SWP 45/92  THE GRADUATE ENTERPRISE PROGRAMME -
HAS IT BEEN WORTHWHILE?

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The Graduate Enterprise Programme - Has it been worthwhile?

The increasing number of students in higher education in the UK, combined with the current economic recession, has produced the inevitable result that "an optimistic forecast of 4% more jobs in 1992 will be swallowed up by 6.3% more graduates". For similar reasons, prospects for graduate jobs are no brighter for the 1.1 million graduating this year in the USA. The current U.K. circumstances strongly replicate the conditions prevailing in the early 1980's, when one Government and University initiative to offset graduate unemployment was the Graduate Enterprise Programme (GEP), aimed to increase the number of enterprising graduates entering self-employment from under 1% of the graduating population to nearer the 2% American experience.

The structure of the programme, developed first in Scotland at Stirling (1983/4) and in England at Cranfield (84/5), and subsequently extended to 9 University and Regional Centres, was essentially in three phases:

- **Half-day awareness seminars at Colleges, attended by 3-4,000 students in England January - March**
- **Two Day Business Workshops/Selection. Minimum 1,000 students April**
- **12 week (20 training days) Business Training Programme. Between 150-220 students in England. August - December**

The course, designed for final year students about to graduate, with an average age of 23, ran as structured above between 1985 and 1990, and since 1991 has been reduced to Awareness Seminars and 2 Day Workshops only, enabling some comparative research to be undertaken on the cost/benefits of the full and partial training programme.
Full GEP Training Programme 1984-90

Analysis of data maintained by the Universities Statistical Records and by the Department of Education and Science for Polytechnics and Colleges of Further Education is shown in Exhibit 1. This shows that over the seven years 1984-90, the number of U.K. graduates entering self-employment has approximately doubled (from 1,110 to 2,147). With the total of graduates entering permanent employment or undertaking further training increasing at a slower rate (38% over the period) this has resulted in the percentage of those entering self-employment to increase to nearly 1½% of the graduating population. Previous papers have shown that this increase has been the result of a number of factors, but that GEP has been a positive factor in this process, particularly by encouraging trainees to bring forward (by up to five years) their plans to become self-employed as well as, in 40% of cases, forgoing job offers in the employment market. In addition, the programme has helped the creation and/or development of small business research and training faculty at nine U.K. university and polytechnic business schools.

Business outcomes of Cranfield GEP

At one of these university business school training centres, Cranfield, with support from the Training Agency, an attempt has been made to capture from a data base, the first 3 years trading results of companies established by the Cranfield graduate entrepreneurs. The results are shown in Exhibits 2 and 3 for the first 3 years of programmes 1-4 (1985-1988) and for the two completed years of GEP 5 (‘89) and one year for GEP 6 (‘90). The profits (un-audited) for graduate entrepreneur companies are shown to "match" the costs to the Training Agency (include enterprise allowance, market research grants etc.) by the third
year of trading by the GEP companies. Cumulative profits are shown to exceed cumulative costs of the programme, based on total sales of nearly £14m, while some 231 full-time and 222 part-time jobs have been created.

The information for the data base is provided by six-monthly questionnaire responses from programme participants and by dividing the numbers of responses by the cumulative turnovers and profits reported, an interesting ‘profile’ of an average programme company over 3 years is obtained and is shown graphically in Exhibit 4. The most successful programme to date, in terms of average company turnover and profitability, being GEP 4 where average company turnover was £143,000 p.a. in third year of trading, with a net 15% profit. Approximately half of the companies, with training, survived the first three years trading.

The success of these companies is not due simply or even primarily to the training and enterprise allowance provided, but essentially to the graduate entrepreneurs’ ability, armed with a business plan, to secure adequate financial support from investors and bankers alike. As shown in Exhibits 5 and 6, while two-thirds of Cranfield GEP new starts needed less than £10,000 to start, an estimated total investment of £1.8 million was needed to finance the start and second stage finance for 53 companies in Programmes 1-4. As has previously been shown, therefore, each £1 of training investment was backed by £2 of debt and equity investment, 42% of which came from the main clearing banks and 16% from personal savings and profits ploughed back.
Partial Training Programmes (Workshop only), 1985-92

The ending of the Training Department support for the third phase of GEP training for 1990 at Cranfield, leaving seminars and 2 day ‘introduction’ workshops only, has permitted some further research into the usefulness, and timeliness, of the 12 week, 20 training day support, previously given to the graduate entrepreneurs. Quantifying or trying to ‘prove’ the value of training support is a difficult task; many trainers have left it to President Bok of Harvard’s famous riposte: "if you think education is expensive, try ignorance".

For the Training Agency, the short term savings by dropping Phase 3 are clear; an immediate saving in training allowance, market research grants and provider training of 70% of the total cost of £130,000 for GEP 6. Would, however, as many graduates continue to start new businesses as before, given only a 2 day workshop support? Would the benefits in terms of company profits and employment opportunity continue as before, given now that the "enterprise culture" had taken root?

Workshop Survey, GEP 2, 3 and 4

Some previous workshop only survey research had been undertaken at Cranfield to determine whether failure to gain a place on the third phase training programme inhibited potential graduate entrepreneurs. This survey’s results are shown in Exhibit 7; one third of the 76 respondents not selected did, nonetheless, actually set up in business following graduation, half with the same, if improved, original workshop idea. On average over the three years, this would mean some 8 new businesses per annum in Cranfield’s East Midlands region, in addition to the 20 or so selected for further training at Cranfield.
The performance of these 8 new businesses per annum, in comparison with those undertaking further training at Cranfield, can be gauged in some small measure from Exhibit 8. A questionnaire survey of the 24 businesses set up over the 3 years 1986-8, without further training help, elicited a response from six indicating a performance in terms of sales and profits superior to GEP 1, trained at Cranfield, and equal in terms of new employment created!

**Workshop survey, 1992**

Sample sizes of GEP 2, 3 and 4 were small and it might be assumed that only the strongest responded; with the ending of Phase 3 training in 1990, however, a new opportunity emerged to survey the 120 workshop participants who, in this case, were not part of a selection process. The results of this survey are shown in Exhibit 9. Once again the performance of the nine businesses started compared favourably in all respects, except full time employment, with the last completed full training programme at Cranfield!

**Preliminary Conclusions**

What preliminary conclusions can one draw from these small surveys? The first, and perhaps the most important, if not the most obvious, from these 2 series of surveys, is that **WITHOUT TRAINING**, fewer graduates are going to start up in business following graduation. The 1992 survey pointed to some 9 new businesses in the Cranfield East Midlands Region, which is comparable to the 8 or so in previous years which were started despite not being selected for training. What is missing, therefore, it can be hypothesized are the extra businesses which would have been created had 20 graduates been selected for further training as in previous years as at least half of these, in addition to the 8 or 9 not selected, would have survived in business over the next 3 years. (Exhibit 10) And the
profits from these extra businesses, it can again be hypothesized, would have equalled training cost size by their third year of operation if previous Cranfield GEP experience was to be matched.

Why is the performance of those not selected, or workshop experienced only, better than those who completed training at Cranfield? There is no clear answer here, particularly as the performance of 1 or 2 businesses in a small sample of 8 or 9 unduly weights averages. It is important also to note that each year a number of very promising graduates reject further training because they realise, through strong family support or even actual experience, that further training is superfluous! The role of the workshops is to encourage the strongest and equally deter the weakest. Of the latter, the fact that 90% do not start, but do not have their ambition blunted (Exhibit 7), is also a positive contribution from the workshop.

Should even the workshops be continued, if the strongest are going to start anyway? There is only one way to find out! But just as ending the third phase training has reduced the number of new, successful business starts in the East Midlands Region (with a short-term cost saving) so it would be probably safe to predict in this case there would also be a further reduction in graduate new start businesses in this region as well.

The workshops certainly seem a cost-effective way of giving guidance to entrepreneurial graduates and providing positive role models and "how to" cases to inform and motivate them. From all the GEP programmes at Cranfield a number of cases have now been written, covering graduates starting new businesses in food, manufacturing and service sectors and all of these are available, free of charge, to trainers and small business researchers from the Cranfield Working Paper Series. These cases suggest, that as full time GEP
training is now only being provided in Wales and Northern Ireland (with Development Agency support) and N.E. England (with Northumbrian Water Board support) that given the current concern over graduate unemployment, it might be timely for co-ordinated TEC support to be given to one or two GEP training programmes in Central and Southern England. Particularly as most GEP entrepreneurs, when surveyed, by an independent source, admitted the importance of the programme in getting their business started! (Exhibit 11).
References


Tait, Peter and Brown, R.J. (1990). Dockspeed Ltd, Cranfield School of Management Case Study.
The total of U.K. graduates entering self-employment has nearly doubled over the last 7 years

(a) Total Graduates Entering Permanent Employment or Training

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<thead>
<tr>
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<tr>
<td>Universities</td>
<td></td>
<td>72,973</td>
<td>72,046</td>
<td>69,923</td>
<td>71,574</td>
<td>72,589</td>
<td>73,641</td>
<td>75,971</td>
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<td>Polytechnics</td>
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<td>29,547</td>
<td>32,809</td>
<td>34,333</td>
<td>35,490</td>
<td>37,597</td>
<td>50,712</td>
<td>50,850</td>
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<td>Colleges of F.E.</td>
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<td>10,385</td>
<td>13,903</td>
<td>15,464</td>
<td>16,008</td>
<td>16,083</td>
<td>32,437</td>
<td>28,968</td>
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<td>Total Grads. Entering Employment (Degree &amp; HND &amp; Training)</td>
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<td>112,905</td>
<td>118,758</td>
<td>119,720</td>
<td>123,072</td>
<td>126,269</td>
<td>156,790</td>
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(b) Self-Employed

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<td>Universities</td>
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<td>551</td>
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<td>624</td>
<td>696</td>
<td>707</td>
<td>779</td>
<td>784</td>
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<tr>
<td>Polytechnics</td>
<td></td>
<td>383</td>
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<td>677</td>
<td>663</td>
<td>688</td>
<td>650</td>
<td>805</td>
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<tr>
<td>Colleges of F.E.</td>
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<td>176</td>
<td>382</td>
<td>478</td>
<td>536</td>
<td>528</td>
<td>505</td>
<td>558</td>
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<tr>
<td>Total Self-Employed</td>
<td></td>
<td>1,110</td>
<td>1,520</td>
<td>1,779</td>
<td>1,895</td>
<td>1,923</td>
<td>1,934</td>
<td>2,147</td>
</tr>
<tr>
<td>% Self-Employed (b/a)</td>
<td></td>
<td>1.1%</td>
<td>1.3%</td>
<td>1.5%</td>
<td>1.5%</td>
<td>1.5%</td>
<td>1.3%</td>
<td>1.4%</td>
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</table>

Source: Universities Statistical Records, Dept of Education & Science
## Exhibit 2

### Costs of Programme are Matched by Cumulative Profits in Third Year of Business

<table>
<thead>
<tr>
<th>Cranfield Programme/ Years</th>
<th>Programme Cost (Approx)</th>
<th>Sales (Cumulative) (Max. 3 Yrs)</th>
<th>Profit (Unaudited) (Cumulative Max. 3 Yrs)</th>
<th>Total Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEP 1 1985</td>
<td>£250,000</td>
<td>£5,562,309 (end 88)</td>
<td>£624,927 (3 Years)</td>
<td>82 51 Yr 3</td>
</tr>
<tr>
<td>GEP 2 1986</td>
<td>£200,000</td>
<td>£3,099,679 (end 89)</td>
<td>£265,012 (3 Years)</td>
<td>60 55 Yr 3</td>
</tr>
<tr>
<td>GEP 3 1987</td>
<td>£130,000</td>
<td>£2,024,106 (end 90)</td>
<td>£165,729 (3 Years)</td>
<td>15 14 Yr 3</td>
</tr>
<tr>
<td>GEP 4 1988</td>
<td>£130,000</td>
<td>£1,562,807 (Dec 91)</td>
<td>£199,975 (3 Years)</td>
<td>29 69 Yr 3</td>
</tr>
<tr>
<td>GEP 5 1989</td>
<td>£130,000</td>
<td>£1,418,508 (Dec 91)</td>
<td>£69,702 (2 Years)</td>
<td>34 22 Yr 2</td>
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<tr>
<td>GEP 6 1990</td>
<td>£130,000</td>
<td>£231,336 (Dec 91)</td>
<td>38,136 (1 Year)</td>
<td>11 11 Yr 1</td>
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<tr>
<td><strong>Total for 6 Programmes</strong></td>
<td><strong>Cumulative Cost £970,000</strong></td>
<td><strong>Cumulative Sales £13,898,745 (Dec 91)</strong></td>
<td><strong>Cumulative Profit £1,363,481 (1 Year)</strong></td>
<td><strong>Total Employees 231 222</strong></td>
</tr>
</tbody>
</table>

Source: Cranfield GEP Database, April 1992.
## Programme Averages - by Company

<table>
<thead>
<tr>
<th>Cranfield Programme /Years</th>
<th>Average Company Sales 1st Half Yr</th>
<th>Average Company Sales Last Half Yr</th>
<th>Average Company Profits 1st Half Yr</th>
<th>Average Company Profits Last Half Yr</th>
<th>Average Company Employees 1st Half Year</th>
<th>Average Company Employees Last Half Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEP 1 1985</td>
<td>£7,302 (1986)</td>
<td>£93,744 (1988)</td>
<td>£1,155</td>
<td>£10,955</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>GEP 3 1987</td>
<td>£10,884 (1988)</td>
<td>£53,125 (1990)</td>
<td>£1,259</td>
<td>£2,500</td>
<td>3</td>
<td>1</td>
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<tr>
<td>GEP 4 1988</td>
<td>£5,607 (1989)</td>
<td>£95,858 (Dec 91)</td>
<td>-£851</td>
<td>£14,692</td>
<td>1</td>
<td>3</td>
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<tr>
<td>GEP 5 1989</td>
<td>£8,800 (June 90)</td>
<td>£110,405 (Dec 91)</td>
<td>-£1,016</td>
<td>£6,249</td>
<td>1</td>
<td>3</td>
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<tr>
<td>GEP 6 1990</td>
<td>£9,639 (June 91)</td>
<td>£19,278 (Dec 91)</td>
<td>£1,589</td>
<td>£3,178</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Cranfield GEP Database; Totals divided by number of respondents, April 1992
Cranfield GEP 1, 2, 3 & 4
3 Year Average Turnover & Profits

Exhibit 4
EXHIBIT 5

TWO-THIRDS OF NEW STARTERS NEEDED LESS THAN £10,000 START-UP FINANCE......

£1,000-£5,000
36%

£5,000-£10,000
23%

£10,000-£20,000
13%

£20,000-£50,000
11%

Under £1,000
10%

While just over one-half needed less than £5,000 second stage finance

£1,000-£5,000
34%

£5,000-£10,000
20%

£10,000-£20,000
18%

£20,000-£50,000
12%

Over £50,000
8%

Under £1,000
8%
EXHIBIT 6

TOTAL INVESTMENT OF £1.8 MILLION IN EQUITY & DEBT FINANCE WAS MADE IN FIRST FOUR GEP TRADING OPERATIONS

START-UP FINANCE WAS WEIGHTED SLIGHTLY MORE TO EQUITY THAN DEBT...

Start Up Finance

- Mean Equity £9,200
- Mean Debt £8,600

52% EQUITY

48% DEBT

Total start-up Equity, 53 Co.'s £478,000
Total start-up Debt, 53 Co.'s £457,000
Total £935,000

...WHILE 2ND STAGE FINANCE WAS WEIGHTED SLIGHTLY MORE TO DEBT THAN EQUITY...

2nd Stage Finance

- Mean Equity £7,400
- Mean Debt £10,100

43% EQUITY

57% DEBT

Total 2nd stage Equity £394,000
Total 2nd stage Debt £537,000
Total £931,000

Source: GEP Financial Structure Survey, 1990, 53 Companies
Exhibit 7

Workshops Did Not Deter Potential Entrepreneurs, Even When Turned Down For Training Programme Places

From Sample of 76 Applicants, Refused Places:

1. 95% found teaching workshop helpful.

2. 80% found negative selection decision correct.

3. Nonetheless, nearly one-third did actually set up in business (24 businesses), approximately 8 per annum.
   - 85% without any further training
   - Three-quarters are now trading profitably (18 businesses)
   - Half with original, but improved, workshop idea!

4. Of the two-thirds who did not set up: (45 cases)
   - 89% still intend to start their own business, most within 5 or 10 years
   - Half with the same business idea!

Source: Cranfield Workshop Survey GEP 2/3/4, August 1990 of 200 graduates not selected for further training.
### Business Outcomes of Graduates Not Accepted on GEP Training

<table>
<thead>
<tr>
<th></th>
<th>NON-GEP TRAINED</th>
<th>GEP 1 TRAINED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Sample Size 6)</td>
<td>(Sample Size 17)</td>
</tr>
<tr>
<td>1st Year Sales (Average)</td>
<td>£52,000</td>
<td>£28,000</td>
</tr>
<tr>
<td>2nd Year Sales (Average)</td>
<td>£201,000</td>
<td>£110,000</td>
</tr>
<tr>
<td>1st Year Profits (Average)</td>
<td>£1,600</td>
<td>£6,000</td>
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<tr>
<td>2nd Year Profits (Average)</td>
<td>£27,250</td>
<td>£15,000</td>
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<table>
<thead>
<tr>
<th></th>
<th>Full Time Employees</th>
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<tbody>
<tr>
<td></td>
<td>1st Year</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2nd Year</td>
<td>3</td>
</tr>
</tbody>
</table>

**Source:** Cranfield Workshop Survey, GEP 2/3/4, April 1991 on 24 starters, without further training assistance.
First Six Months Business Outcomes of 1991 2 Day Workshop Only Graduates

From 45 replies (41% total), 9 actually started in business after graduation:

WORKSHOP ONLY

(1991-2)

First 6 month sales: £120,000
or £13,300 average

First 6 month profits: £24,200
or £2,688 average

Employees: Full Time 6, Part Time 18

GEP 6 Programme - 8 businesses

(1990-91)

First 6 month sales: £77,112
or £9,639 average

First 6 month profits: £12,712
or £1,590 average

Employees: Full Time 11, Part Time 11.

Source: Cranfield Workshop Survey, April 1992

Sample Size: 110 graduates, 45 responses (41%).
<table>
<thead>
<tr>
<th>Year</th>
<th>New Businesses Total</th>
<th>Surviving Businesses</th>
<th>Selection Workshop</th>
<th>Year</th>
</tr>
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<tbody>
<tr>
<td>1990</td>
<td>18</td>
<td>100</td>
<td>120</td>
<td>1992</td>
</tr>
<tr>
<td>1992</td>
<td>9</td>
<td>0</td>
<td>120</td>
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</tr>
</tbody>
</table>

*Note: The table is a representation of data collected from surveys conducted in 1990.*

Exhibit 10
Was the GEP Important in Your Decision to Start Your Own Business?

1. **Survey Results:**
   - YES 11
   - NO 2

2. **Why:**
   - "Business Plan was basis for raising money (3)"
   - "Enabled me to believe in my business"
   - "Showed me areas to look out for"
   - "Enabled me to appear more professional"
   - "Gave me basic business skills (5)"

3. **Main Handicap in starting**
   - "Inexperience" (5)
   - "Perceived to be too young to start a business"
   - "Lack of Finance" (4)
   - "Lack of Knowledge in Field"
   - "Locating Suitable Suppliers"
   - "Poor Sales Activity"

*Source: Philippe Dro, Survey of 13 GEP Businesses, 1992*
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February 1992

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