

MR TURNBULL23 November 1984HIGHER EDUCATION: SWITCH TO ENGINEERING AND TECHNOLOGY

Keith Joseph wants to spend £15 million in 1985/6, rising to just over £40 million in the following two years on increasing the provision of university graduates and trained technologists in information technology. The money will buy conversion courses for 1,500 new information technologists each year after 1986/7, as well as 2,000 plus additional university graduates in information technology by 1989/90. Instead of merely dishing out the funds, Keith proposes to set up an auction, with the aim of identifying the most cost-effective university courses.

Assuming that industry is right, and there is a genuine need for more IT graduates and technologists, Keith's system seems fine: an auction is undoubtedly preferable to a in-house decision.

But the Chief Secretary is surely right that this is not a 'contingency' on which the precious reserve can legitimately be spent. If the Secretaries of State for Trade and Industry, Employment, Scotland and Wales all believe that the expenditure is necessary, they - together with the Department of Education and Science - can surely find the money out of their own budgets. There is no better test of their sincerity than their willingness to foot the bill.

On the same grounds, it might be sensible to make an element of private funding a condition for any further public support of IT training. The institute proposed by Cranfield clearly does have a real market, since its expenditure will largely be met from private sources. An institution wholly dependent on public funds does not face the same test.

E.R.
We therefore recommend that the Prime Minister should:

- i. welcome Keith Joseph's proposal to increase IT provision by funding the most cost effective courses following a public auction;
- ii. insist that Departments find the money from their own budgets without raiding the contingency reserve; and
- iii. suggest that the new funds should be allocated only to institutions that can also attract a degree of private funding.

Ol Letwin

OLIVER LETWIN



10 DOWNING STREET

Prime Minister

It is lamentable that the
Departments pressing for more
IT graduates have ducked
the question of how this
should be financed.

I suggest that para
9(iii) ought to come before
para 9(ii).

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27 November 1984

PRIME MINISTER

THE SWITCH TO ENGINEERING AND TECHNOLOGY

I support the proposals of the Secretary of State for Education and Science to increase the output of graduates in special engineering disciplines, especially IT. There are already signs of constraints in economic output in the IT and related industries caused by shortages of skilled people and the situation may be expected to get appreciably worse towards the end of the decade as economic recovery continues.

2. The immediate need is for conversion courses since there is a stock of unemployed or under-employed people with science or engineering training which does not match the needs of the market-place. There is also substantial potential for women returning to the workforce after having a family. But the medium-term need is for more graduates.

3. I see three dangers in the scheme as proposed:

(a) the extra people will be sucked in by additional defence R&D and procurement demands, ie the tax-payer will end up paying for both the education and employment of these people;

(b) the extra output will be balanced by the loss of more people to higher-paid and more satisfying jobs abroad, ie the tax-payer funds the education for more skilled people for our international competitors;

(c) the universities will not be able to attract sufficient first-class academic staff in the science disciplines to provide the extra tuition needed.

4. To counter these dangers there is a need for a bargain between Government, Industry and Universities:

(a) If Government finds the additional resources indicated in the paper, it should also undertake to monitor the MoD demand for these skills and ensure that it does not exceed current levels.

(b) Industry undertakes to be more competitive in the international market-place for skills by recruiting and retaining the extra people; it also undertakes to ensure that an adequate number of first-class academic staff remain in Universities, perhaps by giving them 'top-up' payments through consultancy etc as happens in the USA.

(c) Universities accept that differential payments to staff (a principle already accepted for clinical staff) are needed to retain academic staff in scarce disciplines; they also contribute additional student places in engineering at no additional cost, as proposed in the paper.

5. I am copying this minute to Sir Robert Armstrong.

RBN.

ROBIN B NICHOLSON
Chief Scientific Adviser

Cabinet Office
27 November 1984

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PRIME MINISTER

The Switch to Engineering and Technology
(E(A)(84)63 and 66)

BACKGROUND

FLAG A

In his memorandum E(A)(84)63 the Secretary of State for Education and Science draws attention to the shortage of graduates in information technology (IT), especially electronic engineers and computer specialists. He proposes that additional money should be made available in order to fund an increase in the output of graduates in the relevant disciplines. The cost would be £15 million in 1985-86, £42 million in 1986-87 and £44 million in 1987-88. Institutions of higher education - not only universities on the University Grants Committee list, but also private sector institutions - could make bids for a share of the extra resources in return for guaranteed increases in the number of places offered. The bids would be considered by reference to criteria set out in paragraph 8 of E(A)(84)63, including costs, the value to industry, and the degree of industrial commitment in providing equipment and staff. The Secretary of State estimates that this expenditure would lead to some 1,500 additional university IT graduates a year by 1989-90 and a short term increase of a further 1,500 a year in information technologists through one year conversion courses from 1986-87. The universities would also be expected to offer, from within their own resources, an additional 600 places in IT related disciplines by 1989-90.

2. Several Ministers have previously expressed support for the objectives of the proposals; but none has been willing to transfer resources from his spending programme. The Secretary of State for Education and Science, in his bilateral

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discussions with the Chief Secretary, Treasury earlier this year in the context of the Public Expenditure Survey, gave priority to bids for 'essential provision for science and the universities required to exploit new scientific opportunities in ways beneficial to the economy' (paragraph 9 of the memorandum). He therefore bids for the cost of the proposals to be found from the reserve. The Chief Secretary, Treasury opposes this on the grounds that the reserve for 1985-86 is tight already and that, particularly so soon after the 1984 Survey has been concluded, discretionary claims must be resisted.

FLAG B

3. In his memorandum E(A)(84)66, the Parliamentary Under-Secretary of State, Department of Trade and Industry (Mr Butcher), who was the chairman of a committee which studied skill shortages in IT, argues that the proposals of the Secretary of State for Education and Science are the minimum necessary and that, ideally, more should be done. However, he does not offer any transfer of resources from DTI programmes.

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mentions
money

MAIN ISSUES

4. The main issues before the Sub-Committee are as follows.

(i) Are the proposals to encourage the output of IT graduates desirable?

(ii) If so, are they so desirable as to merit provision from the reserve of the additional resources requested by the Secretary of State for Education and Science?

Desirability

5. It seems unlikely that any member of the Sub-Committee will argue that the proposals are simply wrong or unnecessary. The evidence of skill shortages and our worsening balance of trade in IT are clear enough. The Sub-Committee may, however,



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wish to probe two points.

- a. Is the timescale realistic? Table A annexed to E(A)(84)63 shows that existing initiatives are expected to add 1,500 graduates in IT and IT-related disciplines in 1986-87, and 1,900 in 1987-88. Good teachers are already scarce in these disciplines. Can enough be found for the existing and the proposed new initiatives?
- b. How firm is the commitment of industry to help? The remarks in the final sub-paragraph of paragraph 2 of E(A)(84)63 are encouraging. But experience suggests that general statements of support are not always translated into action. Will firms really provide the men and money required?

Funding

6. The most difficult issue is likely to be funding. The Chief Secretary can be expected to make the following points.

- a. No Minister thought the proposals in E(A)(84)63 important enough to offer a transfer of resources from his own programme.
- b. The Secretary of State for Education and Science himself dropped the bid in his bilateral discussions.
- c. It will undermine the disciplines of the Public Expenditure Survey if spending Ministers in bilateral discussions drop proposals which they expect to be attractive to their colleagues, only to resurrect them, as soon as the Survey is over, in the form of a claim on the reserve.

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7. On the other hand, the Sub-Committee are likely to feel that the proposals have considerable attractions; it also seems relevant that the first-year cost (in 1985-86) is only £15 million. They may therefore wish to explore two possibilities.

(i) Whether, after all, some contribution could be found from, say, the Trade and Industry or the Employment (particularly the Manpower Services Commission) programmes.

(ii) Whether it would be possible to get more specific promises of funding or other assistance, particularly for years after 1985-86, from industry. It is not clear that the proposals in E(A)(84)63 make any allowance for funding from this source.

HANDLING

8. You will wish to invite the Secretary of State for Education and Science and Mr Butcher to introduce their memoranda, and then to invite the Chief Secretary, Treasury to comment. Other Ministers with a departmental interest are the Secretary of State for Scotland (he is not responsible for universities, but the electronic industry in Scotland is strong) and the Secretary of State for Employment. The main discussion is likely to concentrate on the issues discussed in paragraphs 6 and 7 above.

CONCLUSIONS

9. You will wish the Sub-Committee to reach conclusions on the following.

(i) Subject to the question of funding, are the proposals in E(A)(84)63 broadly acceptable?

(ii) If so, do they command sufficient priority to be financed, at least in part, from the reserve?



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(iii) Should any alternative or additional source of finance be sought?

PLG

P L GREGSON

Cabinet Office.

27 November, 1984



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PRESS NOTICE

THURSDAY 29 NOVEMBER 1984

SCIENCE IS TOP PRIORITY

File

Student grants still the most generous in the West, says Sir Keith Joseph

Most of the money saved on student grants from next autumn will be used to support Britain's scientific efforts, Education Secretary Sir Keith Joseph said last night.

He told parents in Bristol that top priority was being given to finding more money for the scientific community. His decision on student grants would save about £40 million in the next financial year, to be redistributed as follows:

- 11 - £14 million for the research councils to support projects of high scientific promise;
- 4 - about £10 million for the universities to improve and modernise laboratories and other equipment in selected centres of research;
- about £15 million for student awards, because the student population is still growing.

Sir Keith said:

"If this country is to thrive again - with new inventions, developing them technologically and turning them into commercial successes - we need to do what we can to help our scientists.

"Too many of our university laboratories are full of equipment that belongs in museums of industrial archaeology.

"Too many of the most promising research projects - the ideas of the brightest and the best of our young scientists - have to be turned down because of shortage of funds.

"So I decided that our top priority this year was to find a little more money for science.

"My decision on student grants will save about £40 million in the next financial year.

"Of that, £14m will go to the research councils to release money to support projects of high scientific promise.

"About £10m will go to the universities to improve and to modernise laboratories and other equipment in a few carefully selected centres of research. And we have promised to find a further £10m in the following financial year.

"Finally, we will find about £15m more for student awards, because the student population is still growing. That brings the total spent on mandatory awards by central and local authorities to more than £750 million.

"Every parent and student who is desperately doing arithmetic to work out what our decision means, should remember that we still have the most generous system of student support in the western world.

"If you lived in Sweden with its mixture of grants and loans, you would find that sending a student through university involved taking out a loan for 90 per cent of the total.

"If you lived in the United States with its patchwork quilt of federal and state grants and loans, you would find that the grant is only about one-tenth of that in the UK.

"If you lived in West Germany, you would know that the grant and loan system was scrapped in 1983. Now you have to raise or borrow all the money you need.

"If you lived in Japan, too, you would face a 100% loan system.

"If you lived in Belgium, you would discover that only 45 per cent of students qualify for grants. On average, that amounts to only one-third of the UK level.

"If you lived anywhere else in the European Community, you would find a mixture of grants and loans. And, in each case, the grant is well below the level of that in the UK. The French grant was half the UK's in 1982-83.

"None of this is any consolation for parents who will face extra bills in the academic year beginning October 1985. I do regret that we have given families only 11 months' warning, rather than virtually two years. But I judged that the desperate plight of the scientists could not wait longer.

"We believe that we have been fair in how this extra burden has been distributed:

- around 100,000 parents will pay no contribution next year
- around 50,000 will pay no more in real terms;
- around 100,000 will pay small increases of between £1 and £2 per week;
- of the remaining 80,000 who will be paying more, about 60,000 - those in the highest income levels - will find that they are paying £520 towards tuition fees;
- a further 50,000 students will receive full grant because they are over 25 years of age or have supported themselves for more than three years before going into higher education.

"For the vast majority of students, tuition will still be free - paid in full by their local education authority. And all students, however well off their parents may be, will still be very heavily subsidised by taxpayers.

"To complete a degree course costs anything from £3,000 a year for an arts or humanities student to £7,500 a year for a medical, dental or science student.

"So even those students whose families will pay most will still be subsidised to the tune of between £8,000 and £35,000 to earn qualifications that should put them on the path to worthwhile careers and, in many cases, high incomes.

"There are three main points:

"First, the Government is sticking to the principle accepted by all Governments - since the Conservative Government introduced grants in 1962 - that the cost of student support should be shared by the students and their families on the one hand and the taxpayers and ratepayers on the other.

"Until 1977, and for many years before that, the parental contribution did include an element for fees.

"Second, I have been accused of being grossly unfair. But despite the hard choices we faced and despite the very understandable problems created, we have actually been very fair. We have put the burden on those who should be best able to afford it.

"Finally, I am accused of imposing intolerable pressures on some families. There is, however, a limit - £4,000 - on what a family will have to pay. And the vast majority of the families who are hardest hit are the most credit-worthy in our society. And they have access to tax-saving deeds of covenant.

"It was not an easy decision or one we took thoughtlessly. But I believe we had our priorities right:

- to maintain the educational system as a whole, to find a little more money for it and to redeploy money within the system to areas of highest national priority.
- to continue the pressure to improve standards, especially the quality of education in our schools.
- to sustain the quality of our scientific effort on which future jobs may depend.

"Students will still be a privileged minority in our society. But they cannot be insulated from the economic facts of life. Eventually many of them will find worthwhile and well-paid careers, benefiting themselves and the community."

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