

Konjunkturpolitik

Zeitschrift für angewandte Wirtschaftsforschung

Applied Economics Quarterly

48. Jahrgang 2002 Heft 3-4

Apprenticeship Training: A Model for the Future?

Edited by

Rainer Winkelmann



Duncker & Humblot · Berlin

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Verlag Duncker & Humblot GmbH, Carl-Heinrich-Becker-Weg 9, 12165 Berlin
Ruf: 0 30 / 79 00 06 - 0, Telefax: 0 30 / 79 00 06 31

Datenübernahme und Druck: Berliner Buchdruckerei Union GmbH, Berlin

ISSN 0023-3498

Konjunkturpolitik

Zeitschrift für angewandte Wirtschaftsforschung

Applied Economics Quarterly

48. Jahrgang 2002



Duncker & Humblot · Berlin

Konjunkturpolitik

Zeitschrift für angewandte Wirtschaftsforschung
Applied Economics Quarterly

Begründet von / Founded by Albert Wissler

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All correspondence regarding the content of the journal should be directed to Deborah Anne Bowen, Koenigin-Luise-Straße 5, D-14191 Berlin, telephone: + 49-30-89789-227, fax: + 49-30-89789-305

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Ruf: 0 30 / 79 00 06 - 0, Telefax: 0 30 / 79 00 06 31

Datenübernahme und Druck: Berliner Buchdruckerei Union GmbH, Berlin

ISSN 0023-3498

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Dank an die Gutachter

Die „Konjunkturpolitik“ dankt den Fachkollegen, die ihr durch Begutachtung der eingereichten Manuskripte geholfen haben. Durch diese Arbeit wird nicht nur das Qualitätsniveau der Zeitschrift gehoben, sondern es wird auch den Autoren durch kritische Kommentare und Anregungen geholfen, ihre Beiträge zu verbessern. Von den 2001 und 2002 eingereichten Manuskripten sind inzwischen 53 % veröffentlicht, 41 % wurden abgelehnt oder von den Autoren zurückgezogen, die übrigen sind noch in der Begutachtungs- oder Bearbeitungsphase.

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Thanks go to the following referees in 2002 – not to mention the input provided by the editors:

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Konjunkturpolitik

Zeitschrift für angewandte Wirtschaftsforschung
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Konjunkturpolitik

Zeitschrift für angewandte Wirtschaftsforschung

Begründet von Albert Wissler, gefördert von der Vereinigung der Freunde
des Deutschen Instituts für Wirtschaftsforschung Berlin

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Die „Konjunkturpolitik“ trägt den Untertitel „Zeitschrift für angewandte Wirtschaftsforschung“. Ihr Ziel ist die Veröffentlichung von Aufsätzen, die für die Ausgestaltung der Wirtschaftspolitik sowie der angrenzenden Politikbereiche direkt relevant sein können. Sie sollen zu einer theoretisch und empirisch fundierten Wirtschaftspolitik auf der Grundlage des aktuellen wissenschaftlichen Erkenntnisstandes beitragen. Der Arbeitsbereich der „Konjunkturpolitik“ beschränkt sich somit keineswegs auf konjunkturelle Fragen.

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Applied Economics Quarterly

Founded by Albert Wissler, sponsored by the Association of Friends
of the DIW (Deutsches Institut für Wirtschaftsforschung) Berlin

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Bibliografische Information Der Deutschen Bibliothek
Die Deutsche Bibliothek verzeichnet diese Publikation in
der Deutschen Nationalbibliografie: detaillierte bibliografische
Daten sind im Internet über <<http://dnb.ddb.de>> abrufbar.

ISBN 3-428-11182-6 · ISSN 0023-3498

Editorial

How to provide training for youth is one of the fundamental questions that a society faces and must be answered by each generation anew. An ever-changing economic environment shaped by technological change and the international division of labor poses a constant challenge to both the content of training and the means by which it is provided. Similarly, societal preferences are subject to change, for example, with regard to who should obtain higher education and who should pay for it. How well, then, are the existing institutions of education and training equipped for dealing with and adjusting to the changing requirements, or even for anticipating new ones?

The collection of papers in this symposium takes up the case of the apprenticeship. A venerable institution in some Western European countries, apprenticeship remains the most important pillar of training for non-college-bound youth to this day in countries such as Germany, Switzerland, and Austria, and to a lesser degree France and Britain as well. Even in other countries where no significant apprenticeship programs exist, their implementation is sometimes discussed. Thus, it would be most desirable to find out whether, and to what extent, such training is actually beneficial to the two main parties involved: the trainees and the firms. What prospects do graduating apprentices face on the labor market? What is the relationship between apprenticeship training and early career mobility? What are the costs and benefits to firms offering apprenticeship training? What is the socially optimal amount of training? These are some of the pressing questions considered by the papers in this collection.

The idea for such a symposium grew out of a workshop held at the Institute for the Study of Labor (IZA), Bonn, on November 9–10, 2001, organized by Rob Euwals and me, under the title “Apprenticeship Training: A Model for the Future?”. In preparing this workshop, we were surprised by the amount and diversity of economic research currently being undertaken on this topic. With the benefit of hindsight, the flurry of activity in this area is easy to explain: part of it was sparked by the release of new and improved datasets allowing many new and interesting ques-

tions to be addressed that could not have been studied with previously available data. At the same time, it also became clear that it would be very useful to collect and publish a selection of these current papers in a single volume, thus decreasing everyone's cost of accessing this research and providing a valuable resource to anyone interested in apprenticeship training, whether for academic purposes or as practitioner. This is what this symposium has striven to achieve.

It includes seven papers, all highlighting different aspects of the apprenticeship system. One paper is theoretical; the other six share in common an empirical approach and the use of large micro-datasets. Several papers are based on recent data for Germany provided by the German Institute for Employment Research (IAB). The paper by Euwals and Winkelmann uses the IAB employee sample, a one-percent sample of all employment histories between 1975 and 1995 drawn from social security records. Beckmann uses data from the 2000 wave of the IAB establishment panel, an annual firm-level survey. Fougère and Schwerdt use a matched employer-employee sample, based on the 1993 wave of the IAB establishment survey, where establishment-specific workforce characteristics are merged from the aforementioned social security records, plus a comparable matched employer-employee data set for France. The remaining empirical papers use a variety of data sources: a survey of the education and work histories of the West German birth cohorts of 1964 and 1971 collected by the 1998 German Life History Study (Büchel and Pollmann-Schult); the 1986 qualification and labor market career survey of 26,362 West German labor force participants (Werwatz); and for Switzerland, a 2001 firm survey conducted by the Swiss Federal Statistical Office and the Centre for Research in Economics of Education at the University of Berne (Wolter and Schweri).

When firms train workers for a specific occupation, as is the case in the apprenticeship system, one immediate concern must be that training introduces rigidities into the labor market since it is firm- and/or occupation-specific and not sufficiently transferable. The opening paper by Fahr and Clark shows, from a theoretical perspective, that this need not be the case. They derive conditions for socially optimal transferability and support their arguments with the contrasting experiences between the British and the German apprenticeship systems.

Euwals and Winkelmann present new empirical evidence on the initial labor market outcomes of apprentices after graduation, studying the determinants of the retention decision by the training firm and the dura-

tion of the first job. They confirm findings by previous research that post-apprenticeship mobility is indeed quite high in Germany. In a similar vein, the paper by Werwatz suggests that skills taught during apprenticeship training must in fact be quite general since the earnings penalty associated with leaving one's training occupation is either non-existent or negligible. Büchel and Poltmann-Schult investigate a further aspect of post-apprenticeship skills-job matching. They find that a considerable fraction of all graduated apprentices work in jobs for which they are overqualified, and that upward mobility is limited, in particular for those trained in occupations with high unemployment rates.

Available estimates of the individual returns to apprenticeship training suggest that the wage differentials of skilled workers relative to unskilled workers are substantial, indeed offering a sufficient incentive for young workers to acquire such training. The question of what is in it for the firms is a more contentious point. The basic problem is that skills are embodied in the worker, who may leave at will. The first question is, then, to what extent firms actually make net investments in training. One important component is the productive value of apprentices. Fourgère and Schwerdt estimate a Translog production function and indeed find that apprentices make a positive contribution to output. Wolter and Schveri directly estimate net cost from survey information. If firms face net cost – and the papers here confirm this proposition – the next question becomes how firms can hope to recoup the cost of their investment. The critical importance of wage compression is highlighted, and empirically confirmed, in the paper by Beckmann.

Zürich, May 2003

Rainer Winkelmann

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Transferability, Mobility and Youth Training in Germany and Britain: A Simple Theoretical Analysis*

By Damon Clark and René Fahr**

Abstract

It has long been known that German apprentices are mobile across firms and occupations. Some commentators view this phenomenon in a negative light: if training is specific to the firm and occupation, then returns are lost when trainees move. Paradoxically, others have lauded German Apprenticeship Training for providing training that is transferable across firms and occupations, particularly in comparison to youth training available in Britain. We reconcile these positions in a simple illustrative model that shows that in a deregulated training market (as could be said to exist in Britain), training may be insufficiently transferable, and too few workers may be trained. In contrast, training that is both regulated and subsidized (as in the German case) can result in optimal training outcomes. A simple corollary is that mobility of trainees is higher in the socially optimal case. Other predictions of the model are that training regulations alone will reduce the number of workers trained, whilst training subsidies alone will not affect the quality of training provided.

JEL classification: I 22, I 28, J 24, N 30

Keywords: Apprenticeship Training, Training Regulations, Human Capital, Occupational Mobility, Cross-Country Comparison

1. Introduction

Apprentices often take jobs in occupations different from those they are trained for. For example, the leading employer of bakers in Munich is the Ford Motor

* CEE, LSE, IZA, Bonn. We thank Till von Wachter and Jochen Kluge for useful comments on this version of the paper. This paper has greatly benefited from discussions with Steve Nickell, Hilary Steedman, Margaret Stevens and the Editor of this journal on earlier versions of this paper. We thank seminar participants at LSE, IZA, and the University of Bonn for helpful comments. Financial support from ESRC and DFG is gratefully acknowledged.

** IZA, Bonn and University of Bonn. IZA, P.O. Box 7240, D-53072 Bonn, Germany. Tel: +49 (0)228 3894 533. E-mail: fahr@iza.org

Company. Recent evidence suggests that after five years, more than half of all apprentices are working in different companies from the ones that trained them.

Heckman, Roselius, and Smith (1994, p. 99)

In every other European country except Britain, employers' legitimate concern to minimise costs and maximise specific training is counter-balanced by other bodies which are accorded a compensatory role in the governance of apprenticeship by the legislative framework. In the dual-system countries, trade union representatives perform the essential role . . . In the British 'partnership', both trade unions and government have failed to provide sufficient compensatory counter-balance to the voice of employers in the design and day-to-day running of apprenticeship programmes. The result is that apprenticeship in Britain, judged as a programme, falls short of that provided elsewhere in Europe on every important measure of good practise.

Steedman (2001, p. 36–37)

Although German workers are not traditionally thought of as being mobile, recent research has established that German workers in general, and German apprentices in particular, are highly mobile across firms and occupations. This fact underpins the first quotation, which articulates the concern that firm and occupational turnover of German apprentices is in some sense 'too high', the implicit assumption being that training is specific to the firms and occupations trained in. By contrast, the second quote suggests that whilst this may be a problem for training in Britain, it is not, in fact, a problem in Germany. In this paper we argue that these seemingly contradictory positions can be reconciled. In particular, we show in the context of a simple illustrative model that in a deregulated training market (as could be said to exist in Britain), training may be insufficiently transferable, and too few workers may be trained. In contrast, training that is both regulated and subsidized (as in the German case) can result in optimal training outcomes. A simple corollary is that mobility of trainees is higher in the socially optimal case. Other predictions of the model are that training regulations alone will reduce the number of workers trained, whilst training subsidies alone will not affect the quality of training provided.

The model is shown to be consistent with various training episodes in Germany and Britain. For example, it is often argued that prior to the regulation of German Apprenticeship Training (GAT) in the 1960s, training in Germany suffered from the same deficiencies as currently besets British training. Furthermore, popular characterizations of training in Britain in the 1970s and 1980s are at least consistent with the predictions of our model. In the 1970s, when training in Britain (as carried out

through the Industrial Training Boards) was heavily regulated but free of subsidy, the number of trainees declined sharply. In the 1980s, when training in Britain (organized via the Youth Training schemes), was heavily subsidized but free from regulation, training was plentiful, but thought to be of low quality.

The rest of the paper is organized as follows. In the next section, we describe in more detail the evolution of Youth Training in Germany and Britain and in the third section we develop a simple illustrative model of youth training in which issues of mobility and transferability can be analysed. The final section relates the model to our discussion of the two systems.

2. Youth Training in Germany and Britain

In this section, we outline the key features of youth training in Germany and Britain. We discuss the system of GAT as it exists today, before tracing the historical roots of the system, focussing on the pivotal role played by the 1969 Vocational Training Act. Our discussion of the British training system is similarly structured.

2.1 German Apprenticeship Training

Currently, German school-leavers can obtain an apprenticeship in any one of 375 training occupations. Almost by definition of their number, these are defined very narrowly. For example, within the general class of electrical occupations, school-leavers can apprentice in 15 different sub-occupations.¹ Associated with each training occupation is a required training length and a detailed training curriculum. In the case of training as a metalworking apprentice for example, Berg (1994) reports that GAT legislation calls for a year of basic occupational training for all metals trades, a year of training in a general occupational group, and 1.5 years of training in a specialised area.

A crucial part of the dual system is the requirement that training firms release their apprentices for one day a week to attend a local vocational

¹ These include occupations such as 'electronic specialist, telecommunications', 'electronic specialist, communications (telecommunication systems)', 'electronic specialist, communications (information systems)' and 'electronic specialist, communications (radio engineering)'. See Federal Ministry of Education and Science (1992) for more details.