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# Economic Perspective

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## THE SCOTTISH LOBBY: RAVENS CRAIG AND HUNTERSTON

by Jim Love and Jim Stevens, Department of Economics

The past year has been a particularly anxious time for the Scottish steel industry. The interrelated problems of world-wide recession, increased competition in international markets and widespread excess capacity in steel-making posed serious threats to what remains of the steel industry in Scotland. During December 1982 the so-called "Scottish Lobby", a coalition of diverse groups including Conservative Scottish Office Ministers, Labour MPs, trade unionists and clergymen, felt they had won from central government a commitment to retain, at least for the short-term, the Ravenscraig-Gartcosh steel complex as a major steel producing centre in the UK. But speculation about the future of the Scottish steel industry continues.

Until recently this speculation centred on the issue of whether Ravenscraig would survive as an integrated works. The commitment at the end of 1982 was to continue steel-working at Ravenscraig and the four other major UK plants at Llanwern, Port Talbot, Scunthorpe and Teesside, and did not preclude the option of closing a rolling mill. Having failed to secure closure of the whole Ravenscraig complex, BSC's Chairman, Ian MacGregor, has actively sought to explore avenues involving this option. In March and April 1983 much publicity was given to his efforts to negotiate deals with steel companies in the US. Given the US restrictions on imports of finished steel, MacGregor has proposed that bulk steel from Ravenscraig be finished in the US in a joint venture involving British investment. Closure of the rolling mill with the direct loss of around 2,000 jobs would, it is argued, ensure short term survival, perhaps for five years, for Ravenscraig.

A new element was introduced into the uncertainty about Ravenscraig's future by MacGregor's announcement in April 1983 that he sees the future of the steel industry in Scotland being based on developments at Hunterston. It appears that BSC researchers on Teesside are working on processes which would permit the two currently inactive Midrex direct reduction plants at Hunterston to operate on coal instead of gas. This, with the installation of electric arc furnaces and finishing capacity and the elimination of the disadvantages of Ravenscraig's inland location would, MacGregor asserted, permit "rebuilding the Scottish steel industry in a competitive form, enabling it to compete not only inside this country but also in international markets".

The announcement on Hunterston has been interpreted in some quarters as an attempt to divide the Scottish Lobby and to deflect criticism of the proposed joint ventures in the US. There is, however, in the views expressed and stances taken by MacGregor during his period as BSC's Chairman a clear re-emergence of the argument that the steel industry requires a substantial restructuring rather than basing change on the plant currently in operation.

The debate on the structure of the steel industry revolves largely on the question of the location of plants. Coastal locations with deep-water docks capable of handling bulk carriers with adjacent steel manufacturing capacity have long been regarded as the most cost efficient model. Rosyth, Grangemouth, Inchinnan and Hunterston have at different times been suggested as suitable locations. But the tendency in Scotland, as in the rest of the UK, has been to retain steel plants in traditional sites at or near coalfields which also once had deposits of ore.

Several factors influenced the decision to locate inland at Ravenscraig. The construction costs of integrating the new plant with existing works at Gartcosh and Dalzell and the costs of re-equipping General Terminus Quay to handle increased ore imports were considerably lower than the costs of developing a "green-field" site on the coast. Ravenscraig was at least as close to mines producing the required type of coking coal as possible coastal locations and in terms of marketing was well positioned to supply important steel-using industries such as shipbuilding on Clydeside and motor vehicle production at Linwood and Bathgate. Social and political considerations were also of great importance in the decision to convert Ravenscraig into an integrated works by the addition of the rolling mill in the late 1950s. The MacMillan government responded to competing regions' claims for expansion by establishing rolling facilities at both Ravenscraig and Llanwern.

Over the period since their establishment both mills have consistently operated at levels of output well below full capacity and the reaction to the December 1982 announcement by the government was to see Ravenscraig's future as only being capable of being secured at the cost of closing Llanwern. The plant at Ravenscraig and Llanwern are similar distances from the deepwater terminals at Hunterston and Port Talbot respectively. However, Ravenscraig has two obvious locational disadvantages. First, the Gartcosh finishing mill is about fourteen miles from the main Ravenscraig plant. Secondly, structural changes in the Scottish economy have reduced the local demand for steel and output for the UK domestic market must be transported mainly to the Midlands and South East of England. These factors, particularly the second, are seen by MacGregor as constituting a decisive cost disadvantage for Ravenscraig. Attempts have been made to argue that Ravenscraig's cost disadvantage with respect to distance from the major markets is not as great as MacGregor appears to believe. But it would be stretching credibility to suggest anything other than that Llanwern does have a transport cost advantage to the main UK markets.

The principal advantage enjoyed at Ravenscraig is the ability to produce finished steel of a higher and more consistent quality than other UK plants. Investment in, for example, continuous casting and vacuum degasification has made Ravenscraig a highly efficient, modern complex. Preference for Ravenscraig's output has been reflected in recent orders from the car makers, Ford and BMW, and in the relatively full current order book. However, unlike the relative cost disadvantage resulting from geographic location, this technological advantage can be removed by BSC. In terms of a national strategy aimed at achieving commercial viability it is reasonable to presume, given excess capacity in the UK industry, that were such technology made available at Llanwern, as is currently being advocated by a "Welsh Lobby", the case for retention of Ravenscraig would be lost. It is instructive in this context that Port Talbot with its deep-water terminal and with recent investment in continuous casting has been generally accepted as a less likely candidate for closure than either Llanwern or Ravenscraig.

MacGregor's April announcement about possible further investment at Hunterston came as unexpectedly as the original proposal in 1968 to site a deep-water terminal and steel-making facilities there. Anticipating the major investment decisions which were about to be made by the newly-created, state-owned Corporation and driven by regional rather than national interests, the then Scottish and North-West group proposed developments at Hunterston squarely in line with conventional views on the desirability of coastal location. Although that proposal clearly signalled a shift of the Scottish steel-making industry away from its traditional Lanarkshire location, such a shift has not taken place and Hunterston has served only to fulfil what was originally seen as an immediate objective of "enhancing" existing inland plants by permitting realisation of the economies of bulk importing of iron ore.

The ingredient now being added by MacGregor to the debate on location is the possibility of a major technological breakthrough. Hunterston's two Midrex plants were completed in 1979 but have not been operated due to rapid increases in natural gas prices and low levels of demand. In the absence of "hard" information, the nature of the breakthrough is a matter for speculation. What is known is that the new process involves the use of coal and, therefore, entails a movement away from direct reduction based on natural gas.

Increasing costs have rendered direct reduction processes based on natural gas uncompetitive not only at Hunterston but also in West Germany and the USA. In contrast, Mexico, Venezuela, Indonesia and Middle Eastern countries have recently expanded their direct reduction facilities on the strength of their supplies of natural gas and have further plants planned or already under construction. The USSR is also scheduled to commission direct reduction facilities this year.

Broadly speaking coal-using techniques are of two types: in the first, coal may be used directly as the reducing agent. However, while a few plants have been operating with coal-based direct reduction processes since the early 1970s, such processes are still considered to be only at the development stage. The substantial technical and operating problems associated with the predominant coal-based technology involving rotary kiln techniques have so far prevented wider adoption. However, it has generally been felt that, given expected trends in natural gas and coal prices, the considerable resources devoted to research on coal-based direct reduction technology will be maintained and will produce a viable process in the foreseeable future. This would bring the direct-reduction electric ore steelmaking route into direct and probably decisive competition with the more traditional blast furnace Basic Oxygen technology. Such relatively imminent developments have clear implications not only for Ravenscraig but indeed for all plants in the traditional steelmaking economies.

The second type of coal-based direct reduction technique involves the use of gasified coal as a reductant. Given the nature of the capital equipment already installed at Hunterston, it is probable that the breakthrough foreseen by MacGregor relates to the coal gasification, hot gas desulphurisation (HGD) process. This involves crushing, drying, pulverising and injecting coal into a "gasifier". Although there are a few restrictions on quality, a fairly wide range of coal inputs can be used because the sulphur is removed from the gas in the process. The energy costs of the reduction process are entirely incurred in gasifying the coal and to date these have been sufficiently great to render this process uncompetitive relative to

other direct reduction processes and, indeed, to coke-based blast furnaces. It seems likely that what MacGregor describes as BSC's "world-beating process" must involve producing the reductant gas with lower energy inputs than previously has been possible. As a measure of the breakthrough foreseen by MacGregor it is worth noting that the conventional view has been to regard coal-gasification as the least likely area for a commercially feasible technological advance.

If BSC is, indeed, close to developing a commercially viable technology to gasify coal, the potential is immense. It will provide an alternative to processes using natural gas. Coal gasification also allows the use of low priced, low grade coal. This is not the case for either coal-based direct reduction units or coke-making for blast-furnace usage. In addition, less capital investment is required per unit of output than in the blast-furnace process. MacGregor's prediction may then be interpreted as threatening the viability of the traditional iron-making processes and, in terms of the debate on location, provides further impetus to steel production on coastal sites suitable for the import of large quantities of the high quality ore required for direct reduction and electric-arc steel making.

Perhaps ironically in view of the cost considerations which were important in the establishment of the Ravenscraig complex, any new technology cannot be seen as posing a choice between locating additional investment at an existing works and developing a "greenfield" site. Hunterston already has the ore terminal, two Midrex plants and a pelletizer to prepare ore for reduction. The direct reduction facility has already been fully written off in BSC's accounts.

Since the early days of his Chairmanship of BSC certain actions taken by MacGregor have been consistent with an attempt to, in his words, "harvest the capital" located at Hunterston. He has resisted a proposal from the Iron and Steel Trades Confederation, received only a matter of days after assuming the Chairmanship in July 1980, to sell one of Hunterston's Midrex plants. He has also sought to ensure the future of the Glengarnock works which, it seems fair to assume, would be part of the Hunterston complex. This has been done by ensuring orders and by undertaking investment in anchor chain and pit arch facilities. Although there has been no indication as to types of finished product, it is highly unlikely in view of MacGregor's views on current excess capacity that Ayrshire would specialise in strip steel. Given this, it would appear that the BSC Chairman considers that a highly efficient and possibly export-orientated Hunterston complex would be able to overcome the problems of distance from markets which handicap Ravenscraig.

Locating investment in new technology at Hunterston would remove much of the weight from central elements in the Scottish Lobby's case against Ravenscraig's closure where the concern has been with the choice between Ravenscraig and Llanwern. A steel-making complex at Hunterston would offset, at least partially, the "domino" effects on Scottish manufacturing industry, would retain a Scottish pricing base for steel products and, thus, prevent possible cost increases for Scottish consumers; and would remove the threat to the Scottish mining industry, especially since MacGregor claims to have made the use of Scottish coal a necessary condition for Hunterston's development.

There would undoubtedly be great social and economic implications for the

already depressed areas of North Lanarkshire. But, given Ravenscraig's inherent disadvantages, the question would appear to be not one of whether these costs will have to be borne but when. It is important that central government recognises fully that the costs of a shift to the Ayrshire coast go far beyond the immediate capital costs of introducing new technology and associated plant at Hunterston. Not only would there have to be substantial improvements in social infrastructure in North Ayrshire, but also, just as the original investment at Ravenscraig was seen, at least in part, as a tool of social and regional policy, resources would have to be made available to facilitate the process of adjustment in North Lanarkshire.

Within a Scottish context the advantages to Ayrshire would have to be set against the costs to the Motherwell area. It is reasonable to expect, particularly given BSC's policies, that labour would be transferred to Hunterston from Ravenscraig, cushioning, to some degree, the employment effects of Ravenscraig's closure. Whether expansion at Hunterston would absorb the number of workers, around 4,000, presently employed at Ravenscraig is unclear. But however great or small, migration of labour would stimulate the local economy of North Ayrshire with opposite effects being felt in North Lanarkshire.

At a more general level, the Scottish Lobby must recognise that a fundamental question may be raised as to whether the UK should produce steel at all in a world where there are likely to be excess supplies of cheap, and often heavily subsidised steel. MacGregor has implicitly responded to this not only with respect to the UK but specifically in terms of Scotland, with the statement of his intention to develop Hunterston. It is perhaps now timely for the Scottish Lobby to reappraise its traditional position.

The short-run case for the retention of the Ravenscraig complex is strengthened if, as has recently been suggested, BSC forecasts of demand have been unduly pessimistic. Continuing buoyant demand for Ravenscraig's finished products would do much to render MacGregor's proposals for joint ventures with US companies redundant. However, Ravenscraig remains vulnerable to the introduction of present technology at other existing UK plants and to likely developments in direct-reduction technology with their attendant impetus to coastal location. The Scottish Lobby would be ill-advised to marshal its efforts behind Ravenscraig to the neglect of longer-term developments at Hunterston or to believe that a case can be made for both Ravenscraig and Hunterston. An appropriate strategy to safeguard Scotland's, rather than specifically North Lanarkshire's position as a steel-producing centre would appear to have several components:

1. Until the pace of technological change can be adequately judged, the Scottish Lobby should emphasise Ravenscraig's advantage in the production of high quality steel products.
2. Lest BSC's demand projections prove accurate, the Lobby should not set its face against joint-venture proposals of the type currently being proposed.
3. The Scottish Lobby should actively support proposals to site new technology at Hunterston.

Concern over the retention of the Ravenscraig complex is misdirected in the longer-term and should not allow the case for Hunterston to be overshadowed.