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European Common Aerospace Market
European industries and markets: a comparison by S. B. SAUL*

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N ONE IMPORTANT WAY Britain's entry into the Common
Market means less to her aerospace industry than to
other aspects of the economy. There will be benefits to
be reaped from tariff adjustments, and companies working with their European counterparts will find their legal problems greatly simplified; but in a very real sense the industry has been looking to Europe for its future over the whole of the last decade. Only there can it hope to create links that will bring the advantages of large-scale operation and yet preserve a degree of design initiative that would never be possible in an alliance with American aerospace manufacturers.

True, the grand design for Britain in Europe, as it has gathered momentum, encouraged the British industry in its endavours, but its future course was inevitable what-ever the outcome of the Common Market debate had been. The same is even more true for the aerospace makers on the Continent. They must look to Britain, for they are smaller and their industries less comprehensive.
The economics of aircraft and engine production are fundamentally very simple. There is a very heavy overhead commitment in the form of development costs which for any advanced project must always in ftie future amount to several hundred million pounds. Production, which in all countries remains very labour-intensive, is strongly

"The British aerospace industry is entering the Common Market in
excellent shape."

subject to a learning curve whereby the unit cost falls at a regular rate over the whole production run. Both these factors put a huge premium on long runs so as to spread the cost of development as thinly as possible and gain the maximum advantage from learning.
In competition with the United States, producers in Europe have found it difficult to offset the long runs the Americans derive from their home market. On the other hand European labour costs are much lower than the American and give a great advantage in a labour-intensive industry, especially in development where the opportunities of using labour-saving methods are very limited. American labour is more productive in the sense of using fewer hours for any given operation; but, according to the British Elstub Beport, Productivity of the National Aircraft Effort, the advantages over European methods are not great and in no way offset the large European advantage derived from lower wage costs. Consequently the strong American competitive position over Europe has not been one of greater productivity at particular stages but one of very much longer runs.
Calculations have been made of the effects of develop-ment costs, learning and differential wage rates from information on the costs of similar British and US projects. Of course not all production costs are subject to learning; there is virtually none on materials, little on purchased items, less on subcontracted work than that on the production work of the main contractor.
The effect is, however, that for the same aircraft selling at a price which would enable the British firm to break even with sales of 100, the American would need to sell 315 to break even. Where the British need to sell 150 the Americans must sell 500. The problem in the past has been that the Americans have found it easier to sell their 500 than the Europeans their 150. They have incidentally also reaped the benefits of a large military demand which has directly covered some development costs and has also provided a dependable level of profit which the larger companies have used to help fund their more risky civil projects.
The last but very important aspect of the economics of aircraft manufacture is that it is very risky, partly because

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of technological unknowns, partly because of the huge overheads, partly because of the long lag between invest-ment and profitable sales. It is well to remember that with modern discounted-cash-flow accounting techniques time is a very costly item. Finally the risk is high also because the market rarely allows more than one project in any sector to be profitable at any given time.
The advantages of collaboration within Europe, there-fore, lie principally in the exchange of technology, in sharing risks and overheads, and in the hope of obtaining long production runs.
At the end of 1971 the major aerospace companies in Europe, ranked by the size of their labour force, were as shown in table 1.

TABLE 1—Europe's top aerospace companies

Compan y

Rolls-Royce
Aerospatiale
Hawker Siddeley (Aerospace)
British Aircraft Corporation
Messerschmitt-B6lkow-Blohm
VFW-Fokker
Dassault-Breguet
Snecma
Westland
Aeritalia
Dornier
Shorts
MT U
Saab-Scania
Turbomeca

1971

employmen t

62,000
40,770
40,000
34,993(i)
20,400
20,288
14,827
13,766
12,523
8,000*
7,733
6,250
5,550
5,054*
4,067

1971
turnover
£ million

299-4*
249 0*
227
159
130
108-4*
132-6
89-4

57-5(ii)
N/A
49-5
N/A
50-8
63-5
25-3

* 1970 figures; (i) average employment in 1971; (ii) including 22 percent turnover from British
Hovercraft Corporation.

The European industry itself has been considerably rationalised over the last five years. Nord Aviation, Sud Aviation and Sereb amalgamated to form Aerospatiale (SNIAS). In 1967 Dassault became the major shareholder in Breguet and in 1971 the two merged. Messerschmitt, Bblkow and Hamburger Flugzeugbau merged in 1969, though Boeing, Aerospatiale, Siemens and Thyssen together hold a third of the share capital. In 1969, too, the German VFW and Dutch Fokker companies joined. On the other side of the Atlantic, in mid-1971 McDonnell Douglas employed 92,800 workers, Lockheed Aircraft 71,500, United Aircraft 61,000, Boeing 54,000 and General Dynamics (aerospace) 32,800. The broad comparison between the European and American industries is given in table 2.

TABLE 2—The aerospace industry in Europe and the USA

(i)
Employ-
ment

(ii) (iii) (iv) (v)
% of total £ million aero sales aero in sales as % of exports as
manuf'g GNP % of all exports

USA
UK
France

Germany

1,067,000
234,000
102,000
41,600 •

5-7
2-2
1-3
0-4

11,320
687
496
191

2-9
1-8
0-8
0-3

8-4
4-1
2 9
0-4

(i) at end of 1970; (ii) aerospace employment as % of total employed in manufacturing; (iii) three-
year average of 1968-1970. Sales were below £10,000 million in 1970.

The capitalisation, of all the non-nationalised European companies is very low. In 1971, for example, the share capital of MBB was £7*4 million with reserves of about £43

4 million, though the capital employed was about £50 million, representing a very high gearing ratio. Dassault is privately owned and the Dornier share capital of £3*2 million is entirely in the hands of that family. VFW-Fokker had a share capital of £17 million in 1970 with about the same amount for reserves.

All those companies for which information is currently available have high gearing ratios and in addition produce a very modest return on the capital employed. For VFW-