

market the results.

Most worrying for the United States is the French SPOT satellite, due to be launched next year. A remote-sensing satellite capable of high-resolution multi-spectral stereo-images of the land surface, SPOT is billed by the French as the world's first commercial remote-sensing satellite system. In fact it is heavily subsidized by the French Government.

Competition such as that posed by

SPOT puts the Commerce Department in a cleft stick. The Reagan Administration believes in the power of the private sector to maintain US technological leadership, but in the case of Landsat some form of subsidy, either direct or indirect, may be necessary. What is not clear is whether Congress will go along with plans to sell a public asset if it is going to continue to be a burden on the federal budget.

Peter David

UK higher education

More talk at NEDC

THE British Government seems to have found an unusual forum for developing its strategy for the future of higher education — the National Economic Development Council.

Discussion of a paper on higher education prepared for last week's meeting of the council by the Secretary of State for Education and Science, Sir Keith Joseph, seems to have surprised the minister by its length but to have raised in the minds of others the question whether the British Government still needs the University Grants Committee.

The council is the tripartite talking-shop which normally represents government, the Confederation of British Industry and the Trades Union Council, but whose meeting last week was boycotted by the unions, still smarting from the government's decision to quash the rights of intelligence gatherers to join trades unions.

The striking feature of Sir Keith's paper is the evidence it provides of the government's determination to direct development of education from the centre. Its starting point is a declaration that, apart from the contribution of higher education towards "national well-being and society as a whole", British higher education must make "judgements" of the demand for graduates in different specialities and "contribute directly to mutually beneficial collaboration with employers".

Acknowledging the "case against any detailed or comprehensive planning of graduate supply", Sir Keith nevertheless says that the government thinks it right to "give a broad steer to the system to some extent". Its intervention so far has been the "indication" to the universities that science, technology, engineering and "other vocationally relevant forms of study" should recruit more students, the 15 per cent increase of engineering students and 50 per cent increase of mathematics and computing students planned for next year in polytechnics and the provision of 5,000 places on information technology graduate courses planned for 1985-86.

Further ahead, the government hopes for a 50 per cent increase (to 15,000 a year) in the output of graduate engineers in the decade to 1987-88, and the minister's paper says that he is "actively considering" what should be the target for succeeding

academic years, when the age group from which students are recruited to higher education will be shrinking.

The paper also seeks to stimulate the job market by noting that British industry must make employment for engineers more attractive, saying that "student demand will quickly react against engineering" if jobs do not materialize. Sir Keith says that there will be more jobs for electronic engineers but fewer for civil engineers, and

UK universities

Row about budgets resolved

RECENT trends in financial support for British universities have lately been a matter of public dispute. Mr Peter Brooke, Under Secretary of State with special responsibility for higher education, sent indignant academics diving for their calculators when he claimed in a letter to *The Guardian* newspaper that the universities' recurrent grant had shown a 25 per cent cash increase and "virtually no change in cost terms" between 1980-81 and 1983-84. That view was quickly challenged and, after questions in Parliament, Mr Brooke admitted there had been a real reduction of 8.75 per cent.

Mr Brooke's mistake was that he failed to allow for changed arrangements in 1982-83, when tuition fees were reduced and the recurrent grant channelled through the University Grants Committee was increased to compensate. A better picture of trends as they affect universities is given in the figure above, which covers both sources of income. The deflator is the Treasury-approved Tress-Brown index of universities' recurrent costs.

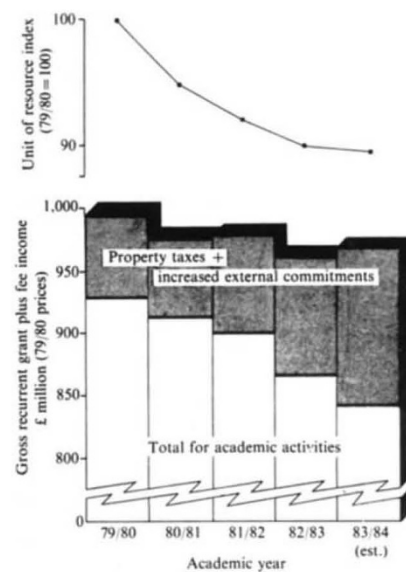
During the five years since 1979, several additional commitments have been imposed on the universities over which they have no control, thus making comparisons difficult. These include redundancy compensation (£26 million in 1983-84), the upward incremental drift of salary gradings, increased superannuation payments and a shift of funds from capital grant. Together with rates, which the universities never see, these non-academic increases are lumped together in the upper half of the histogram.

The total left over for academic activities compares like with like (although it does include the targeted "new blood" and

that physics in higher education will be squeezed by competition from engineering. Acknowledging that engineering courses cost more than others, Sir Keith offers guarded hope of financial relief for higher education with the remark that "resources are finite and increased expenditure must therefore be clearly justified".

Research is described in the minister's paper as "a further area where higher education and employers must come together productively". Sir Keith says that "fundamental research . . . is vital to our scientific progress, but is not necessarily directed at a specific industrial application". For the future, the minister announced that the government would decide how far the switch in higher education towards science, technology and engineering should go.

Employers, for their part, were asked to say what their expectations are of higher education, to describe their plans for employing the new graduates at attractive salaries and to comment on "the value to the economy of basic research financed by the research councils". □



information technology schemes in 1983-84). The shortfall of £112 million at 1979-80 prices is a drop of 11.5 per cent in income needed to maintain activities at their 1979 level. Full-time student numbers rose from 293,000 in 1979-80 and then fell back to 288,000 in 1983-84: the resulting "unit of resource index" is also shown above. The Committee of Vice-Chancellors and Principals, which supplied the information, points out that these reductions have been achieved despite a shift towards the more expensive science-based subjects. A drop of 1 or 2 per cent a year in the unit of resource has been suggested, and universities' total recurrent grant next year will be 2.5 per cent lower than was announced in November. **Tim Beardsley**