long as the twelve years bonds were outstanding, the mining operations would not be subject to additional 'numerous taxes, export taxes,

² Government of Zambia, 1970b.

³ This does not apply to the sale of some other outputs such as chemicals.

⁴ Government of Zambia, 1969.

income taxes, royalty payments, withholding taxes or any other revenue measure'. No import duties on mining equipment, machinery and supplies above the 'average' rate would be levied. No tax would be paid on dividends to any shareholders, as long as the bonds were outstanding. Finally, dividends were remittable free of Exchange Control at IMF parity rates. Through these sets of arrangements Anglo was able to control any adverse change in the payment stream and ensured the free repatriation of earnings. Thus two of the major areas of conflict had effectively been frozen and future control – albeit for the period of time for which the bonds were outstanding – remained with Anglo.

Affirmative votes of a majority of Anglo directors (five out of eleven) were required on a number of actions of the joint ventures, thereby giving an effective veto to Anglo on any of these issues.

These included:

- (i) 'Any disposal of all or of any substantial part of the assets' – this enabled Anglo to ensure that rival firms did not gain access to the fruits of the operation.
- (ii) Diversification into any 'substantially different' activities – this partly enabled Anglo to maintain control over the use of the surplus.
- (iii) 'Any new mining operation or facility or the expansion of an existing mining operation or facility' which was not commercially viable as judged by Anglo directors or the ability to raise such funds on 'commercially competitive terms' – this effectively enabled Anglo to control any attempt by the host state to generate external economies.
- (iv) 'appropriations in respect of capital expenditure or expenditure for exploration or prospecting' other than for operations agreed to by Anglo directors.
- (v) 'Any act, dealing, arrangement or transaction which, in the opinion of a majority of the 'B' Directors, is not directed towards and/or calculated to attain the optimization of production and profit'. This clause allowed Anglo to control the host state in its attempts to pursue its own broader strategic interests.

This memorandum and association of agreement, together with the managerial, purchasing and marketing contracts discussed earlier can

be related to five important areas of control.⁵ Control over entrepreneurial decisions was effectively wielded through the veto of the Anglo directors on diversification, expansion of production, etc., as well as by the nature of the information which was passed on to the joint venture in the management contract. At the same time, the marketing contract and the directorial veto enabled Anglo to control the supply of copper to potential competitors, thereby exercising some tenuous control over accumulation by rivals in processing and mining facilities.

Control over the organizational structure of the firm, while not a particularly important area in a joint venture of this type, was once again maintained by Anglo, partly through the veto of their directors, but largely through the management contract which gave Anglo exclusive rights to gather and present operational data to the joint venture.

The important area of financial control rested firmly with Anglo. The payment stream was stabilized, recurrent (and capital) expenditure was specified to 'commercially viable' activities not 'substantially different' from present operations without Anglo directors' approval and remittances of foreign exchange were guaranteed.

The staffing of senior positions was controlled by Anglo through the management contract, and some control over the attitudes of senior Zambian personnel was assured by an agreed programme of training in other worldwide subsidiaries of the Anglo American Corporation.

Finally control over the inventive function was maintained in a number of ways. The management contract gave Anglo the exclusive right to provide technical and engineering services, and provision was also made for the acquisition by Anglo of property rights over the 'Invention Rights' which may have resulted from R and D.

Anglo thus managed to obtain comprehensive control over the operation of the technology, notwithstanding the acquisition by the

⁵ For a discussion of these see R. Kaplinsky, *Accumulation and the Transfer of Technology: Issues of Conflict and Mechanisms for the Exercise of Control*, IDS Discussion Paper no. 60, 1974.

host state of the majority of the equity. This control followed largely from the lack of manpower and know-how of the host state.⁶ The expectation that the relative power of the host state over these processes (which are vital for control over accumulation) would increase over time, led Anglo to attempt to freeze the balance of control for the twelve year period for which the bonds were outstanding.

The preponderance of Anglo control was however recognised by the host state and led the President to declare three and a half years later that the payment of the bonds would be speeded up, thereby freeing the host state from some of these controls. 'The effective control of the industry', he declared, 'was vested firmly in the minority shareholders'. (K. Kaunda, 1973).

In particular, he continued, this control had enabled Anglo American and Roan Selection Trust (RST) to obtain financial advantages over the use of foreign exchange and the restriction of taxes. The use of profits had been confined to mining activities, and even this accumulation had to be funded through borrowing, as the firms controlled the use of profits and ensured that these were paid out as dividends, rather than being reinvested. Finally the management and purchasing contracts had led to the purchase of inputs from 'non-resident companies for reasons best known to themselves, but not comprehensible to us'.

As a result, three actions were taken to switch control to the host state. First, the bonds were to be redeemed immediately. This was made possible by the unexpectedly high price of copper on the world market. Presumably Anglo and RST, when the agreements were reached, had not anticipated these high prices, and had banked on the hope that a shortage of foreign exchange would preclude such a step by the host state. Second, the three contracts were to be revoked by giving the required two years notice, this meant that in all 'Anglo' was able to maintain these agreements for a total of almost six years — half of the period of the anticipated twelve years. Third, the two firms were to be subject to normal tax provisions and

⁶M. Bostock and C. Harvey, 1972, M.L.O. Faber and J.G. Potter, 1971, C. Harvey, 1972.

exchange control regulations. Recently, the management, purchasing and sales contracts have also been terminated⁷. If all of the expressed aims are satisfied, a significant degree of control will have passed to the host state. But this would imply a changed relative power over the accumulation and operation processes, and there is as yet no unambiguous evidence that the host state has a significantly greater degree of control over either of these. It will be interesting to see whether the President's statement expressed a fundamentally changed balance of power or rather (as is suspected) the perception of the real control of the host state with respect to the two companies.

3. Restrictive Clauses

A wide variety of restrictive clauses can be used by the technology supplier. As many underdeveloped countries have moved from import substitution to export promotion policies, attention has been focused on clauses restricting the scale or area of exports. The Andean Pact Studies showed that of a total number of 247 contracts in Bolivia, Colombia, Ecuador and Peru, 200 had a total prohibition on exports and a further 12 permitted exports only to certain areas — only 35 allowed free exports of output (UNCTAD, 1972).

⁷The expected results of these actions with respect to the takeover of activities were summarised by the Chairman of the Company in the 1974 Financial Statement as follows: 'Consequently, Exchange Control regulations now apply to the remittance of dividends to the external shareholders of RCM and our Company. In addition, the ordinary dividends became, upon payment, subject to deduction of withholding tax which is currently at the rate of 20 per cent. The redemption of the outstanding Zimco bonds and loan stocks also made it possible for the tax legislation in terms of which the mining companies received 100 per cent allowances for capital expenditure to be withdrawn at the end of September 1973. Government is in the process of formulating new tax legislation to replace that which was withdrawn last year. Pending the enactment of such legislation, the charge for taxation has, with effect from 1st October 1973, been calculated on the basis of the result that Nchanga stands to pay this year an additional K16 million over and above what would have been payable had the 100 per cent capital allowances been in force.' In addition the Zambian Government (as 'A' shareholders) are responsible for the appointment of the Managing Director. These claims should however not be accepted without reservation. The Financial Times of 7 August 1974 suggests, for example that the new marketing arrangements may make it difficult to maintain the existing skilled expatriate marketing staff in Europe. In addition we have already considered some of the mechanisms whereby technology suppliers can circumvent Government policies.

But there are other widely used restrictive clauses. Vaitos (1970), showed how clauses restricting the sources of inputs were used to transfer price profits from Colombia. Reference to other literature on restrictive clauses will show that they are widely used, particularly in joint ventures, in an attempt to exercise control in each of these areas. We have evidence, for example, of restrictive clauses on patents, prices, production of similar products, secrecy, quality, volume of sales, hiring of personnel, etc. One particularly interesting clause, from Spain, stipulated that if technical change were to emerge from the subsidiary's operations in Spain, the property rights over this technical change were to be held by the Head Office and the Spanish subsidiary would have to pay royalties to the Head Office for the use of the technology which it had itself developed!

4. The Legal Status of the Agreement

We have seen from our earlier discussion that two central concerns of the technology supplier are to curtail the degree of risk involved in the transfer and to freeze the balance of power at the date of agreement if it is thought that a dominant position may be eroded over time.

Both these objectives may be furthered within the framework of the legal status of the agreement. The control mechanism here is to freeze the environment at the date of agreement and to build into this agreement heavy costs if the agreement is to be broken. In the case of the Anglo American Government of Zambia agreement, a clause was inserted which froze the legal environment at the date on which the agreement was signed. That is, in the case of a recourse to arbitration, ' . . . all disputes . . . shall be determined by the law of Zambia (including its rules on the conflict of laws) as in force on the date of execution of these Heads of Agreement disregarding all legislation, instruments, orders, direction and court decisions having the force of law in Zambia (other than those contemplated by these Heads of Agreements) adopted, made, issued or given subsequent to the date of execution of these Heads of Agreement.'

A similar clause appears in the Zambian Government's agreement with RST, where in the case of disputes, the law of Zambia as of 24 December, 1969, 'disregarding all subsequent legislation, decisions,

instruments, orders and directions having the force of law of Zambia will be applied' (RST, 1970). Similarly in the agreement between the government of Sierra Leone and the Sierra Leone Selection Trust Ltd., which is part of the RST family, all disputes will be determined 'in accordance with the law of Sierra Leone (including its rules on the conflict of laws) as in force on 31 March 1970 . . . notwithstanding that such legislation instruments, orders, directives or Courts decisions are stated or intended to come into effect retrospectively.' (Government of Sierra Leone, 1970).

This rather extraordinary clause has the effect of removing the sovereignty of the host state with respect to the operation of the technology. It is extraordinary not so much because it is unusual, but because it is a loss of sovereignty which the respective host states would not easily yield to the governments of powerful developed countries, yet seem to yield to a private firm.

Having frozen the environment, the next object of the technology supplier is to impose heavy costs on the host state or partner if it wishes to break these agreements. In all three cases which we have looked at, the arbitrating body is to be an arm of the World Bank. Thus, in the Anglo American agreement, the host state agreed to ratify The Convention on the Settlement of Investment Disputes between States and National of Other States . . . of the International Centre for the Settlement of Investment Disputes of the World Bank (ICSID).

The point of referring disputes of ICSID (or an equivalent body) is that insofar as ICSID is an arm of the World Bank, failure to agree to its arbitration may well lead to sanctions by the World Bank itself and insofar as the Bank is a powerful body in the disbursement of aid, this sanction would impose great costs to an underdeveloped country.

Conclusion

In a situation of conflict, control is seldom derived from the specific agreements which are drawn up between supplier and recipient. Rather the formalized agreements represent the relative control of the parties at the time of agreement. This relative power may not

change over time, in which case there may be no need to make the controls explicit. But where they do change, it is likely that the conflicts which emerge will centre around the initial agreement.

We have focused our discussion largely on one particular set of agreements, in the belief that it provides an insight into some of the problems which emerge in the context of the changing relative powers of suppliers and recipients of technology.

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