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Vocational Training in East Germany:
Institutional Arrangements, Participants,
and Results of Empirical Evaluations**

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Abstract

After unification of the East and West German economies in July 1990 the public sector devoted substantial resources to train the labour force of the former centrally planned East German economy. In this paper we describe the basic trends of the rules and regulations governing these efforts. We supplement this description with empirical stylized facts. Additionally, we report evaluations of the effects of this policy for training participants beginning their training between mid 1990 and early 1993. These evaluations are based on micro data from the Socio-economic Panel (1990-1994) which allows us to follow the individuals' labour market status before and after training on a monthly and yearly basis, respectively. Our general findings of these evaluations suggest that there are no positive effects on such measures as post-training unemployment risk or earnings.

1 Introduction

After unification of the East and West German economies in July 1990 - Economic, Monetary and Social Union - the public sector conducted an active labour market policy to ease the transition from a formerly centrally planned East German economy to a West German type of system. The basic intention was to adjust the skills of the labour force of former East Germany to the demands of the future structure of the economy as well as to western technologies. Additionally, substantial resources have been devoted to smoothing the impact of the rapidly contracting economy on the labour markets, that is to avoid even higher unemployment rates than those which actually occurred.

In this paper we concentrate on the training part of the active labour market policy only. The paper contributes to the ongoing discussion about the effectiveness of training in two ways: One part gives an (almost) complete and hopefully accessible account of the institutional rules and regulations from 1990 to 1994. This is supplemented by descriptive statistics to show major trends and empirical facts. Since the situation in East Germany is fairly different from almost all other countries, knowing these facts - that changed rapidly over time - is very important before any credible evaluations of these labour market policies can be performed. Such evaluations are reported in the second part of the paper. They are based on individual data that allow to observe the individual labour market histories before and after training on a monthly and yearly basis, respectively. The targets for the evaluations are the effects for the participants of subsidized training courses. They are measured in terms of labour market outcomes after the completion of the training, such as earnings, employment status, and career prospects. Our general conclusion of this exercise will be that at least for training beginning between mid 1990 and early 1993 no positive effects can be found. However, there is some evidence that trainees expect positive returns over a longer time horizon that is beyond the sampling period available for this analysis. If these expectations materialize, then future evaluations will find a positive effect of training.

The paper is organized as follows: The next section outlines basic features of the East German labour markets after unification. Furthermore, it describes briefly the organisational structure of the labour offices (*Bundesanstalt für Arbeit*) in East Germany. Section 3 describes empirical facts and institutional rules and regulations for the training part of the active labour market policy in East Germany. The econometric evaluations are reported in Section 4. Section 5 concludes.

2 The institutional framework

2.1 *The East German labour market and labour market policy*

The centrally planned economy of the GDR was not prepared for the unification in 1990. The institutional settings of the West German market economy, the relative prices, and the

international competition came as a shock. The GDP per capita, already far below that of West Germany, dropped sharply after the Economic, Monetary, and Social Union in July 1990.¹ In 1991 it was about a quarter of the West German one. From 1991 to 1994 the GDP rose with an annual rate of 6-8% and GDP per capita reached approximately 50% of the West German level in 1994. At the same time labour productivity increased from 31% to 51% of the West German level. However, this was offset by the development of wages rising from 48% of the West German level in 1991 to 73% in 1994. This led to economic disequilibria, especially on the labour market. We will provide some information on the resulting movements in the labour market as well as on adapted active labour market policies (ALMPs).² The East German active labour force dropped from 9.7 million in 1989 to 5.6 million in 1992 and rose again slightly to 5.8 million until 1994.³ The remaining people either went into the part of the labour market which depended on the active labour market policy (ALMP), were unemployed, or left the labour force.⁴ After unification the majority of people not working were absorbed by ALMP. In 1993 and 1994 the shares of people who went into ALMP, unemployment, or out of the labour force were roughly equal.⁵

Figure 2.1 illustrates the importance of labour market policies in East Germany. In 1992 more than 30% of all people working in 1989 were subsidized in one way or another by the labour offices (LOs). Although this share declines, still more than 20% are subsidized in 1994. Compared to currently working people the respective shares are close to 40% in 1992 and 30% in 1994.

Another way of seeing the importance of the ALMP in East Germany is to look at total expenditures of the *Bundesanstalt für Arbeit* (BA).⁶ In 1994 the overall household of the BA was about DM 100 bn. A quarter of this amount was spent on ALMP in East Germany, DM 7 bn for training alone. The corresponding numbers for West Germany, with a labour force nearly five times as large, are DM 10 bn for ALMP and DM 6 bn for training. In 1992, the year with the most training, the BA spent nearly DM 11 bn of its DM 89 bn budget on training in

¹ The GDP figures given in this section are contained in Statistisches Bundesamt (1992, 1995), the data on productivity and wages in Bundesministerium für Wirtschaft (1995).

² The most important types are training, short time work (STW), "*Arbeitsbeschaffungsmaßnahmen*" (ABM), and early retirement. STW benefits are paid by the labour office (LO) to somebody still employed but who has to reduce working hours temporarily because of a company-specific shortage of labour demand. The LO replaces the loss of earnings at the same rate as in the case of unemployment. A in East Germany frequently used exception allows a not temporary reduction to '0%-working time' under certain circumstances. In the case of ABM the LO offers a wage subsidy to the employer. There are several regulations in the AFG allowing such a subsidy, for example §§91-99 or §249h. Early retirement are "*Altersübergangsgeld*" and "*Vorruhestand*". All § mentioned in this work are § of the AFG if not otherwise stated.

³ These are people working without any involvement of the LO. These figures might differ from data given in other publications because often people working in a subsidized employment are included.

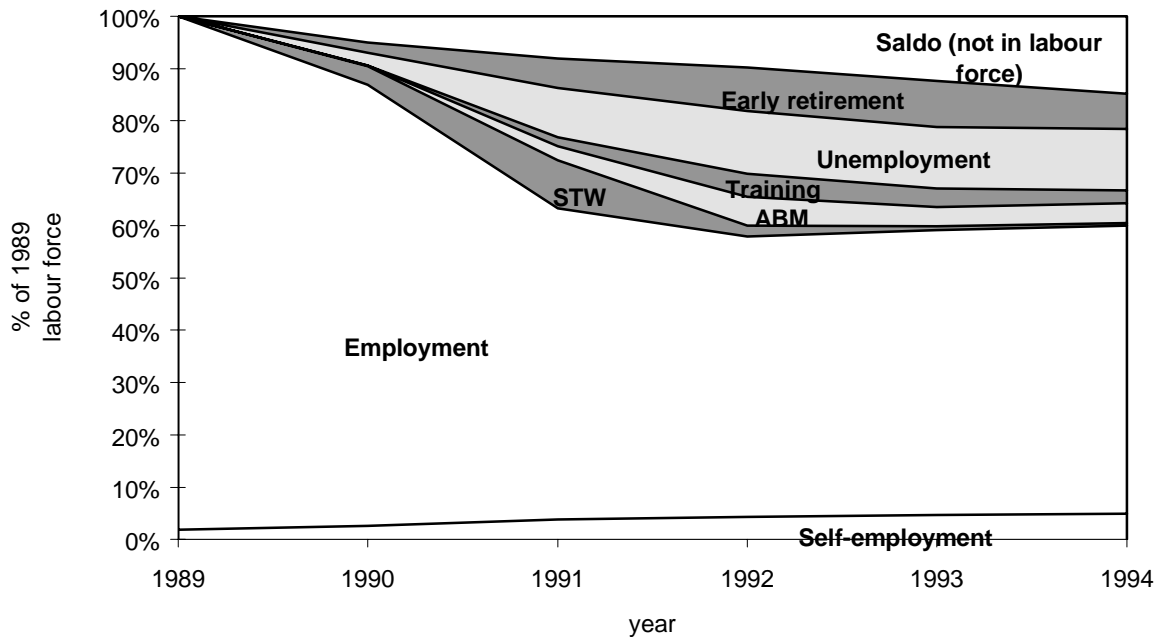
⁴ These are macro data. Nothing is said about the individual patterns here. Seen on an individual base, 'leaving the labour force' covers regular retirement, child-bearing, net migration, and entering or leaving the labour force for other reasons. All numbers reported are 'net leavers of the East German labour force'.

⁵ The corresponding data are 1.9 million in ALMP, 0.9 million unemployed, and 0.8 million leavers of the labour force in 1991. In 1994 these are 1.3 million, 1.1 million, and 1.4 million, respectively.

⁶ For the following see BA (1995b: 315 ff.) Übersicht 207.

East Germany and another DM 7 bn in West Germany. Setting this in relation to the GDP emphasizes the importance of ALMP and especially training. In 1992 the BA spent close to 5% of the East German GDP on training in East Germany. For all of Germany the number is just above 0.5% of GDP. In 1994 the expenditures on ALMP in East Germany were 7.5% of the East German GDP or 0.75% of the total German GDP.

Figure 2.1: Development of the East German labour market after unification (in % of 1989 labour force)



Source: IAB 1995 Übersicht 7.2 C p. 248 ff., Übersicht 2.4.1 p. 42 f, own calculations.

Note: 100% is equal to 9.7 million people in the active labour force in 1989. 'Employment' is corrected for ABM and STW to avoid double counting. 'Saldo' is net leavers of the labour force. All labour market policies and unemployment are assumed to be zero in 1989. All numbers are average participation throughout the year and full time equivalents if the LOs subsidize only a part of the (working) time, e.g. STW. Other ALMPs are excluded because of low participation. See footnote 2 for further information.

The huge number of participants, the enormous influence on the labour market, and the high expenditures demonstrate the importance of ALMP in East Germany after unification in general and of training in particular.

2.2 "Arbeitsförderungsgesetz" (AFG) and "Bundesanstalt für Arbeit" (BA)

The basic foundation for governmental labour market activities in Germany is the *Arbeitsförderungsgesetz* (AFG) from 1969. It is a federal law and there is no difference between the *Bundesländer*.⁷ The AFG has been changed frequently since 1969. In this paper we will discuss

⁷ There are of course different regulations and a lot of exceptions for the East German *Länder* but these are not legislated by the *Länder*. They are subject to federal legislation.

only the training part of the AFG.⁸ The GDR developed an AFG as soon as spring 1990 and put it in effect with the Economic, Monetary, and Social Union on 1 July 1990.⁹ Its structure was identical to the West German AFG and the regulations were in most cases similar. The only difference, if at all, was the easier access to programmes in East Germany. After unification in October 1990 the West German AFG was expanded to cover East Germany as well. Nevertheless, some of the differences in the AFG-GDR were upheld. By December 1991 most of the remaining AFG-GDR regulations were obsolete and the exceptions were either cancelled or included into the AFG.

Below the level of the AFG there are more detailed regulations, which are not passed by parliament but by the Ministry of Labour and Social Affairs or by the top level (*Verwaltungsrat*) of the BA. Most important for training is the "*Anordnung Fortbildung und Umschulung*" (AO-FuU) of the BA. This was changed corresponding to changes in the AFG and completely rewritten in 1993. There was a similar AO-FuU in the GDR, valid for East Germany until 1 May 1991.

The implementation of the AFG is administrated by an independent federal agency located in Nürnberg, the "*Bundesanstalt für Arbeit*" (BA). It is hierarchically structured into "*Landesarbeitsämter*" (labour head offices in the German *Länder*), "*Arbeitsämter*" (labour offices) and "*Außenstellen*" (local offices). In East Germany there are four *Landesarbeitsämter*, which took the responsibility from the central labour agency of the GDR between spring and autumn 1991. They are regionally separated along the lines of the *Bundesländer* but in general responsible for more than one Bundesland. Two of them are 'exclusively' East German (Sachsen, Sachsen-Anhalt - Thüringen), in two cases they combine East and West German Länder (Berlin - Brandenburg, North).

For individuals searching for help the most important person is the "*Arbeitsberater*" who is responsible for counselling and approving individual measures. Hierarchically below the *Arbeitsberater* are several "*Arbeitsvermittler*". In principle, they have similar tasks, such as basic counselling and preparing for decisions, but are not finally responsible.

3 AFG-subsidized training in East Germany

The aim of this section is to provide the information necessary to further understand the participation process in empirical evaluations of AFG-subsidized training. We will describe the training possibilities offered by the AFG and the incentive system to participate in training.¹⁰ We will also present some participation statistics. We focus on training of individuals subsidized by the AFG: short term training to improve job search skills (also called '§41a'),

⁸ Other parts are not covered, although they are to some extent important for training as well. For example the determination of former earnings which in turn determines the amount paid during training is regulated with unemployment benefits. We focus on the training participation decision which allows the limitation.

⁹ To separate the two AFGs we will call this AFG-GDR while we use AFG for that of West Germany. Also we will use GDR for the time before unification, East Germany for the same territory after unification.

¹⁰ In the main body of the text we will limit the discussion to the basic features. For more details see the Appendix. We used BA (1989, 1990, 1991b, 1992b, 1993b, 1994b, and 1995c) as sources for judicial texts.

continuous training in an occupation the participant is already trained in ('continuous training'), and training for a new occupation ('retraining').¹¹

Several studies discuss ALMPs and training in particular. For example the BA (1991a, 1992a, 1993a, 1994a, and 1995a) provides extensive statistics on training participation as well as a short discussion of regulatory changes. Buttler (1994a) supplies information on the financial aspects of ALMP, while Buttler (1994b) concentrates more on the political point of view. Buttler and Emmerich (1994) discuss the optimal amount and mix of ALMP instruments. Here, we combine the information in these papers with regulations in the AFG and other judicial sources, different kinds of participation statistics, information on political and financial restraints, and results of interviews in East German labour offices.¹²

3.1 Training in general

3.1.1 Participation in AFG-subsidized training

Training is important to avoid or to overcome mismatch in the labour market. Thereby it should increase the productivity and improve the economy's growth potential. When transforming East Germany into a market economy training was thought to be especially important (BA, 1991a: 18). An individual might also gain from training, but has to bear costs as well. These costs are the hardship of study, direct monetary costs like course fees, and indirect costs like loss of income and/or leisure.

The German government considers training useful and tries to enhance it in co-operation with the BA. After unification they especially strengthened the incentives for training in East Germany. Apart from increasing human capital this was used to directly lower unemployment rates and to avoid social hardship (for example BA, 1992a: 19; Buttler / Emmerich, 1994: 64).

The labour offices (LOs) attract individuals to participate in training by paying an *Unterhaltsgeld* (UHG), money for one's livelihood, to replace the loss of earnings. This was slightly higher than unemployment benefits until December 1993. The LO can bear the direct costs as well. Furthermore, the LO enhances training participation by changing the duration of benefits. UHG payments are not part of the limited time during which unemployment benefits are paid. In some circumstances the duration of unemployment benefits even increases when participating in training. If someone refuses to take part in training proposed by the LO, the LO can suspend the payment unemployment benefits.

¹¹ A more detailed discussion of the training types will follow below. Some statistics include the *Einarbeitungszuschuß*, a wage subsidy paid if a new employee needs an unusually long time of introduction to a new workplace. We will not discuss it in further detail because this kind of on-the-job-training goes along with an existing labour contract and is intended for a special workplace. It is quite different from the off-the-job-training we focus on here. Furthermore, we do not discuss the German apprenticeship system.

¹² We conducted these interviews in March 1996. They were partly questionnaire-led, partly free conversation interviews held in Berlin and Brandenburg. The aim was to get some idea on the handling of regulations in daily work and to get additional information on the participation process in AFG-subsidized training. However, because only three interviews on daily work with *Arbeitsberatern* and one on the general developments in the *Landesarbeitsamt* were held and because of the regional limitation these are not representative results. We plan to continue this in other regions, so that more information will be available in the future.

The above described incentives for participating in training are limited to certain groups of people. These groups are defined along three lines. First, the training must be 'necessary'. This means it has to be necessary to bring an unemployed person back to work, to offer a qualification to someone without a completed vocational qualification, or to avoid unemployment of someone directly threatened by it. An exception is made in East Germany in that a general threat of unemployment was sufficient. Our interviews indicated different interpretations of this rule. The answers reached from 'the date of firing has to be known' to 'in East Germany everybody was threatened'. To get UHG as a subsidy, training has to be 'necessary'. If training is not 'necessary' it could still be 'useful' to reach the general goals of labour market policy like 'offer appropriate employment to everybody' and 'avoid labour shortages'. In this case UHG is paid as a loan. Since January 1994 this is not possible any more.

Second, only people who have already contributed to the unemployment insurance (UI) for at least two years are eligible for assistance.¹³ Someone receiving unemployment benefits based on less than two years of contributions gets the so-called 'small UHG' (see below). In East Germany actual contributions are not required. It was enough to have worked in a job before unification that would have made UI mandatory in the West German system. If non of these conditions are met but if the training is 'necessary' and the participant signs a contract requiring him to work for three years after training, the LO covers the direct costs of training.

Third benefits are restricted to individuals with a completed vocational qualification. This means that they are either required to have a publicly approved examination of the East or West German apprenticeship system and have worked for three years, or they need six years of work experience. After participating in training another three years of working are required before training can be subsidized again. For 'necessary' training these requirements are reduced considerably.¹⁴

A special case not covered by the regulations described above is training during short time work (STW). When STW is used to avoid mass layoffs because of structural change, the employer should provide training for workers in STW.¹⁵ Between 1990 and 1992 STW was a very important part of ALMP in East Germany, especially the '0%' STW, meaning that people are still employed but are not working at all. This kind of STW was regularly not due to a temporary shortage of labour demand, but was just disguised unemployment.

Although no statistics are available the interviews at East German LOs indicated that in most cases this training takes place and in a majority of cases independent training institutions provide it. From all we know this training during STW is regularly similar to other training subsidized by the LO. The AFG puts the burden of providing training on the employer.

¹³ In the normal case this must have been within the last three years but there are a lot of exceptions. Most importantly, unemployment benefits based on two or more years of contributions are sufficient.

¹⁴ For both waiting times the most important exceptions are that the time of work experience is shortened by three years for 'necessary' training and that unemployment is considered as working in most cases. Since January 1993 a one year waiting time is mandatory before entering training again even if 'necessary'.

¹⁵ See §63(5) AFG-GDR in effect until December 1991. From January 1992 on this was possible for all of Germany according to §63(4) AFG.

Nevertheless, the interviews showed that the LOs do take part in the decision process about the type of training provided. In this way the LOs could impose some restrictions on the provider and the type of training. There seem to be no further formal limitations on persons participating. The LO is involved in this type of training in another way as well. To attract short time workers to participate in training the LO increases STW benefits to the level of UHG during full time training, which was higher until December 1993. Furthermore, the LO can cover the direct costs of training.

Now we will turn to some statistics on training participation.¹⁶ There was already training sponsored by the AFG-GDR before unification, but on a very low level. After unification training steadily increased until its peak in 1991/1992. Thereafter numbers have fallen again considerably but they are still far above the level of 1990.

Let's consider these developments in more detail. Table 3.1 provides an overview of the data. The numbers in the upper part include only individuals receiving subsidies based on the training section of the AFG. For the last four months of 1990 the BA reports about 94,000 entries.¹⁷ New participation in training rose sharply up to nearly 760,000 in 1991. Monthly data indicates that this was not a sudden jump but rose from 38,000 people starting in January to 81,000 in June, stabilizing around this level for the rest of the year.¹⁸ The much lower average of 280,000 people in training partly reflects this time pattern.¹⁹ The second fact leading to the low average participation is a high share of courses with a short duration (see section 3.1.2 below). An opposite movement is found in 1992. 774,000 entries split into high and stable numbers in the first half of the year before they started falling in the second half.²⁰ High numbers of entries in late 1991 and early 1992 as well as an increasing average course duration in 1992 explain the much higher average of training participants of about 490,000.²¹ The contracting development in the second half of 1992 sharpened in 1993 with lower entry rates. Reasons were financial restrictions and institutional changes, especially cancelling §41a. The sharpest change was of course for entries. They dropped to 263,000, around one third of the figure of 1992. The average number of people in training fell less dramatically to 380,000. This, as well as the high number of more than 400,000 people finishing training, illustrates again the time lag. On average the tendency to a longer course duration continued as well, partly driven by deleting §41a. The situation stabilized finally in 1994. The 263,000 individuals entering training were as many as in 1993, but 312,000 people leaving was much closer to the number of entries. The

¹⁶ It has to be stressed that all data presented is on training subsidized according to the training section of the AFG. If not otherwise stated the *Einarbeitungszuschuß* is not included. Training during STW is only included if the training is subsidized in some way or another by the AFG training section. If not otherwise stated all numbers are entries into training. All data is taken from publications of the BA, most from BA 1991a, 1992a, 1993a, 1994a, and 1995a. See tables for precise sources.

¹⁷ Training subsidized according to the AFG-GDR before unification was continued after unification and paid for by the BA. But 80% of all training in 1990 started between September and December (BA, 1991a: 19).

¹⁸ See BA (1992a: 20) Table B.

¹⁹ Estimated and including the *Einarbeitungszuschuß*. Training numbers must be lower.

²⁰ See BA (1993a: 13).

²¹ Estimated and including the *Einarbeitungszuschuß*. Training numbers must be lower.

number of 259,000 individuals participating in training on average indicates a high average course duration.

Table 3.1: Participation in AFG-subsidized training (in thousands)

		1990	1991	1992	1993	1994
		Sep-Oct	year	year	year	year
Total training	Entries	94	760	774	263	268
	Leavers	n.a.	n.a.	473	407	312
	Average participation	n.a.	280 ^{a)}	491 ^{a)}	376	256
In STW ^{b)}	Average participation	n.a.	1,616	370	181	97
	Full time equivalents	341	898	194	85	46

Source: BA 1995a, Table 17O p. 50, Table 27 p. 72, Table B p. 16; BA 1991a, Table 35 p. 52; IAB 1995, Übersicht 165 p. 270; BA 1995b, Übersicht 7.2 p. 248.

Notes: ^{a)} Estimated and including *Einarbeitungszuschuß*.

^{b)} The numbers represent people in STW. It is not known how many of these participate in some kind of training.

In the lower part of Table 3.1 we report data on STW. These are not on training during STW but just participation in STW. The first row are average participants and the second row are their full time equivalents. These data give an idea about the training potential during STW.

3.1.2 Characteristics of courses

We now turn to some course characteristics. Table 3.2 presents the data. With the exception of 1990 there is a tendency towards longer courses until 1993. One reason for this tendency is that the share of courses with 1 to 3 months is driven by §41a-training. The sharp drop of short courses from 34% in 1992 to 15% in 1993 is due to cancelling §41a in 1993.²² It demonstrates that this cancellation made a difference in the training structure, although this type of courses could have been offered in a similar way as 'normal' continuous training. The rising share of courses longer than one year (until 1993) is due to the rising share of retraining. In 1994 that share as well as the share of long courses fell again.

Training courses not only have different duration but different intensities as well. The second part of Table 3.2 provides information on full time, part time, and at home training. At home training is nearly not existent in East Germany. Part time training with a maximum share of 15% in 1993 was not very important as well. In West Germany full time training accounted never for more than 80% from 1990 to 1993. The concentration on full time training in East Germany is due to the higher share of unemployed persons in training. At the same time unemployment is the reason for the high shares of 'necessary' training in East Germany. When 'useful' training was not subsidized any more in 1994, the share of 'necessary' and of full time training rose in East and West Germany, confirming the above relationship.

²² See section 3.2 for a detailed discussion of the types of training courses and participation statistics.

Table 3.2: Characteristics of training courses (in % of all entries, absolute numbers in thousands)

		1990	1991	1992	1993	1994
		Sep-Oct	year	year	year	year
Course ^{a)} duration in months	1 to 3	40.7	43.7	33.9	15.0	16.0
	4 to 6	18.7	18.5	19.5	19.7	17.1
	7 to 12	23.2	20	20.2	26.4	37.0
	13 to 24	16.2	15.8	22.0	33.0	27.5
	More	1.2	1.9	4.4	5.9	2.5
Course ^{a)} is	Full time	n.a.	n.a.	91.6	85.0	97.1
	Part time	n.a.	n.a.	8.2	14.7	2.9
	Home training	n.a.	n.a.	0.2	0.3	0.1
Training provider	Independent	52.9	39.9	55.6	75.0	89.2
	Organized by BA	42.4	45.2	31.7	14.5	4.1
	Firm (<i>Einarbeitung</i>)	4.7	14.9	12.8	10.6	6.7
Total number of cases ^{a)}		99	892	888	294	287

Source: BA 1991a, Table 38 p. 53, Table 37 p. 53; BA 1992a, Table 38 p. 58, Table 37 p. 57, BA 1993a, Table 20 p. 46, Table 19 p. 46, Table 21 p. 47; BA 1994a, Table 20 p. 53, Table 19 p. 53, Table 21 p. 54; BA 1995a, Table 20 p. 53, Table 19 p. 52, Table 21 p. 53.

Notes: ^{a)} Including *Einarbeitungszuschuß*. Before 1993 the *Einarbeitungszuschuß* was allowed for up to one year, since January 1993 it is limited to six months with one year in exceptional cases. This sets an upper limit for its duration.

Another way of separating training courses is with respect to the responsible provider. An independent provider, either a company or a non-profit-organization, can supply the training. They are responsible for the training with the labour office (LO) just checking the conditions. They have also to look for course participants on their own. If possible the LOs use independent providers (BA, 1993a: 22). The other possibility for the LO is to organize training on its own. That is to pay a possible provider to hold a certain course with a given curriculum for people sent by the LO.

In East Germany after unification there were only few independent providers because no market for training had existed before. Therefore, nearly half of the training starting in 1990 was directly organized by the LOs. In 1991 the supply of independently provided training increased considerably. But this was not enough to keep up with the increasing demand for training because of rising unemployment and STW. Its share fell to less than half. Since 1992 the free market for training was able to provide an ever increasing share of training. In 1994 only around 5% of training were organized by the LOs directly.

The influence of the training provider on training results is not clear yet. On the one hand training offered by independent providers might be of higher quality because they have to compete for participants. Further the individual decision of a training participant for a provider might positively influence the motivation. On the other hand there is the argument that the LO has a better idea of the types of training which is useful in the labour market because of a better access to information. Independent providers might adapt more to what individuals like to learn or believe to be useful based on information that is not sufficient. Still the LO can check this when approving courses to be allowed for AFG-subsidized individuals.

Table 3.3 gives information on the goals of courses. Continuous training separates in 'adaptation of knowledge and skills to technical developments', 'improving job search skills (§41a)', 'advance career', 'first vocational degree', and 'training for trainers'. The goal of retraining is always a new occupation and not discussed further.

The goal of the majority of continuous training courses is 'adaptation of knowledge'. This share increased since 1991. The jump from 70% up to above 90% of training from 1992 to 1993 is due to the cancellation of §41a. In 1994 when 'useful' training was not subsidized any more the share of 'advance career' dropped, the typical category for 'useful' training. Consequently the share of 'adaptation of knowledge' increased to 98%. Apart from 'adaptation' the only other category relevant in East Germany because of its size is §41a. It had been most popular in 1991 and already declined in 1992 before it was abolished in January 1993. All other categories play minor roles.

Table 3.3: Goals of training courses (in % of all entries, absolute numbers in thousands)

Of entries in continuous training are	1990 Sep-Oct	1991 year	1992 year	1993 year	1994 year
Adaptation of knowledge ...	76.7	65.3	72.6	93.0	98.0 ^{a)}
Job search skills (§41a)	15.7	29.6	21.8	--	--
Advance career	5.0	3.3	4.0	5.2	1.2
First vocational degree	0.3	0.3	0.2	0.5	0.1
Training for trainers	2.0	1.4	1.3	1.3	0.7
Total number of cases	75	630	591	182	199

Source: BA 1993a, 1994a, and 1995a, Table 18 p. 45, 52, and 51 respectively; and own calculations based on BA 1991a and 1992a, Table 35.

Notes: ^{a)} BA 1995a reports 99.2. This is a printing error as can easily be seen by calculating the shares by the total numbers.

Comparing to West Germany the training category 'advance career' was underrepresented in East Germany before 1994. In West Germany the share was around 25%, jumped up to 40% in 1993 and declined to 10% in 1994. The decline in 1994 was due to the limitation to 'necessary' training. The reasons for the differences between East and West Germany are rooted in different structures of the labour market problems.²³

Table 3.4: 'Necessary' and 'useful' training (absolute numbers in thousands, shares in % of total entries)

Training is	1990 Sep-Oct	1991 year	1992 year	1993 year	1994 year
'necessary' (total)	n.a.	n.a.	742	242	265
'necessary' (in %)	n.a.	n.a.	95.8	92.0	99.1
'useful' (total)	n.a.	n.a.	32	21	3
'useful' (in %)	n.a.	n.a.	4.2	8.0	0.9
Total number of cases	94	760	774	263	268

Source: BA 1993a, Table 8 p. 37; BA 1994a, Table 8 p. 41; BA 1995a, Table 8 p. 40.

²³ The most obvious examples are higher unemployment rates in East Germany. The higher shares of necessary training and of entries being unemployed before training in East Germany are closely related to this.

Table 3.4 separates training into 'necessary' and 'useful'. In 1994 the share of 'necessary' training jumped up to 99%, reflecting again the new institutional restrictions. However, even before 1994 the share of 'necessary' training was above 90% in East Germany. This high share is the reason why restricting subsidies to 'necessary' training in 1994 hardly changed the structure of training in East Germany. In West Germany 35% of all 1993 entries were 'useful' and consequently the institutional changes in 1994 changed the training structure a lot.²⁴ The reasons for the higher share of 'necessary' training in East Germany are institutional settings with easier access to 'necessary' training.²⁵ Furthermore, the different structures of the labour markets influence the necessity.

3.1.3 Payments of the labour office (LO)

The LO bear the direct costs of training like course fees, special clothing, travel costs, work and study materials, and child care. This is a subsidy that can cover the total amount. Other possibilities are flat rates or payments up to a certain limit. They can be different for different groups of participants. The other kind of payment from the LO is *Unterhaltsgeld* (UHG), money for one's livelihood, to replace the loss of earnings. So-called 'full UHG' paid as a subsidy is 65% or 73% of former net earnings, depending on family status. Since January 1994 the rates are 60% or 67%, now set on the same level as unemployment benefits. In other circumstances the 'small UHG' is paid, with an amount equal to unemployment benefits before training. The loan that is given when training is 'useful' amounts to 58% of former net earnings. Until December 1993 it was mandatory for the LOs to provide UHG if the individual fulfilled the criteria. Since January 1994 it is not mandatory any more.

Table 3.5 provides information on the type of UHG received by the individuals entering training. More than 80% of all training participants did receive the 'full UHG' in 1992 and 1993, with 15% of all participants not receiving any kind of UHG.²⁶ In 1994 the number of 'full UHG' recipients even rose further and less than 2% of all training participants did not get 'full UHG'. This data reflects the institutional changes in January 1994 but also reveal again that the changes in the East German training structure were less dramatic.

For 1990 and 1991 no data consistent with Table 3.5 are available. BA (1991a: 20) reports 18,500 people receiving UHG in December 1990. Although some of the 98,000 entries between September and December 1990 might have left training already, not more than one third of all people participating in training in December 1990 received UHG.²⁷ However, again the 1990 numbers are not very informative. Short time benefits and unemployment benefits were still paid during training because of special regulations or administrative time lags. For

²⁴ See BA (1995a: 8 ff.).

²⁵ For example 'generally threatened by unemployment' was sufficient while in West Germany 'directly threatened' is required.

²⁶ These people only got refunds for expenses according to the training section of the AFG. Still they might have gotten continuing unemployment benefits, money for living according to another section of the AFG (like STW benefits) or from another source like the social fund of the EC.

²⁷ Estimated with the help of course duration statistics.

1991 no data are available, but the high numbers of people unemployed or in STW entering training as well as results of our interviews make us believe that most people either got 'full UHG' or similar benefits like the enlarged STW benefits.

Table 3.5: UHG recipients among all entries ^{a)} (absolute numbers in thousands)

	1990 Sep-Oct	1991 year	1992 year	1993 year	1994 year
UHG ^{a)}	n.a.	n.a.	671	223	263
% of all training participants ^{b)}	n.a.	n.a.	86.8	84.8	98.3
'Full' UHG recipients ^{c)}	n.a.	n.a.	661	215	257
% of all UHG receivers	n.a.	n.a.	98.4	96.1	97.9
% of all training participants ^{b)}	n.a.	n.a.	85.4	81.6	96.2

Source: BA 1993a, 1994a, and 1995a, Table 9, p. 38, 42, and 41 respectively.

Notes: ^{a)} Here *Eingliederungsgeld* and *Eingliederungshilfe* (EGG, money paid to *Spätaussiedlern*, immigrants of German culture from Eastern Europe, for some time after arrival to help them to integrate, for example through training) are included. They do not play any substantial role in East Germany.

^{b)} The data from Table 3.1 is used as denominator.

^{c)} 'Full UHG' means receiving payments according to the rates in §44. Other possibilities are UHG as a loan, UHG at the level of former unemployment benefits, UHG for part time training, or EGG.

Now we turn to the expenditures of the BA. Table 3.6 provides data on the total amount spent for training in East Germany. It also reports the amount for UHG, other payments including direct training costs, and "*Institutionelle Förderung*", money paid to providers to help setup courses. Again the overall numbers show the known pattern. The expenditures were relatively low in 1991 but reached a peak in 1992. In 1993 the drop in entries did not show up too much in expenditures because of the time lag between institutional changes and the average number of participants in training. In 1994 the expenditures clearly reflect the institutional changes. The shift from other expenditures towards UHG is interesting. The increasing share of individuals in training receiving 'full UHG' explains that trend.

Table 3.6: Expenditures of the BA in East Germany (in bn DM)

	1990 Sep-Oct	1991 year	1992 year	1993 year	1994 year
UHG ^{a)}	0.039	1.578	6.010	6.562	4.620
Other expenditures for training	0.138	2.690	4.711	3.748	2.370
Sum	0.178	4.268	10.721	10.310	6.990
Subsidies for training institutions	n.a.	0.162	0.103	0.056	n.a.

Source: BA 1991a, Table 39 p. 53; BA 1995a, Table 34, p. 77.

Notes: ^{a)} Including *Eingliederungsgeld* (see Table 3.5).

3.2 Different types of training

AFG-subsidized training is divided into three different types of courses: §41a, continuous training, and retraining. In the following section we will describe the special features of the

different types of training and provide some participation statistics. Table 3.7 gives an overview of the data.

First we will take a look at the shares of the different training types in total training. STW was the most important ALMP in 1990 and 1991. It was a political decision to keep people employed although this was not a temporary shortage as necessary for usual STW. This opened a huge training potential, but it is not known to what extent it was used.

Table 3.7: Participation in different AFG-subsidized training courses (in thousands)

		1990	1991	1992	1993	1994
		Sep-Oct	year	year	year	year
§41a	Entries	12	187	129	--	--
Continuous training	Entries	63	443	462	182	199
	Leavers	n.a.	n.a.	444 ^{a)}	314	176
	Average participation	n.a.	n.a.	n.a.	155	105
Retraining	Entries	19	130	183	81	69
	Leavers	n.a.	n.a.	29	93	136
	Average participation	n.a.	n.a.	n.a.	222	151
Total	Entries	94	760	774	263	268
	Leavers	n.a.	n.a.	473	407	312
	Average participation	n.a.	280 ^{b)}	491 ^{b)}	376	256
In short time work ^{c)}	Average participation	n.a.	1,616	370	181	97
	Full time equivalents	341	898	194	85	46

Source: BA 1995a, Table 17O p. 50, Table 27 p. 72, Table B p. 16; BA 1991a, Table 35 p. 52.; BA 1995b, Übersicht 165 p. 270; IAB 1995, Übersicht 7.2 p. 248.

Notes: ^{a)} Including §41a training.

^{b)} Estimated and including *Einarbeitungszuschuß*.

^{c)} The numbers represent individuals in STW; it is not known how many of these participate in any type of training.

Ignoring STW the shares of entries into training in 1991 are 58% for continuous training, 24% for §41a, and 17% for retraining. In 1992 there was a shift from §41a towards retraining with shares of 60%, 17%, and 24%, respectively. There were no more §41a courses in 1993. Between the two remaining categories the shift towards retraining continued in 1993 with 31% of all entries, 69% remaining for continuous training. This reversed in 1994 with retraining accounting for only 25% of all entries.

3.2.1 Short training - §41a

The short courses according to §41a, in most cases between two and six weeks, provide job search skills and information about different types of work and long term training possibilities. At the same time the LO obtains information about the abilities of the participant, which is useful for future counselling. The courses could also be designed to improve the general knowledge and basic skills, which is not allowed in regular training courses, or to motivate an

unemployed. These courses are only available for unemployed. They do not need a completed vocational qualification or work experience as is usually required for training. §41a has been abolished on 1 January 1993, but other sections of the AFG allow somewhat similar courses. Comparable courses can also be offered as continuous training. The interviews we conducted in March 1996 indicated that cancelling §41a made some difference but not too much, because in most cases the LO were able to provide the same type of courses based on other regulations if necessary.²⁸ §41a-course have been quite important, at least in terms of individuals participating. The early peak in 1991 is a hint that help through 'orientation' courses was thought to be useful in East Germany after unification.

Data on leavers or the average number of participants are not available, but the short course duration does not allow for a huge spillover to other years. The average number of people in training should be around one tenth of the people entering courses. Therefore §41a did not play an important role when focusing on the direct effect of training on unemployment rates. However, if this training really helps individuals to find a job, around 270,000 people in East Germany received this help.

3.2.2 Continuous training in an old occupation

Continuous training is training in an occupation the participant already holds. It is supposed to show, secure or strengthen the knowledge and skills or to adapt to technical developments. A special focus is to improve the labour market conditions for disadvantaged unemployed (long term unemployment, women, people older than fifty years, among others). The goal of training can also be to advance the career or avoid supply shortages of labour with specific skills. The duration of courses should be between two months and two years. Since May 1993 courses are limited to one year if they do not provide a publicly approved examination. For part time training these limits are extended.

According to participation numbers this is the most important type of AFG-subsidized training. Starting from 63,000 entries in 1990, entries jumped up in 1991 and peaked a little higher at 462,000 in 1992. In 1993 the participation numbers declined but not as sharply as the training totals. Still, for 1993 they are less than half as for 1992. In 1994 entries rose again, but only slightly.

3.2.3 Retraining

The goal is to offer individuals appropriate job possibilities when their knowledge is useless because of personal or labour market conditions. In normal cases the maximum duration is two years. The courses should finish with a publicly approved examination and they should be shorter than a corresponding vocational qualification. Since May 1993 both rules are binding.

²⁸ This replacements are not shown separately in the statistics. Courses offered as continuous training cannot be separated. Data for courses according to other sections of the AFG are not presented here.

Retraining has not as high participation numbers as continuous training. Up to 1992 they increased steadily to 183,000, then they fell to 69,000 in 1994. For this type of training a longer average duration is expected. This is in accordance with the numbers of leavers, which indicates a time lag closer to two years than to one year as in continuous training. Another result of the longer duration is the high number of average training participants. These were 222,000 in 1993 and 151,000 in 1994. Therefore, when focusing on the direct influence on unemployment rates, retraining is the most important type of training in 1993 and 1994.

3.2.4 A special case: Training during short time work (STW)

We already discussed the few regulations for training during STW above. Here we will present some data, although complete statistics on training during STW are not available. On average an amazing number of more than 1.6 million people worked short time in East Germany throughout 1991, with full time equivalents of nearly 900,000 people. That is about ten per cent of the labour force before unification. In the following years these numbers fell sharply to less than a quarter in 1992 and again halving in 1993 and 1994. In 1991 276,000 people received STW benefits directly before they entered training (including *Einarbeitungszuschuß*).²⁹ These are individuals entering training subsidized according to the training section of the AFG.³⁰ They make up a third of all entries. In 1990 this share is 36%. It is not clear if all other individuals in STW did not receive any training.³¹

3.3 Characteristics of individuals in training

3.3.1 From what kind of occupation to which kind of occupation

Let us consider the occupation before training and the occupation people train for.³² Most entries had an occupation in the service sector before training. The shares are 47% in 1992, 48% in 1993, and 53% in 1994. An even higher share trained for an occupation in the service sector, 59%, 52%, and 55%, respectively. More people have trained for service sector occupations than came out of the service sector. The 'net inflow' in service sector occupations mirrors the changing structure of the economy.

In 1992 38% of the entries had an occupation in production before training and 28% trained for such an occupation. In the following years the flow out of production occupations continued, although not to the same extent. In 1993 the corresponding shares were 38% and

²⁹ See BA (1992a: 20) and BA (1991a: 20), Table B and the corresponding text p. 22 and 20, respectively.

³⁰ All data on training presented here include short time workers entering AFG-subsidized training without a possibility to identify them separately. Be aware of the danger of double counting.

³¹ Following these numbers only 20% of all people in STW started training in 1991. But there was a lot of emphasis put on this possibility by official statements, and our interviews indicated that in most cases training took place. Possibly not all training during STW is represented in these figures.

³² A more detailed analysis would be interesting but is beyond the scope of this paper. The necessary information is provided in Tables 23 to 26 in BA 1993a, 1994a, and 1995a. This section is based on the above mentioned Tables and draws heavily on the corresponding texts, pages 24, 27 f, and 27 f, respectively. In particular, we adapt the separation in production, services, and technical occupations.

32%, in 1994 34% and 33%. Training for technical occupations was less important. In 1992 9% came from technical occupations and 6% trained for them. In 1993 the shares were 7% and 6%, in 1994 8% and 7%. There was a net outflow, although very small. Again both outflows from technical and production occupations mirror the structural changes.

It has to be stressed that the net flows are sometimes relatively small compared to the number of individuals training for a kind of occupation they have not worked in before. Even in 1992 with relatively large net flows there was, for example, an inflow of nearly 130.000 people into service occupations while nearly 40.000 people out of service occupations trained for other kinds of occupations. In recent years the absolute flows are sometimes five times as large as the net flows. Therefore, interpreting the flows as signes of structural change should be done with some care. The flows might just sum up individual patterns. A comparison with West Germany does not reveal substantial differences. The inflow into services in West Germany is clearly smaller in 1992, but not in 1993 and 1994. A higher share of technical occupations in training is due to the larger share of 'useful' training in West Germany because in technical occupations often the goal was to 'advance career'. Consequently, this difference vanishes in 1994 when 'useful' training was not subsidized any more.

3.3.2 Labour market performance before training

Table 3.8 presents an important characteristic of training participants: their labour market status directly before entering training. In 1991 half of the people were unemployed. This share increased to 75% in 1992, 79% in 1993 and it finally reached 96% in 1994. In 1991 the low number is partly due to the high number of individuals in STW in that year. Throughout all years another influence is the declining number of individuals threatened by unemployment while at the same time the unemployment rate was rising until 1992. Finally, restricting subsidies to 'necessary' training in 1994 further cut the share of not unemployed.

A majority of people, 74% of all entries in 1992, 77% in 1993, and 96% in 1994, received unemployment benefits before training. Hardly any unemployed without benefits enters training. This is not surprising. After unification most people had a right to receive unemployment benefits for a long term. With unemployment not rising very much before 1991 most unemployed in East Germany still got unemployment benefits in 1994.

The next category, searching for work but not unemployed, is typical for people on STW before training as well as individuals threatened by unemployment. The share of 20% in 1992 declined in the following years. This is not surprising when considering that STW declined. The same is true for the number of individuals threatened by unemployment, although no precise data are available. Training for people in the last category, not even searching for a job before training, is typically 'useful' training. Knowing this, it is not surprising that the share declined sharply in 1994 when 'useful' training was not subsidized any more. Turning to the length of the unemployment spell before training we observe that the share of people unemployed for more than twelve months before training increased significantly from 1992 to

1994, reaching about one third. Two reasons for this rise are the growing share of long term unemployed among all unemployed and the stronger focus of the ALMP on long-term unemployed persons in later years.

3.3.3 Socio-demographic variables

From 1991 to 1994 women accounted for approximately 60% of all training entries including *Einarbeitungszuschuß* (see Table 3.8). Their 65% share of all unemployed was only slightly higher. Considering the regulation of the AFG, ruling that subgroups of unemployed - and especially women - should be represented in ALMP according to their share in unemployment, this seems to be an 'appropriate' share of women in training, especially when the *Einarbeitungszuschuß* with very low female participation is excluded. Going into details reveal a different picture. Women are overrepresented in §41a-training, especially in 1992 with 80% of all entries. For the years that data are available their share in continuous training is similar to their share in unemployment. The same is true for retraining in 1992. In 1993 and 1994 this share declined to 55% and 51%, respectively. This could be a hint that the training duration for women is shorter on average, but it turns out that this is not the case.³³

³³ Table 3.8 does not include these data. See instead BA (1995a: 53) Table 20.

Table 3.8: Labour market status and other socio-demographic variables before entering training

		1990	1991	1992	1993	1994
		Sep-Oct	year	year	year	year
Share of unemployed before training ^{a)}		n.a.	50.6	75.3	79.2	95.9
Thereof	< 1	n.a.	n.a.	13.9	8.4	4.7
unemployed	1-3	n.a.	n.a.	20.7	26.9	19.8
for ...months	3-6	n.a.	n.a.	24.4	19.8	15.8
(in % of	6-12	n.a.	n.a.	27.7	24.8	25.7
all entries)	> 12	n.a.	n.a.	13.2	20.1	34.0
Status before training	Unemployment with benefits	n.a.	n.a.	73.5	77.2	93.0
	Unemployed without benefits	n.a.	n.a.	1.8	2.0	2.9
(in % of all entries)	Searching for work, not unemployed	n.a.	n.a.	20.2	13.0	3.5
	Not searching for work	n.a.	n.a.	4.5	7.9	0.6
Age	< 20	n.a.	n.a.	1.1	0.8	0.6
(in % of all entries)	20-25	n.a.	n.a.	14.6	13.3	11.7
	25 - 35	n.a.	n.a.	37.1	36.6	33.7
	35 - 45	n.a.	n.a.	28.3	28.9	29.8
	45 - 55	n.a.	n.a.	17.4	18.0	19.9
	> 55	n.a.	n.a.	1.5	2.1	4.2
Women	All ^{a)}	n.a.	57.1	62.0	57.2	60.9
(in % of ... entries)	§41a	n.a.	67.9	80.0	--	--
	Continuous training	n.a.	56.5	62.1	62.3	67.0
	New occupation	n.a.	58.9	65.4	54.8	50.6
	<i>Einarbeitungszuschuß</i>	n.a.	42.2	36.0	33.7	34.4
Total number of cases (in thousands)		94	760	774	263	268
Share of women of all unemployed (in %)		n.a.	n.a.	65	65	67

Source: BA 1993a, Table 3 p. 34, Table 6 p. 35, Table 7 p. 36; BA 1994a, Table 3 p. 38, Table 6 p. 39, Table 7 p. 40; BA 1995a, Table 3 p. 38, Table 6 p. 39, Table 7 p. 40, Table 2 p. 37, Table 170 p. 50 with own calculations; BA 1995b Table 13 p. 46 with own calculations.

Notes: ^{a)} Including *Einarbeitungszuschuß*.

A high and consistent share of 60% of individuals is aged between 25 and 45. The theory of human capital would support training for individuals of this age because they remain in the labour force for a long time after training. This opens the opportunity to catch the returns on the investments made through training. In the case of older individuals the returns might not be caught because of the few years remaining until retirement. Furthermore, individuals aged between 25 and 45 are too old to have gotten training through the German apprenticeship system after unification. So there is potentially a need to adapt to western technologies. The slowly decreasing share of people under 25 might be a result of the same mechanism. In 1994 a lot of people went through the apprenticeship system after unification and there is less need of adaptation. The share of individuals older than 45 rose from 1992 to 1994, and especially for people above 55. Training might be less efficient with only few years to catch returns, but this increasing share is a result of the focus on groups with special labour market problems.

A final comment on this section is appropriate. The changes in the structure of individual characteristics are less important when compared to the huge changes in total participation. No special group has gained from or taken the burden of the up- and downsizing excessively.

4 Empirical evaluation

4.1 Introduction

Following the description of the rules, regulations and participants in BA-sponsored training, we now turn our attention to the question whether training participation was beneficial for the participants themselves. In addition to that we will contrast the results for that kind of training with results for employer-provided training. For these undertakings we will use micro-data that allows us to follow a large sample of individuals from mid 1989 to early 1994.

Although there is a large number of evaluation results for US-training programmes available (e.g. LaLonde, 1995), there are only very few econometric evaluations of training in East Germany. The results presented in this section do not confirm previous positive findings of the effectiveness of training in East Germany (e.g. Fitzenberger and Prey, 1996, Pannenberg and Helberger, 1994, Pannenberg, 1995). Although there are only few studies conducted so far, they differ in many respects ranging from the database to the implementation of the evaluation, treatment of the selection problems, and the definition of the training itself. However, they share two common features that are absent from this work: They do not use an explicit causality framework, and they are based on modelling the distributions of the outcome variables or error terms given certain covariates. Here, we explicitly avoid such restrictions and put emphasis of the particular notion of causality behind the results.

This section heavily relies on results presented in Lechner (1996a) for public sector provided training and on Lechner (1996b) for employer provided training. Many econometric issues are discussed in Lechner (1995). For all details as well as an extensive description of the data and the empirical implementation of the estimation method the interested reader is referred to these sources.³⁴

4.2 Data

The sample used for the empirical analysis is drawn from the German Socio-economic Panel (GSOEP), which is very similar to the US Panel Study of Income Dynamics. About 5.000 households are interviewed each year beginning in 1984. A sample of just under 2.000 East German households was added in 1990. The GSOEP is very rich in terms of socio-demographic information, in particular concerning current and past employment status. For an English language description of the GSOEP see Wagner et al. (1993).

³⁴ These papers are available on request from the authors. Lechner (1996a, b) can also be downloaded from the internet (WWW) at <http://www.vwl.uni-mannheim.de/lehrst/lsoek/lechner/>.

A very useful characteristic of this panel survey is the availability of monthly information between yearly interviews. This covers different employment states and income categories. The information is obtained by retrospective questions about what happened in particular months of the previous year. Figure 4.1 shows a sketch of one type of 'calendar': the income calendar.

Figure 4.1: Selected items of the retrospective questions about income in the 1993 questionnaire (income calendar)

"Please indicate for each month of the previous year (1992) whether you had some income of the type or the source given on the left hand side of the following calendar:"

	Ja n	Fe b	M ar	Ap r	May	Ju n	Jul	Au g	Se p	Oc t	No v	De c
employment as employee												
self-employment												
...												
unemployment benefits												
<i>Unterhaltsgeld</i> (labour office)												
...												
no such income												

Note: For the complete questionnaires see Infratest Sozialforschung (1990, 1991, 1992, 1993, 1994). Own translation (summarized).

The related employment calendar contains information on the employment status, such as full time employment, part time employment, STW, vocational training, schooling, and so on. These calendars allow a precise observation of the individual employment states and income sources before and after training. This kind of information will figure prominently in the empirical analysis.

A balanced sample of all individuals born between 1940 and 1970 who responded in the first four waves is selected. The upper age limit is set to avoid the need of addressing early retirement issues. The population of interest is the one that formed the labour force of the GDR, therefore it is required that all selected individuals work full-time just before unification. To be able to control for the entire labour market history before training (beginning in mid 1989) - which is necessary to control for the selection issues - it is required that all individuals answer the relevant survey questions in all four yearly surveys. Since the fifth survey (1994) is only used to measure post-training labour market outcome, it is not necessary to impose such a requirement.

The income and employment calendars are used to define the training measure CTRT. Individuals are considered to participate in continuous training and retraining (CTRT) if they receive *Unterhaltsgeld* (UHG) or obtain continuous vocational training during short-time-work (STW). It is required that the training period starts after unification but no later than March 1993. This means that all CTRT used for the empirical analysis was approved before the tightening of rules during 1993.

The mean (std.) of the duration of CTRT is about 12 (7) months. 10% of the CTRT spells have a duration of no more than 3 months, 25% of no more than 6 months, 65% of no more

than 12 months, and 95% of no more than 24 months. Comparing these numbers with the duration of continuous training (CT), retraining (RT) and job-familiarization (FJ; durations are 6 to 12 months) spells as given in Table 3.2, it is found that a substantial part of short spells is missing from the sample. However, note that not only the comparison is not really valid because of the inclusion of FJ in the official numbers, but also that there are other issues related to the questionnaire (calendar): Firstly, the fact that it is retrospective information about last year may result in participants forgetting very short training spells. Secondly, it may be that respondents do not bother to tick boxes for a particular month in case of short spells of less than a month. Thirdly, multiple spells of the same individual are added (10%) which increases duration per spell. However, by omitting these very short spells that may be related to AFG §41a the following empirical analysis is more focused on longer spells that obviously absorb a much larger amount of resources. It is these longer CTRT spells that are a priori considered to be more effective. Information on employer-provided training (ET) is taken from a special part in the GSOEP in 1993.

4.3 Econometric considerations and some descriptive statistics

In typical microeconomic evaluations of training programmes, outcomes measured for the sample undergoing the training are compared to outcome measures for a *comparable* group, called control group, that does not get the training. In most social experiments such a group consists of individuals who apply for the programme, but are denied participation by randomization, for instance. Hence, such a control group should not systematically differ from the trainees. This simplifies the evaluation dramatically, because the difference of simple sample means in the trainee and the control population is an unbiased and consistent estimator for the average effect of training for the trainees. However, the huge time lag between the beginning of such an experiment and the results of the evaluations is one reason why conducting an experiment was never an option in East Germany.³⁵ In a study not based on experimental data the researcher should find individuals who are identical to trainees regarding all *relevant* pre-training attributes except for not having obtained the training. Since typically such individuals cannot be easily identified, additional assumptions have to be invoked to adjust for their dissimilarity to avoid potentially serious *sample selection biases*. Holland (1986) and Heckman and Hotz (1989) provide extensive and excellent discussions on these issues.

Various model-based procedures are suggested in the econometrics' literature to avoid such biases (see for example Heckman and Hotz, 1989, or Heckman and Robb, 1985).³⁶ However, Ashenfelter and Card (1985) and LaLonde (1986) - among others - conclude that the results are highly sensitive to the different stochastic assumptions made about the selection process. Both papers conclude that the econometric adjustment procedures are unreliable, and hence

³⁵ The state of the discussion about whether it is advantageous or not to base evaluations on social experiments can be found in Burtless (1995) and Heckman and Smith (1995).

³⁶ Chapter 1 in Bell et al. (1995) provides a more complete account of the development of the econometric evaluation literature.

that social experiments are necessary to evaluate training programmes. Dehejia and Wahba (1995a, 1995b) - using an approach very similar to the one used by Lechner (1995, 1996a, b) - re-evaluate the LaLonde (1986) data. By using nonparametric techniques they come to far more positive conclusions about the potential quality of inferences based on observational data than LaLonde (1986) himself.

Many problems with the statistical modelling procedures stem from the fact that the data does not provide sufficient information on all important factors that influence programme participation as well as labour market outcomes. Then it is necessary to introduce unobserved 'error terms' and to model their joint distribution with the variables of the model. It is one of the major advantages of the data introduced in the previous section that it is a highly informative panel data set. Therefore, we do not need to introduce error terms and we can concentrate on controlling for observable differences of trainees and controls. Since this is done nonparametrically by extending the methods proposed by Rubin (1979) and Rosenbaum and Rubin (1983, 1985), the results should be reasonably immune to the above criticism.

Let us very briefly give the basic idea for the estimator used for the empirical evaluations. To ease notation assume that observations in the sample are ordered such that the first N^t observations receive training, and the remaining $(N-N^t)$ observations do not. Define the differences in matched pairs in the sample that consists of independently drawn observations as $\Delta y_n = y_n^t - y_j^c$, $\Delta b(x_n) = b(x_n^t) - b(x_j^c)$, $n = 1, \dots, N^t$, where y_j^c and x_j^c denote values of an observation from the pool of individuals not participating in training (controls) that is matched to the treated (training) observation n .³⁷ The vector x contains all variables that influence participation in training as well as the evaluation targets (Y), such as employment states and earnings. The function $b(x)$ reduces the dimension of the pair-wise comparisons. It is appropriately chosen to ensure that outcomes and participation are independent conditional on $b(x)$ when they are independent conditional on x .³⁸

In this context the respective groups of the conditioning variables x are identified by the analysis in Lechner (1996a) as age, expected labour market prospects, actual employment status, and other socioeconomic characteristics. The groups of variables that are used in the empirical analysis to approximate and describe the above-mentioned four broad categories of determining factors are age, sex, marital status, educational degrees as well as regional indicators. Features of the pre-unification position in the labour market are captured by many indicators including wages, occupation, job position, employer characteristics such as firm size or industrial sector, among others.³⁹ Individual future expectations are described by individual pre-unification predictions about what might happen in the next two years regarding job security, a change in the job position or occupation, and a subjective conjecture whether it

³⁷ Capital letters denote random variables and small letters their realizations (or specific values).

³⁸ $b(x)$ is a balancing score.

³⁹ Pre-unification variables are assumed to be exogenous, because the total (unexpected) system change invalidated all long-term plans.

would be easy to find a new job. Furthermore, monthly employment status information, as mentioned before, is available from July 1989 to December 1993.

Factors like motivation, ability and social contacts are approximated by the subjective desirability of selected attitudes in society in 1990, such as 'performing own duties', 'achievements at work', and 'increasing own wealth', together with the accomplishment of voluntary services in social organizations and memberships in unions and professional associations before unification, as well as schooling degrees and professional achievements. Additionally, there are variables indicating that the individual is not enjoying the job, that high income is very important for the subjective well-being, that the individual is very confused by the new circumstances, and optimistic and pessimistic views of general future developments. Another issue is the discount rate implicitly used to calculate present values of future earnings streams. We assume that controlling for factors that have already been decided by using the individual discount rate, such as schooling and professional education, will be sufficient. Other issues concern possible restrictions of the maximization problem such as a limited supply of CTRT. Supply information is available, however it is aggregated either within states (6) or in four groups defined by the number of inhabitants of cities and villages. We conclude that, although some doubts could be raised, it seems safe to assume that these missing factors (conditional on all the other observable variables) play only a minor role. Finally, empirical papers analyzing training programmes in the US point to the importance of transitory shocks before training, partly because of individual decision, partly because of the policy of the programme administrators. Card and Sullivan (1988) find a decline in employment probabilities before training. Here, the monthly employment status data should take care of that problem.

Table 4.1 contains descriptive statistics for some characteristics of CTRT participants (col. 4) and non-participants (col. 2). For comparison some information is also provided on the participants in employer-provided (typically on-the-job) training (ET, col. 5).⁴⁰ The Table shows two features: On the one hand, CTRT participants differ substantially from the non-training population, but even more from the ET participants. On the other hand, the matching algorithm used has successfully eliminated almost all differences (col. 3) between CTRT participants and the chosen control group. The evaluation figures will show that this is also true for the monthly and yearly employment status variables. The regression-type adjustment procedure takes care of the remaining differences.

Given the matched pairs, the estimate of the average causal effect of training for training participants and the respective standard error are computed as:

$$\hat{\theta}_{N^t} = \frac{1}{N^t} \sum_{n=1}^{N^t} \Delta y_n, \quad \text{Var}(\hat{\theta}_{N^t}) = \frac{1}{N^t} (S_{y^t}^2 + S_{y^c}^2). \quad (1)$$

⁴⁰ The ET training information is taken from a special part of the GSOEP concerned with continuous vocational training included in the 1993 survey.

$S_{y^t}^2$ and $S_{y^c}^2$ denote the square of the empirical deviation of Y in the training sample and in the sample matched to the training-sample, respectively.⁴¹ As mentioned in the previous section, when a perfect match is achieved, implying that $\Delta b(x_n) = 0$, $n = 1, \dots, N^t$, these estimates are unbiased. When the sample is large enough the normal distribution can be used to perform tests and compute confidence intervals.

Table 4.1: Descriptive statistics of selected variables of training participants and control sample

(1)	Controls		CTRT	ET
	all (1063)	matched to CTRT	(103)	(222)
Variable	(2)	(3)	(4)	(5)
	mean (std), share in %	mean (std), share in %	mean (std), share in %	mean (std), share in %
Gender: female	40	53	58	37
Years of schooling (highest degree) in 1990				
12	18	19	28	39
10	60	67	63	51
Highest professional degree in 1990: university	13	17	19	30
Job position in 1990: highly qualified, management	22	17	26	44
Job characteristics in 1990: already fired	4	10	13	1
Employer characteristics in 1990: industrial sector				
agriculture	13	13	17	6
other services ^{a)}	13	8	6	26
Income very important for subjective well-being	56	25	15	52
Expectations for the next 2 years in 1990				
redundancies in firm: certainly	50	57	52	25
losing the job: certainly	13	11	15	5

Note: (2) all non-CTRT-participants; (3) non-CTRT-participants matched to CTRT participants; (4) CTRT participants; (5) ET participants. 1990 relates to the date of the interview that for almost all cases was completed before July 1990 (EMSU).

a) incl. nonprofit, banks, insurance, government, legal, personal services, cleaning, waste disposal, hotels, restaurants.

Equation (1) gives the principle estimate of the causal effect. It is refined in the following to take account of time before and after training, i.e. the panel structure of the data and the fact that training begins and ends for different individuals at different points in time. Denote by N_τ^t , $\tau \in \{\dots, -3, -2, -1, 1, 2, 3\}$, the number of pairs observed at any distance in time to training ($\tau = 0$). Let $\iota_\tau(n) = 1$ if observation n is observed at τ . The refined estimator based on the distance as opposed to the date concept of time is defined as:

$$\hat{\theta}_{N_\tau^t} = \frac{1}{N_\tau^t} \sum_{n=1}^{N^t} \iota_\tau(n) \Delta y_{n,\tau}, \quad \tau \in \{\dots, -3, -2, -1, 1, 2, 3, \dots\}; \quad (2)$$

⁴¹ The variance estimate exploits the fact that the matching algorithm proposed in Lechner (1995) never chooses an observation twice.

The variances are computed appropriately. When τ is negative, then $\hat{\theta}_{N_t}$ denotes the mismatch in period τ before training, otherwise it denotes the effect of training in period τ after training. No assumption is necessary regarding whether or not the treatment effects may differ across the population of training participants.

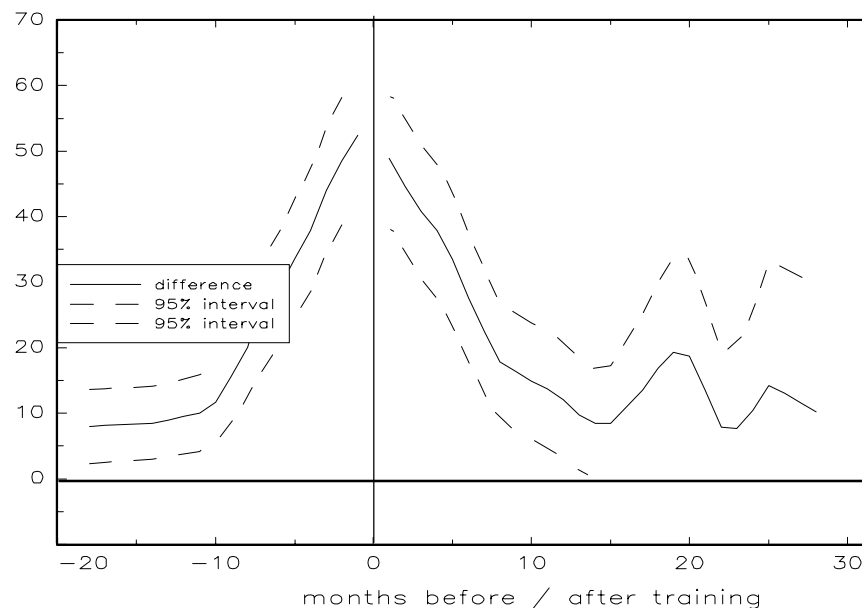
4.4 Evaluation results

4.4.1 Before-after comparisons

Comparing the unemployment rates before and after CTRT should give a first impression about the dynamics involved and the selection process into CTRT. Figure 4.2 shows the share of CTRT participants who are unemployed in any given number of months before or after CTRT. There is a surge in unemployment 10 months prior to CTRT culminating in an unemployment ratio of about 51% in the month just prior to training. The respective rates for full-time employment are 24% and 73% for the combined rate of unemployment or STW. As before, the contrast to ET is particularly sharp, because pre-ET unemployment rates are very low.⁴²

Considering the post-training period, it appears that many CTRT participants find jobs fairly quickly. Whether they do this fast enough to make up for the time *lost* for search during CTRT participation, which is on average twelve months, will be seen below. Although an exact comparison with official numbers is difficult, because of the different concepts of time used, they appear to lie within the ranges shown in Figure 4.2.⁴³

Figure 4.2: Share of registered unemployed before and after CTRT for CTRT participants in %



Note: Smoothed using 3 month moving averages for $|\tau| > 1$.

⁴² This is not surprising because employers typically train their work force, and not the unemployed. New hires do not play any significant role in this rapidly contracting economy.

⁴³ See Buttler / Emmerich (1994), Blaschke / Nagel (1995), and IAB (1995: 134).

Figure 4.2 also shows that having monthly employment status information is quite important for any evaluation study in order to control for selection issues related to unemployment.

4.4.2 Matched control group comparisons

We are particularly interested in the effects of CTRT on post-training changes in actual and anticipated labour market status and prospects. The following outcomes are measured on a monthly basis by way of the retrospective employment calendar: involuntary short-time work, registered as being unemployed, and full-time employment. In addition, the latter two variables are also available for the date of the yearly interview. Another variable capturing characteristics of the actual labour market status - measured once a year - is gross monthly earnings. Labour market prospects are measured once a year as individual expectations or worries. They include expectations whether one might lose one's job in the next two years, and whether one is very worried about the security of the current job. Additionally, there is information whether individuals expect an improvement of the current job (career) position. It is important to note for the discussion in the following subsection that, except for the earnings variable, all outcome variables are coded as binary indicators.

The results of the evaluations are given in the following Figures 4.3 to 4.5. Using eq. (2) to estimate the causal effects of CTRT, they show the differences between the control and the CTRT group for specific time spans before and after the training for the different outcome variables.⁴⁴ For variables measured by the monthly calendar the distance is expressed in months, for those measured only for the particular month of the yearly interview, the distance is expressed in years.⁴⁵ The figures cover up to 18 months or up to 3 'years' before the training and up to 27 months or 3 'years' after CTRT. They display the mean effect (solid line; + for the mismatch corrected estimate) and its 95% pointwise confidence interval based on the normal approximation (dashed line; ▽, Δ for the mismatch corrected estimates). The number of observations available to compute the respective statistics decrease the longer the distance to the incidence of CTRT. The implications of this are that the variance increases. This is reflected in the widening of the confidence intervals. Additionally, a mismatch correction may be impossible or very imprecise. Hence, the results on the very right side in the following figures have to be interpreted with care.

Figure 4.3 presents the result of the evaluations for the monthly outcome variable unemployment.⁴⁶ The part left to the 0 vertical mark allows a judgement about the quality of the matches concerning the particular variable.

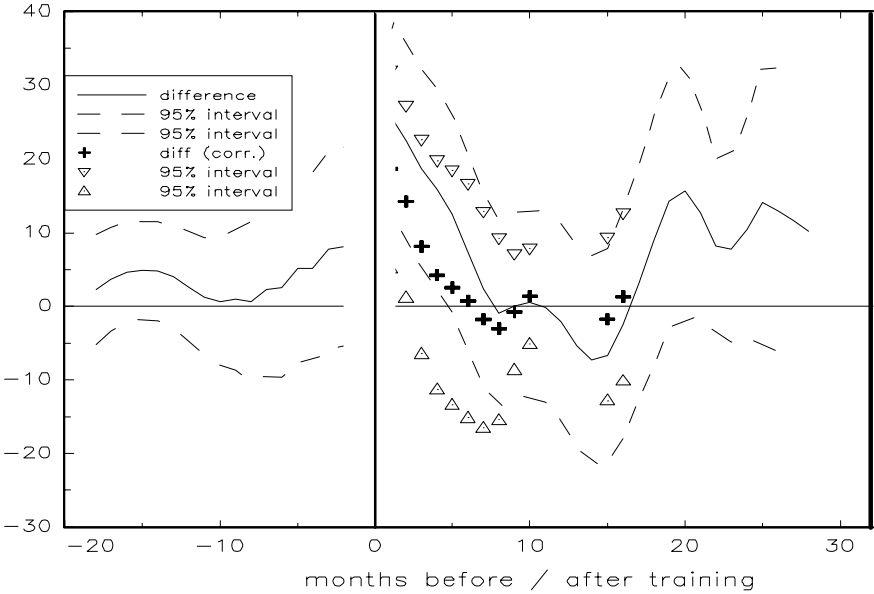
⁴⁴ The results for those outcomes that are mentioned, but do not appear here, are not qualitatively different from the ones presented.

⁴⁵ The time span denoted as the first year is actually the time after the end of CTRT and the next interview. Therefore, this time span may vary among individuals. The monthly data starts in July 1989 and ends in December 1993, whereas the yearly data ranges from mid 1990 to early 1994.

⁴⁶ *Unemployment* here indicates that the individual has registered for unemployment. There is another monthly variable indicating the receipt of unemployment benefits (*Geld* or *Hilfe*). The results are almost exactly the same when using this second measurement of unemployment.

As already noted in the discussion of match quality, there is small excess unemployment just prior to the beginning of the course, that is however not at all significantly different from zero. Figure 4.3 shows that the immediate effect of CTRT is additional unemployment in the months following the end of CTRT. After a few months these effects disappear. At first sight this seems surprising because Figure 4.2 shows that the unemployment rate of CTRT participants is indeed falling rapidly during the first 12 months after CTRT. However, there is a simple explanation for this effect. Remember that more than 50% of CTRT participants are unemployed before CTRT. For an unemployed person the immediate effect of (full-time) CTRT is that during CTRT his or her search efforts will be reduced (mean duration is 12 months!) compared to the controls. The results suggest that if there is a positive effect of CTRT it is not large enough to compensate for this initial negative outcome. These general findings are confirmed by considering either STW and unemployment together or by considering full-time employment as the respective labour market outcome. Considering only a sample of individuals who are either unemployed or on STW before CTRT sharpens these results.

Figure 4.3: Difference of unemployment rates in %-points of CTRT participants and matched control group



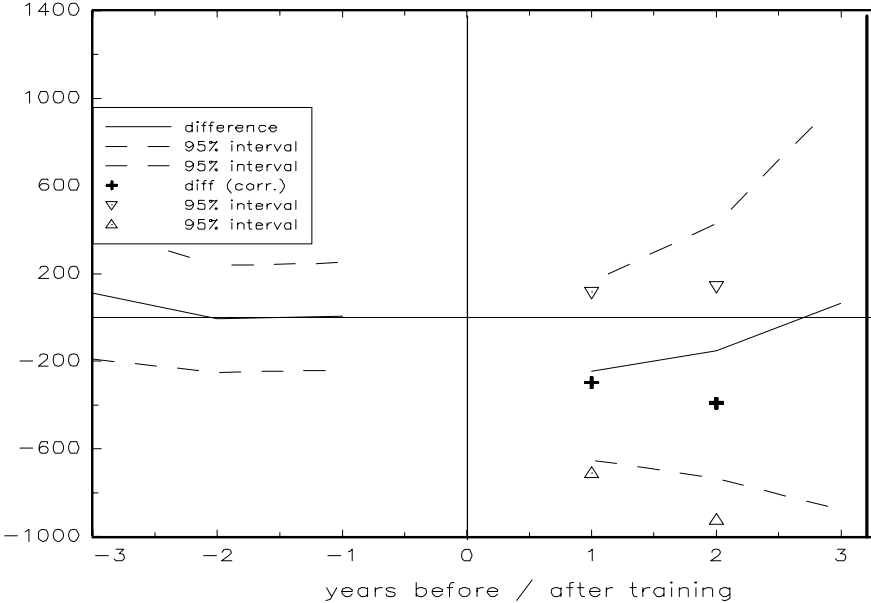
Note: $N_{-1}^t = 103$. Smoothed using 3 month moving averages for $|\tau| > 1$.

When performing the same evaluation for ET, there does not appear to be any effect of ET with respect to unemployment. It is obviously difficult to reduce the individual unemployment risk by means of training in a rapidly contracting economy that also adjusts to a new economic environment. This economic situation may lead to unforeseen changes in firm strategies and technologies used, leading to unexpected changes in the size and composition of the work force, so that even previous ET may only be of limited value for training participants. Obviously, if firms are changing their strategies unexpectedly, it will be difficult for the BA to

predict future demand for particular skills, and, hence, to device or choose effective training programmes.

Figure 4.4 features an outcome variable that is only measured once a year, such as gross monthly earnings. There are no significant differences for the pre-training outcomes, and there does not appear to be an effect of CTRT either.

Figure 4.4: Difference of gross earnings (in 1993 DM) of CTRT participants and matched control group



Note: $N_{-1}^i = 103.0$ when unemployed.

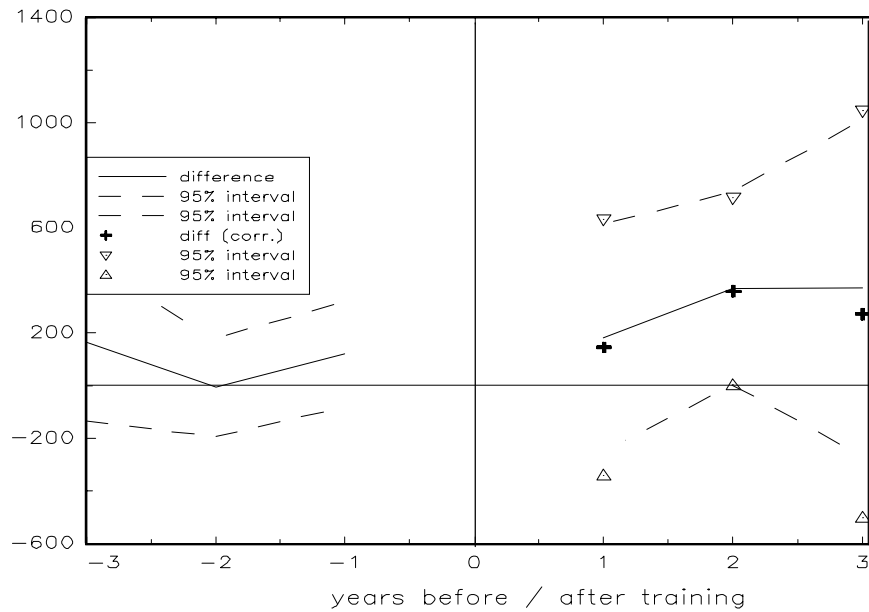
This is very different for ET however. From Figure 4.5 it appears that there are positive effects of about DM 350⁴⁷ from ET in the second year after completion of the last ET spell. Note that the same effect appears for the third year, but that probably the much reduced sample size leads to its insignificance.

From the CTRT-ET comparison it appears that ET is more effective for participants than CTRT. Note however that we cannot distinguish between the two sources of these effects: Either firms select ET participants better suited to benefit from training, or the firm-provided training itself is of higher quality.

Having shown that CTRT has no positive effects in the months following CTRT, there is an indication that there might be positive effects still to come: Individuals do think that CTRT will improve their career prospective in the next two years. Since the CTRT participants expect to improve their situation even in the two years after year two, and since they have already made up the initial loss during CTRT, it might be that they will overtake the controls outside the sample period. Unfortunately, from the data at hand it is impossible to decide whether this variable really contains information about future realization of labour market outcome, or whether this is just *wishful thinking* of CTRT participants.

⁴⁷ The implied average earnings increase is about 9%.

Figure 4.5: Monthly gross earnings (in 1993 DM) of ET participants and matched control group



Note: $N'_{-1} = 185.0$ when unemployed.

Finally, let us note that in a recent study Fitzenberger and Prey (1996) obtained more positive findings. However, they use a different data set and model the joint stochastic processes of selection, panel attrition and outcomes using joint normality. Their fully parametric approach is very much in contrast to the principally nonparametric approach used here: One way to think about these two approaches is that the nonparametric approach minimizes the bias while paying the price for that in terms of larger variances. This is reflected in the confidence bounds. The fully parametric approach uses more assumptions and, thus, will get less variance because of less uncertainty. The price to pay there however is in terms of asymptotic bias if these assumptions are not correct. Whereas large variances can be detected in the outputs, biases cannot. For this and other reasons, we prefer our approach.

In conclusion we note that no positive earnings and employment effects of CTRT in the short-run are found. Regarding the risk of unemployment there are negative effects of CTRT directly after training ends. It is an open question whether the lack of a positive effect is due to a bad signal participants send to prospective employers, or whether it is due to a lack of quality of training in a narrow sense. Nevertheless, our results for the short-run effects of CTRT suggest that it was a waste of resources, providing quantity without sufficient quality. The quality problem has been realized by the labour office, which subsequently tried to improve the quality. As has been shown in the first part of the paper, it also changed the selection process to include a higher share of individuals previously unemployed in CTRT. However, these recent changes are not yet part of our empirical investigations.

5 Conclusion

The importance of training as part of the active labour market policy in East Germany has been confirmed with the help of data on participation in and money spent on training. Especially in 1991 and 1992 training participation was very high. The institutional changes in 1993 and 1994 reduced participation and they changed the structure of the types of training and the socio-demographic structure of participants. The share of short training courses decreased, especially between 1992 and 1993. This has gone along with an increasing share of training participants who have been unemployed directly before training. Even more, there is a special focus on long term unemployed, a group of people with special labour market problems. The focus on people with special labour market problems is also illustrated by the increasing share of older people in training. Surprisingly, no increase is seen in the participation of women who are included in the AFG-list of groups with special labour market problems. To summarize, there are two opposite effects which might lead to different training outcomes. On the one hand, the training quality might improve, as can be seen from the increasing course durations or changes in the training infrastructure. On the other hand, an increasing share of training participants had special labour market problems. Therefore, in future evaluations of training outcomes it should be checked whether training which started in 1991 and 1992 differs from training which started in 1994 or later.

In the evaluation part of the paper no positive earnings and employment effects of public sector sponsored continuous vocational training and retraining (CTRT) in the short-run are found. This negative picture may be an exaggeration of the real situation for several reasons: Firstly, money spent for CTRT in the first two to three years may be seen as investments in the East German training infrastructure, that had to be built from scratch. In this sense, future CTRT might still yield some returns on these early investments. Secondly, the massive use of CTRT achieved a significant reduction of the official unemployment rate. This was politically desired, and hence it might be seen as an achievement per se. Thirdly, we report evidence that trainees expect positive returns over a longer time horizon, that is beyond the sampling period available for this study. Therefore, it is yet impossible to analyze empirically whether these expectations are correct or just wishful thinking. Finally, it might be that the results might improve by the recent changes implemented by the labour offices to improve the quality of CTRT supply, as well as the introduction of a more targeted selection process. Resolving these open questions is left for future work.

Appendix: Regulations of the *Arbeitsförderungsgesetz* (AFG)⁴⁸

Structure of the AFG

All German labour market policy is based on the *Arbeitsförderungsgesetz* (AFG), a federal law which was passed in 1969 and changed frequently since.⁴⁹ We will summarize parts of the section on training, more precisely §§33-39 (general regulations for training), §§41-46 (continuous training), §47 (retraining), and §§249b-249h (exceptions for East Germany).

The other important source is the "*Anordnung Fortbildung und Umschulung*" (AO-FuU) passed by the *Verwaltungsrat der Bundesanstalt für Arbeit*, the top administrative level of the BA. Based on the AFG it provides much more detailed regulations. It is changed according to changes in the AFG.

The group of persons getting AFG-subsidies for training

General restrictions

Training must support reaching the general AFG goals (§§1, 2). Especially important are

- to avoid unemployment and 'inappropriate' employment,
- to enhance occupational flexibility and to adapt to technical development, and
- to improve the labour market position of women, older or disadvantaged unemployed.

In their decisions the LOs have to take account of the course duration, curriculum, and method used, the experience of trainers, the cost efficiency, and the situation and development of the labour market (§34).

The participant has to search for employment with mandatory unemployment insurance, must be 'suitable' for the training, success (finishing course, passing examinations) must be expected, and there must be a fair chance of employment in the regular labour market (§36).

Subsidizing training is not allowed if a firm has a special interest in the training (§43) or if the course is at a University (§42; §249d allows courses at Universities in East Germany).

Training is not allowed to include basic skills and common knowledge (§1a AO-FuU, EX for §41a courses). Training can be full time, part time, evening course, or at home (§34).

If training was subsidized according to the AFG-GDR, the BA is further subsidizing this training after unification, regardless of all other conditions (§249d).

Restriction: Completed vocational qualification (§42)

A participant must have a completed vocational qualification. That is shown by

- an examination of the German apprenticeship system and three years work experience or
- six years work experience.

EX: - 2 years less experience if training is less than 6 months full time (MFT) or 24 months part time (MPT) or

- 3 years less experience if training is 'necessary'.

CH from Jan. 94 on: Examination or 3 years of work experience are sufficient.⁵⁰

⁴⁸ It has to be stressed that for reasons of space not all regulations, exceptions, and changes can be discussed. There is nearly no regulation without an exception if there's a 'special social or labour market policy interest'. The discussion is limited to regulations valid between late 1989 to early 1995. For more information see the AFG (BA, 1989, 1990, 1991b, 1992b, 1993c, 1994c, and 1995c). We use EX as a shortcut for 'exception', CH for 'change', and AD for 'addition'.

⁴⁹ In the training section the last major change was with the "*Erstes Gesetz zur Umsetzung des Spar-, Konsolidierungs- und Wachstumsprogramms*", in effect from January 1994 on.

⁵⁰ This was not a real change, because from January 94 on not 'necessary' training was not possible any more.

Before participating in subsidized training again, another 3 years of work experience are required.

EX: - Minus 1 year if the earlier or the actual training is less than 6 MFT / 24 MPT.

- No waiting time if earlier or the actual training is less than 3 MFT / 12 MPT.

- No waiting time if the actual training is 'necessary'.

CH from Jan. 93 on: 3 years waiting time are necessary.

- Minus 1 year if the earlier or the actual training is less than 6 MFT / 24 MPT.

- 1 year waiting time if training is 'necessary' because of unemployment or part time.

- No waiting time if actual training is 'necessary', the participant has special labour market problems, and the earlier training was less than 2 MFT / 8 MPT.

CH from Jan. 94 on: 1 year waiting time is necessary.

- No waiting time is necessary if training is 'necessary', participant has special labour market problems, and the earlier training was less than 2 MFT / 8 MPT.

Time of registered unemployment is equal to work experience.

EX: Before the first training at least half of the work experience must be real working.

Restriction: 'Necessary' and 'useful' training (§44(2), since Jan. 94 §42a)

To obtain the status of 'necessary' training, it must be necessary

- to find employment for an unemployed person,

- to avoid unemployment for somebody directly threatened by unemployment, or

- to provide qualification for somebody without a completed vocational qualification.

EX: In East Germany 'generally threatened by unemployment' is sufficient (§249d).

AD in Jan. 94: Counselling in the LO before approval of training is required.

Training is 'useful' if it helps to reach the general goals of the AFG (§§1, 2) and of subsidized training (§§34, 36).

Special case: Part time training (§44(2b))

Part time training is 'necessary' if

- it is necessary for full time employment of a part time employed person younger than

- 25 or an individual returning to the labour force after child care is unemployed or without vocational degree, and full time training is not possible because of the child.

AD in Jan. 91: If someone is in part time subsidized employment (ABM) and training is necessary for full time employment on the regular labour market.

CH from Jan. 94 on: Part time training is possible if training is 'necessary' and full time training is not possible because of child.

Restriction: Unemployment insurance contributions (UIC) before training (§46)

At least 2 years of UIC within the last 3 years are required.

EX: - No 3 years limit if training is necessary to earn money for subsistence and not working because of a child before (for example lone parents without wealth).

- Add 5 years to the 3 years limit for every child if not working because of the child.

- Add the time of working abroad to the 3 years limit (maximum 2 years).

- No contributions are necessary if the participant got a vocational degree within the last year (add times of unemployment to the year).

- Unemployment benefits based on earlier (long enough) contributions are sufficient.

In East Germany instead of actual contributions it was sufficient to have worked in a job that would have made UIC mandatory in West Germany (§249c).

Payments of the labour office

Unterhaltsgeld (UHG) in general requires that the participant has a vocational degree (for EX see below at §41a).

The 'full' UHG is paid if training is 'necessary' and UIC are sufficient (§44).

It amounts to 65% of former net earnings, 73% with a child or a dependent partner.

CH from Jan. 94 on: The replacement rates are now 60% / 67%.⁵¹

The 'small' UHG is paid if training is 'necessary' but UIC are not sufficient (§46).

It is paid at the level of unemployment benefits before training.

UHG as a loan is paid if training is not 'necessary' but 'useful' and UIC are sufficient (§44).

It amounts to 58% of former net earnings.

CH from Jan. 94 on: This is not possible any more.

Expenditures for training can be paid when UHG is paid (§45). The expenditures can be covered as well when UIC are not sufficient but training is 'necessary' and the participant commits to three years of work after training or in the case of training during STW.

The payments can be in per cent of actual expenditures (up to 100%, possibly with an upper limit) or flat rates. The amount might differ for different groups of participants. Included are course fees, travel expenses, clothing, materials, insurance, child care, examination fees, among others.

If the participant fulfilled the prerequisites it was mandatory for the LO to pay UHG until Dec. 93. Since Jan. 94 it is not mandatory any more.

It is not mandatory for the LO to reimburse for expenditures according to the AFG, but until May 1993 the AO-FuU made some refunds mandatory (for example course fees).

Types of training

§41a

The goal of training is to improve the job search skills and the motivation of an unemployed. Also it could provide information about different types of work and training possibilities as well as in regard to the abilities of the participant. They can include training in general knowledge and basic skills.

Participants do not need a vocational degree or work experience, but have to be unemployed.

The duration is typically between 2 and 6 weeks.

Continuous training (§§41, 43)

The goal is to adapt skills and knowledge to technical progress, to advance career, to avoid labour shortages, or to help women return to the labour force and older unemployed.

The duration is typically between 2 months and 2 years. Since May 1993 the upper limit is 1 year if the course does not finish with a publicly approved examination.

Retraining (§47)

The goal of training is to provide 'appropriate' occupation if the old occupation is useless because of personal or labour market conditions.

The duration should not exceed two years and should be shorter than a corresponding vocational qualification. The course should finish with an publicly approved examination.

CH from May 93 on: The course must finish with a publicly approved examination and must be shorter than a vocational qualification.

⁵¹ This is now set at the same level as unemployment benefits (*Arbeitslosengeld*). It was higher before.

Literatur

- Ashenfelter, O. / Card, D. (1985): "Using the Longitudinal Structure of Earnings to Estimate the Effect of Training Programs", *The Review of Economics and Statistics*, 67, 648-660.
- Bell, S.H. et al. (1995): *Program Applicants as a Comparison Group in Evaluating Training Programs*, Upjohn: Kalamazoo.
- Blaschke, D. / Nagel, E. (1995): "Beschäftigungssituation von Teilnehmern an AFG-finanzierter beruflicher Weiterbildung", *MittAB*, 2/95, 195-213.
- Bundesanstalt für Arbeit (BA, 1989): *Arbeitsförderungsgesetz: Textausgabe mit angrenzenden Gesetzen, Verordnungen und BA-Regelungen: 36. Ausgabe, Stand:1. Januar 1989*, Nürnberg.
- Bundesanstalt für Arbeit (BA, 1990): *Arbeitsförderungsgesetz: Textausgabe mit angrenzenden Gesetzen, Verordnungen und BA-Regelungen: 37. Ausgabe, Stand:1. Januar 1990*, Nürnberg.
- Bundesanstalt für Arbeit (BA, 1991a): *Förderung der beruflichen Weiterbildung: Bericht über die Teilnahme an beruflicher Fortbildung, Umschulung und Einarbeitung im Jahr 1990*, Nürnberg.
- Bundesanstalt für Arbeit (BA, 1991b): *Arbeitsförderungsgesetz: Textausgabe mit angrenzenden Gesetzen, Verordnungen und BA-Regelungen: 38. Ausgabe, Stand:15. Januar 1991*, Nürnberg.
- Bundesanstalt für Arbeit (BA, 1992a): *Förderung der beruflichen Weiterbildung: Bericht über die Teilnahme an beruflicher Fortbildung, Umschulung und Einarbeitung im Jahr 1991*, Nürnberg.
- Bundesanstalt für Arbeit (BA, 1992b): *Arbeitsförderungsgesetz: Textausgabe mit angrenzenden Gesetzen, Verordnungen und BA-Regelungen: 39. Ausgabe, Stand:1. Februar 1992*, Nürnberg.
- Bundesanstalt für Arbeit (BA, 1993a): *Förderung der beruflichen Weiterbildung: Bericht über die Teilnahme an beruflicher Fortbildung, Umschulung und Einarbeitung im Jahr 1992*, Nürnberg.
- Bundesanstalt für Arbeit (BA, 1993b): *Arbeitsförderungsgesetz: Textausgabe mit angrenzenden Gesetzen, Verordnungen und BA-Regelungen: 40. Ausgabe, Stand:1. Februar 1993*, Nürnberg.
- Bundesanstalt für Arbeit (BA, 1994a): *Berufliche Weiterbildung: Förderung beruflicher Fortbildung, Umschulung und Einarbeitung im Jahr 1993*, Nürnberg.
- Bundesanstalt für Arbeit (BA, 1994b): *Arbeitsförderungsgesetz: Textausgabe mit angrenzenden Gesetzen, Verordnungen und BA-Regelungen: 41. Ausgabe, Stand:1. Februar 1994*, Nürnberg.
- Bundesanstalt für Arbeit (BA, 1995a): *Berufliche Weiterbildung: Förderung beruflicher Fortbildung, Umschulung und Einarbeitung im Jahr 1994*, Nürnberg.
- Bundesanstalt für Arbeit (BA, 1995b): *Arbeitsstatistik 1994 - Jahreszahlen. Amtliche Nachrichten der Bundesanstalt für Arbeit*, Vol. 43, Sondernummer 21. July 1995, Nürnberg.
- Bundesanstalt für Arbeit (BA, 1995c): *Arbeitsförderungsgesetz: Textausgabe mit angrenzenden Gesetzen, Verordnungen und BA-Regelungen: 42. Ausgabe, Stand:1. Februar 1995*, Nürnberg.
- Bundesministerium für Wirtschaft (1995), *Dokumentation*, Nr. 382.
- Burtless, G. (1995): "The Case for Randomized Field Trials in Economic and Policy Research", *Journal of Economic Perspectives*, 9, 63-84.
- Buttler, F. (1994a): "Finanzierung der Arbeitsmarktpolitik", *IAB-Werkstattbericht*, Nr. 8, 31.8.1994.
- Buttler, F. (1994b): "Berufliche Weiterbildung als öffentliche Aufgabe", *MittAB*, 1/94, 33-42.
- Buttler, F. / Emmerich, K. (1994): "Kosten und Nutzen aktiver Arbeitsmarktpolitik im ostdeutschen Transformationsprozeß", *Schriften des Vereins für Sozialpolitik*, 239 / 4, 61-94.
- Card, D. / Sullivan, D. (1988): "Measuring the Effect of Subsidized Training Programs on Movements in and out of Employment", *Econometrica*, 56, 497-530.
- Dehejia, R. / Wahba, S. (1995a): "A Matching Approach for Estimating Causal Effects in Non-Experimental Studies", Harvard University, *mimeo*.
- Dehejia, R. / Wahba, S. (1995b): "Causal Effects in Non-Experimental Studies", Harvard University, *mimeo*.
- Fitzenberger, B. / Prey, H. (1996): "Training in East Germany: An Evaluation of the Effects on Employment and Earnings", *Unpublished manuscript*, University of Konstanz.
- Heckman, J.J. / Hotz, V.J. (1989): "Choosing Among Alternative Nonexperimental Methods for Estimating the Impact of Social Programs: The Case of Manpower Training", *Journal of the American Statistical Association*, 84, 862-880 (includes comments by Holland and Moffitt and a rejoinder by Heckman and Hotz).
- Heckman, J.J. / Robb, R. (1985): "Alternative Methods of Evaluating the Impact of Interventions", in: J.J. Heckman /and B. Singer (eds.), *Longitudinal Analysis of Labour Market Data*, New York: Cambridge University Press.
- Heckman, J.J. / Smith, J.A. (1995): "Assessing the Case for Social Experiments", *Journal of Economic Perspectives*, 9, 85-110.
- Holland, P.W. (1986): "Statistics and Causal Inference", *Journal of the American Statistical Society*, 81, 945-970 (includes comments by Cox, Granger, Glymour, Rubin and a rejoinder by Holland).
- Infratest Sozialforschung (1990, 1991, 1992, 1993, 1994): *Das sozio-ökonomische Panel - Ost, Welle 1, Welle 2, Welle 3, Welle 4, Welle 5*, Anlagenbände zum Methodenbericht, München.
- Institut für Arbeitsmarkt- und Berufsforschung (IAB, 1995): *Zahlen-Fibel 1995* (BeitrAB 101), Nürnberg.
- LaLonde, R.J. (1986): "Evaluating the Econometric Evaluations of Training Programs with Experimental Data", *American Economic Review*, 76, 604-620.

- LaLonde, R.J. (1995): "The Promise of Public Sector-Sponsored Training Programs", *Journal of Economic Perspectives*, 9, 149-168.
- Lechner, M. (1995): "Effects of Continuous Off-the-job Training in East Germany after Unification", *Discussion Paper*, # 95-27, Zentrum für Europäische Wirtschaftsforschung, Mannheim.
- Lechner, M. (1996a): "An Evaluation of Public Sector Sponsored Continuous Vocational Training Programs in East Germany", *Beiträge zur angewandten Wirtschaftsforschung*, # 539-96, University of Mannheim Discussion Papers.
- Lechner, M. (1996b): "The Effects of Enterprise-related Continuous Vocational Training in East Germany on Individual Employment and Earnings", *Beiträge zur angewandten Wirtschaftsforschung*, # 542-96, University of Mannheim Discussion Papers.
- Pannenberg, M. (1995): *Weiterbildungsaktivitäten und Erwerbsbiographie*, Campus: Frankfurt.
- Pannenberg, M. / Helberger, C. (1994): "Kurzfristige Auswirkungen staatlicher Qualifizierungsmaßnahmen in Ostdeutschland: Das Beispiel Fortildung und Umschulung", to appear in: *Schriftenreihe des Vereins für Sozialpolitik*.
- Rosenbaum, P.R. / Rubin, D.B. (1983): "The Central Role of the Propensity Score in Observational Studies for Causal Effects", *Biometrika*, 70, 41-50.
- Rosenbaum, P.R. / Rubin, D.B. (1985): "Constructing a Control Group Using Multivariate Matched Sampling Methods That Incorporate the Propensity Score", *The American Statistician*, 39, 33-38.
- Rubin, D.B. (1979): "Using Multivariate Matched Sampling and Regression Adjustment to Control Bias in Observational Studies", *Journal of the American Statistical Association*, 74, 318-328.
- Statistisches Bundesamt (1992): *Statistisches Jahrbuch für die Bundesrepublik Deutschland, 1992*, Stuttgart: Metzler-Pöschel.
- Statistisches Bundesamt (1995): *Statistisches Jahrbuch für die Bundesrepublik Deutschland, 1995*, Stuttgart: Metzler-Pöschel.
- Wagner, G.G. et al. (1993): "The English Language Public Use File of the German Socio Economic Panel", *Journal of Human Resources*, 28, 429-433.