

**A framework is presented within which differences in industrial training participation rates can be analysed.**

# Industrial Training in The Netherlands:

## A Comparison with Some Other EC Countries

Mark J.A.M. Aalders and Frans A.J. van den Bosch

Journal of European Industrial Training, Vol. 15 No. 6, 1991, pp. 19-22,  
© MCB University Press, 0309-0590

Industrial training can be investigated at different levels of analysis: at the macro level (country studies); at the meso level (industries) and at the micro level (enterprises). It is well known that differences exist in industrial training participation rates between countries and within countries; between, for example, small and medium-sized firms. However, it is less known that substantial differences exist in industrial training participation rates at the meso level. This article focuses on the meso level especially with respect to analysing differences in industrial training participation rates and costs by industry. By analysing these differences more insight can be gained into different approaches to training and the underlying trends and tendencies affecting the training function.

In the first section some research results for a number of European countries will be discussed. The second section presents the main findings of the first integral statistical survey of industrial training in The Netherlands,

published in 1988. In the third section we introduce and discuss a general framework for explaining differences in industrial training participation rates per industry. The fourth section contains the first results of the application of this framework to Dutch data followed by a summary and conclusions.

### Industrial Training in European Countries

The growing attention for industrial training has resulted in an increasing number of publications on training activities in organisations, both by international and by national agencies. Influenced by rising unemployment, the OECD paid increasing attention to the role of enterprises in the educational system[1]. Only in a limited sense did this increased attention result in comparative studies between member states on the size and structure of these activities. The OECD limited themselves to apprenticeships and governmental employment policies.

In the European Community, research has been taking place into vocational training systems in the member countries as well. This research has been undertaken by the European Centre for the Development of Vocational Training (CEDEFOP) and is aimed at the mutual recognition of certificates. However, not much attention has been paid to training activities in enterprises. In the extensive study on vocational training systems in the Community[2] only a few pages were spent on the subject of industrial training. This first observation reveals that these activities differ a great deal between countries. In Belgium, Denmark, Ireland, Italy and Luxembourg vocational training is mainly undertaken by schools or other government-supported institutes. In West Germany, France and The Netherlands the enterprises are primarily involved in vocational training, whereas the UK has a mixed system. The financing of vocational training also differs between countries. In Italy and Luxembourg the government plays a big role, while in Denmark, Great Britain and The Netherlands the costs of industrial training are borne by industry itself. A further comparison between the systems is not made.

Eurostat — the statistical office of the Community — systematically collects information on the costs of industrial training. This is done by a survey on the structure of the total labour costs in the member states. Part of the survey is directed at the costs of industrial training (excluding the costs of working hours spent on training). (See Table I.)

It appears that there are remarkable differences in industrial training, both between countries and between industrial sectors in a country. More information on industrial training can only be found in studies undertaken in various countries themselves[4], or in some general surveys[5]. Substantial differences between countries in the extent of industrial training are noticed. However, until now an explanation for these differences has been lacking.

**Table I.** *Industrial Training, Costs at Industry Level, for EC Countries as Percentage of Total Labour Costs (1984)\**

	FRG	F	I	NL	B	L	UK	Irl	Dk	P
Manufacturing†	1.4	1.5	0.3	0.3	0.4	0.4	1.3	1.2	1.7	2.9
Construction and civil engineering	2.6	1.2	0.5	0.9	0.1	0.7	2.7	4.6	2.7	2.6
Services: wholesale and retail distribution	2.5	1.3	0.4	0.1	0.4	0.7	0.8	1.4	2.9	1.1
Banking	3.1	1.9	0.2	0.6	1.0	0.4	0.7	0.4	3.2	0.7
Insurance	1.8	1.5	0.2	0.4	1.0	0.1	0.8	0.3	1.9	1.7

\* Greece and Spain are excluded because of lack of data.  
† Excluding mining, quarrying and construction.  
Source: [3].

Although in the (Strategic) Human Resource Management literature much attention is paid to the role of training (see for example [6-10]), this attention is focused at operational issues such as the design, development and evaluation of training. The organisational structure of training at industry level, "make, buy or co-operate" questions with respect to training activities, the influences of business environment and the industry structure, etc., get little interest. This lack of interest at meso level is remarkable. The work of Porter [11] concerning the competitiveness of nations stresses the importance of a *sectoral* analysis, in which education and training play a major role.

### Industrial Training in The Netherlands: Recent Data at Industry Level

In The Netherlands the most extensive survey on industrial training was undertaken by the Central Bureau of Statistics [12]. Some results will be presented briefly here. The survey population consists of all companies and institutions with five or more employees, with the exception of governmental institutions and the education and health systems. Apprenticeships are also excluded. There are 3 million employees in the population (two-thirds of the total workforce).

Table II shows that the participation rate is on average 25 per cent. However, substantial differences exist between, on the one hand, small firms (5-100 employees) with a participation rate of 10 per cent and, on the other, large firms (over 500 employees) with a participation rate of 46 per cent. The total cost to the employers was 2.3 billion Dutch guilders, including the cost of working hours spent on training (this contrary to the Eurostat survey). In relative terms this means that the cost of training amounts to 1.5 per cent of all wage costs.

**Table II.** *Industrial Training in The Netherlands: Participation Rates and Costs (1986)\**

	Size of firms (employees)			
	5-100 (%)	100-500 (%)	>500 (%)	Total (%)
Participation rate (in % employees)	10	25	46	25
Costs (in % wage costs)	0.5	1.2	2.9	1.5

\* Excluding the public sector and firms with less than five employees.  
Source: [13].

Both participation rates and costs differ remarkably by industry. In Table III it can be seen that the banking sector has a participation rate which is almost twice as high (45 per cent) as the total average. Construction, on the other hand, has the lowest participation rate (8 per cent), one-third of the average. External training (outside the firm) accounts for 40 per cent of the total. In small firms this percentage is 67 per cent, while of the larger firms 34 per cent contracts training activities from outside the firm. Further, it appears that one-third of the training activities is provided by industry-level institutes. Small firms make twice as much use of these institutes (46 per cent) than the large firms (23 per cent). The findings of this recent survey are confirmed by other Dutch research [14,15,16].

**Table III.** *Industrial Training in The Netherlands: Differences in Participation Rates and Costs between Industries (1986)*

	Participation rates (% of employees)	Costs (% of wage costs)
Agriculture and fishing	4	0.2
Manufacturing (including mining and quarrying)	31	1.6
Public utilities	31	1.8
Construction and civil engineering	8	0.3
Trade, retail, repair, hotels, restaurants	12	0.8
Transport and communication	32	2.7
Banking, insurance and business services	45	2.3
Other services (social, recreational and cultural services)	17	NA
Total	25	1.5

Source: [3].

Some interesting phenomena emerge from this research; phenomena which ask for a further explanation. What especially attracts attention are the large differences between the industrial sectors. However, little is known about the factors which cause these differences in participation rates between sectors. A framework of analysis will be presented next, in which the factors that can explain these differences will be discussed.

### A Framework of Analysis

Earlier research stemming from different disciplines suggests that many factors are involved in explaining the intensity of training activities and the differences in intensity between industrial sectors. In our view a multidisciplinary framework of analysis is necessary. That is why we have tried to marshal these factors by distinguishing four groups of explanatory factors, partly influencing each other, partly independent of each other. These are:

- (1) the industry structure;
- (2) the business environment;
- (3) the structure of industrial training programmes (with respect to organisation and finance), and
- (4) industrial relations in the sector.

In Table IV the industrial training participation rate — as the variable to be explained — is linked to the four groups of explaining variables.

#### Industry Structure

First, there are the factors related to the structure of the industrial sector. The main factors are the number and size of the firms, and the homogeneity of the production process.

#### Business Environment

There are at least four explanatory factors which can be headed under the business environment. Government policies play an important role in this group. With regard to public policy, it seems that the nature and the range of educational (which must be seen as broader than initial education) and training facilities offered by the government are of great importance. The more these public provisions meet the needs of the industry, and especially of all the employing organisations, the less need there is for private facilities.

Technological developments, often having an impact on more than one industrial sector, can have consequences for the amount and qualifications of labour needed. Demographical and market development can also cause discrepancies between the firm's demand for labour qualifications, on one side, and the supply of labour qualifications of the firm's employees on the other. These discrepancies can be reduced by improving the qualifications of the internal labour supply, or by appealing

**Table IV.** *A Framework for Explaining Differences in Industrial Training Participation Rates between Industries*

Variable to be explained	Explanatory factors
Differences in industrial training participation rates by industry	1. <i>Industry structure:</i> Number and size of firms Homogeneity production process
	2. <i>Business environment:</i> Technological development Labour market development Market growth Government policies
	3. <i>Structure of industrial training programmes:</i> Organisational structure Financial structure
	4. <i>Industrial relations:</i> Support by social partners

to the external labour market, or by substitution of labour by capital (depending on the relative prices), or by contracting out activities to other firms or industries and decreasing the number of one's own employees. Moreover, the decision to provide for the aforementioned discrepancies "internally" and/or "externally" does not make the explanation of the extent of industrial training much easier. More generally the question that arises is a "make, co-operate or buy" decision.

#### Organisation and Finance

A third group of explanatory variables are the factors related to the organisational and financial structure of industrial training. With respect to organisational structure, an interesting question is, for instance, the choice between internal or external provision of industrial training. And, related to this is the question whether or not to co-operate with other firms in the same industry. With respect to the financing of industrial training, the question arises as to how funds should be raised and whether the costs should be divided among the parties involved: employers, employees, industry-level institutes and other parties (e.g. the government). In this connection the possibility of the so-called prisoners' dilemma is interesting. If each individual enterprise withholds from training activities and tries to take advantage of the investment in training by other enterprises in the industry, a stalemate can arise, which, if seen from an industry level, can be suboptimal.

#### Industrial Relations

Lastly, industrial relations can have a large impact on realising training activities. Support by the social partners (labour unions and employers) seems to be essential to ensure that training activities at industrial level become a success.

## Preliminary Results

Until recently little research had been undertaken to investigate the factors behind the differences in training intensity with respect to industries. As we have seen, some factors can be mentioned which might contribute to an explanation of this phenomenon — one thinks of capital intensity, R&D expenditures, number and average size of firms in the industry, average level of education of the employees, the existence of collective labour agreements, and industry level institutes. These factors all can be placed in the framework presented here.

For The Netherlands, Boot and Jansen[17] recently investigated whether some of these factors can indeed explain the existence of substantial differences in participation rates between industries. It appears that differing average educational levels and differing levels of automation (partly a proxy for technological development) and the degree of concentration in an industry can explain about half of the variety in participation rates. In our opinion, part of this variety could be explained if differences with respect to the organisational and financial structures of training were included. This can be done on the basis of a recent survey held in The Netherlands on institutes at industry level. These institutes engage in industrial training. When we compare the results of this survey with those of the earlier mentioned CBS survey it appears that industries which have well-functioning and jointly financed industry-level institutes specialising in industrial training have high participation rates in industrial training (e.g. insurance, printing industry) as well. Whereas industries with little co-operation in training (excluding apprenticeships) and financing of these activities, such as textiles, construction and trade, account for low participation rates in industrial training.

## Summary and Conclusion

This article focuses on the substantial differences in industrial training participation rates at industry level. Although the research effort aimed at explaining these differences is growing, a comprehensive multidisciplinary framework for analysis is missing. In this article such a framework is proposed and discussed. The preliminary results of the application of the framework stress, beside other factors, the importance of the organisational and financial structure of industrial training activities. Further research into this field can result — within a comparative setting — in more insight into different approaches to training and the underlying tendencies affecting the training function.

## Notes and References

1. See e.g. "Education in Modern Society"; Ministers discussion, OECD, 1985, and *Education and the Economy in a Changing Society*, OECD, Paris, 1989.
2. *Vocational Training Systems in the Member States of the European Community. Comparative Study — CEDEFOP Guide*, Luxembourg, 1982.
3. *Eurostat, Labour Costs 1984, Vol. 1: Principal Results*, Luxembourg, 1986.
4. See for Great Britain, the four reports, part of *Training in Britain* (HMSO, London, 1989). Although the expenditure on training (£14.4 billion) is much higher than in The Netherlands, this is partly due to the inclusion of vocational training for youths, public sector training and a broader definition of on-the-job training. The number of days of training per employee is exactly the same (7 days per year). There also exists a remarkable resemblance in the ranking of industrial sectors in the pattern of training levels (see for instance the report *Employers' Activities*, p. 19) and the internal and external causes and constraints behind training (see for instance the report *Employers' Perspectives on Human Resources*, pp. 32, 52).
5. Attention has also been paid to educational activities in enterprises in this journal. An overview of training activities has been given both by Frank, E. (Ed.) "HRD around the World", *Journal of European Industrial Training*, Vol. 12 No. 5, 1988, pp. 3-61; and by Franklin, J. and Blacklock, A. "A Special Report: Vocational Youth Education and Training in Europe", *Journal of European Industrial Training*, Vol. 11 No. 3, 1987, pp. 26-32. Frank focused mainly on governmental labour policies, especially for the youth, while Franklin and Blacklock have covered the apprenticeship systems in four European countries.
6. Dubrin, A.J., *Personnel and Human Resource Management*, Van Nostrand, New York, 1981.
7. Ivancevich, J.M. and Glueck, W.F., *Foundations of Personnel/Human Resource Management*; Business Publications, Plano, Texas, 1983.
8. Nadler, L. (Ed.), *The Handbook of Human Resource Development*, Wiley, New York, 1984.
9. Tichy, N.M., Fombrun, C.J. and Devanna, M.A., *Strategic Human Resource Management*, Wiley, New York, 1984.
10. Rothwell, W.J. and Kazanas, H.C., *Strategic Human Resource Development*, Prentice-Hall, Englewood Cliffs, NJ, 1989.
11. Porter, M.E., *The Competitive Advantage of Nations*, Free Press, New York, 1990.
12. Central Bureau of Statistics, *Company Training*, Vol. 4 No. 1, Netherlands Official Statistics, Voorburg, 1989, p. 41-5.
13. Central Bureau of Statistics, 1988.
14. *Deelname aan bedrijfsopleidingen in Nederland*, CBS Supplement Sociaal Economische Maandstatistiek 84/4.
15. *Bedrijfsopleidingen in de lift*, Ministerie van Sociale Zaken en Werkgelegenheid, 1986.
16. *Bedrijfsopleidingen in Nederland*, Mulder e.a., 1988.
17. Boot, P.A. and Jansen, J.E.M.B., *Further Education and Training of the Labour Force, National Report: The Netherlands*, Ministry of Education, 1989, p. 44.