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## Let's go West!: Do East Germans commute for wages, jobs or skills?

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# Discussion Paper

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**for Wages, Jobs, or Skills?**

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# Let's Go West! Do East Germans Commute for Wages, Jobs, or Skills?

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## **Abstract**

Using data from the longitudinal Labor Market Monitor for the New German States we provide a portrait of East-West commuters in the first year after unification and evaluate various hypotheses to explain the phenomenon. Commuters may be driven by the search for higher wages in the west or by unemployment in the east. Comparing commuters and other job starters in the east with respect to their previous labor force status we find the unemployed and those fearing job loss in the future to be less likely to hold jobs in the west. While many commuters realize significant wage gains some do not. We examine whether these commuters are likely to be acquiring additional human capital through employer provided training. While the incidence and duration of training is high among commuters, wage gains for those without training are lower. This leaves the wage differential hypothesis as the most likely explanation for the commuting phenomenon.

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## 1. Introduction

German monetary and economic union has created a large unified market. While goods started flowing freely after the two Germanies had been fused (mainly in eastern directions) and prices have adjusted to a more or less uniform level, major disparities remain in the labor market. Initially, average wages in the eastern part were about a third of the level in the west. By the end of 1992, about half this gap had been closed. Instead, there is now a large unemployment differential. Initially employment in the western part of the country rose to reach a historic high, fuelled by the unification boom. Employment in the east, especially in manufacturing, plummeted. Open and hidden unemployment reached depression levels.

Many commentators were worried that these large disparities and the collapse of the east German economy would prompt a large fraction of the eastern population to move to the west. There has indeed been a shortlived peak in migration right after the opening of the wall. About half a million people, or 3 percent of the East German population moved to the west before monetary union. By July 1990, east-west migration had leveled off significantly, hovering around 20,000 persons a month. This is still about twice the level of migration taking place between west German states. On the other hand, by 1991 a reverse flow of about 7,000 persons a month has commenced. Thus, migration clearly has not reached the proportions envisioned by some.<sup>1</sup>

On the other hand, soon after unification a substantial number of workers started commuting to employment in West-Berlin or to the western states. The importance of commuting has increased throughout 1991 reaching half a million. It has remained at this level into 1992. Figure 1 contrasts the stock of migrants who have moved west since summer of 1989 to commuter figures till the end of 1991. Considering that the number of migrants includes children and other non-participants, in terms of their labor market impact commuters clearly have become an economically relevant group. Still, the bulk of the literature has continued to focus on migration.<sup>2</sup> With this paper we will try to fill this void in characterizing the commuter population and sorting out some competing hypothesis on the reasons for commuting.

There are two obvious conjectures as to why commuting has supplanted migration as the main vehicle for easterners to participate in the western labor market. Housing market imperfections are one possible explanation. Basically all western cities suffer

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1 Keil and Newell (1993) show in an interesting study comparing the German case with the Irish-British situation that unemployment differentials have to be quite substantial to trigger large migration flows.

2 Notable exceptions is Scheremet und Schupp (1991) and Wagner (1992).

from housing shortages. Coupled with relatively low turnover this makes it extremely difficult to locate housing in the west. High prices erode the potential wage gains. This may make commuting an attractive alternative, since housing has remained comparatively cheap in the east, but commuting has its own cost.

The second conjecture is that people from the east do not want to relocate permanently. Commuting to the west may serve as a temporary valve for the eastern labor market and commuters plan to return to jobs in the east as conditions improve. Moving may be the more costly alternative if the commuters' time horizon for a return to the eastern labor market is short enough.

Of course, there is a good chance the truth lies somewhere inbetween. Commuting may serve as an option for both, returning to the labor market in the east or moving to the west permanently.<sup>3</sup> In both cases, there may be rewards to commuting. Valuable skills can be obtained under the conditions of a modern, developed market economy. Thus, the job in the west will add significantly to an eastern resume. Commuting may also help in finding housing in the west when a permanent move becomes the choice. Familiarity with the region, personal contacts, and daily local availability will help in locating a vacancy. Information on living conditions in the west accumulated during the commuting spell will also help in deciding whether a move is desirable.

There has been a heated debate in Germany over the right course for the eastern labor market. In particular union leaders argue repeatedly that high wage differentials between east and west will lure workers away. The best talents and the scarcest occupations will leave, goes the argument, thus hurting the recovery in the east. This argument is not at all alien to economists, wage differentials figure prominently in this literature (e.g. Raffelhüschen, 1992). If large-scale migration is viewed as a problem, which may be debatable itself, then this view calls for fast adjustments of eastern wages to western levels.

But higher wages will cause higher unemployment in the east during the transition period. And unemployment itself might be the major reason that people pack up to go to the west. In fact, Akerlof, et.al. (1991) challenge the wage differential view and present survey evidence that unemployment is the most important factor in people's migration decision. Similar evidence is presented by Wagner (1991).

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3 Burda (1993) makes a related argument. He stresses that the low migration figures from the east may be explained by the value of waiting in a highly uncertain environment. If a job in the west is available, however, commuting will be a very attractive alternative to not doing anything at all. Since the unification boom in the west had to end sometime, western job openings are quite valuable as well.

Wage differentials and unemployment can also be considered major determinants of commuting. But unlike migration, commuting may be designed to be only a temporary interlude to finding a new job in the east. In this case western jobs do not just serve as a temporary relieve from the labor market pressures in the east but also impart new skills on the commuter that can later be used at home. In fact, commuters may seek out the jobs where they can gain firm-level training. In trying to sort out these different influences, wages, unemployment, and training, we will present evidence from the Labor Market Monitor for the new German States (LMM), a longitudinal data set tracking about 7,000 people during 1991. In addition we employ the west German Socio Economic Panel for comparison reasons.

The rest of this paper is organized as follows. Section 2 describes the Labor Market Monitor and presents some basic features of the commuter population. Section 3 asks what type of labor force status commuters come from, investigates job search behavior and evaluates wage growth. In each case, east-west commuters are compared to other commuters and to job starters in the east. The following section investigates the role training may play for the commuting decision. To that end we compare the incidence and characteristics of training schemes between east-west commuters and western job changers. Section 5 summarizes and draws some conclusions.

## **2. East-west commuters in the Labor Market Monitor**

The Labor Market Monitor for the New German States (LMM) is a mail survey that was initiated by the Federal Labor Office in order to have some micro data on labor market conditions in the eastern part of the country till the standard statistical survey instruments of the Federal Republic can be implemented. Due to the focus on employment related issues it samples the population aged 15 to 65. It is based on individuals as sampling units, not households, and household information in the survey is relatively scarce. Since it is conducted by mail, it is a pure random sample without stratification.

Originally, 15,000 households were contacted in November 1990 and received the questionnaire for the first wave. Of those, 10,751 returned valid responses. The same individuals were followed in three more mail interviews every four month, i.e. in March, July and November 1991.<sup>4</sup> Attrition in the second wave is high, there were less than

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<sup>4</sup> Two further interview rounds were conducted in May and November 1992; these waves are not yet available to researchers outside the IAB. See Bieliński et al. (1992) for details on the dataset and general sample characteristics.

8,000 responses in March but the sample size stabilized above 7,000 in the further interview rounds. Thus the LMM provides a relatively large sample of the economically active population in the five east German states.

The questionnaire consists of a number of standard questions on the current job held, as well as on labor market transitions starting with the second wave. Job characteristics of respondents who kept their jobs were not asked anew in the follow-up interviews but carried forward from the previous wave. Also, in the first interview, retrospective information on the respondents' job in November 1989, i.e. a year earlier, was collected. Many of the survey questions concern the policy areas the Federal Labor Office is engaged in, like unemployment, job search, qualification and retraining, and participation in public works programs. The questions on the current job are more extensive in the first and the fourth waves; and the fourth wave again asks some retrospective information on the past year.

Given its sample size and focus, the dataset is relatively well suited to address issues like labor market transitions and commuting to the western part of the country. In the first wave every worker is asked about the location of their plant; whether it is in the eastern part of the country, in the western states or in West-Berlin. In waves two and three this question is only asked of those starting a new job. Only on wave four the question was asked again of everyone working. Table 1 reports the total numbers of commuters in every wave of the survey as well as a number of general characteristics. There are about 200 to 300 observations on commuters in each wave. Obviously, this will allow us to assess general characteristics of this group reasonably accurately. Once we want to focus on breakdowns, on the other hand, cell sizes easily become very small. Also, in general, only a subset of the total observations will be usable for any specific issue due to missing values on individual questions. Because the number of observations is small already we do not use a consistent sample but rather use all answers to any particular question we want to focus on.

Except for the last wave, table 1 reveals that the general characteristics of the commuter population have changed little over time. Compared to employees in the east, commuters tend to be male, are younger, tend to come from the border states, are more likely to be blue collar, are slightly more likely to have vocational qualifications, tend to work in blue collar positions and are more likely to do apprenticeships than other east Germans. They commute a substantial distance. The category "less than daily" was not an option when this question was first asked in wave one. Hence, we cannot tell whether long distance commuters have switched from daily commuting between the first and third wave or whether the weekend commuters included themselves in the "greater than two hour" category on wave one. Commuters tend to work primarily in construction, manufacturing or trade. There are no visible patterns that would indicate

that seasonal employment plays a major role among commuters, i.e. by higher fractions in trade during the pre-Christmas season or in construction during the warm months. Commuters earn a net monthly wage of around DM 1,800, a substantial premium over the east German median.

These findings are generally similar to findings for commuters within West Germany (see Gerlach and Stephan, 1992) and the U.S. It is thus instructive also to compare the west commuters to those who commute within the east. These are identified by answering that they commute more than one hour to work. Indeed, commuters in the east have characteristics which are basically similar to the west commuters. However, east commuters are older. They are even more heavily concentrated in construction than west commuters while fewer work in trade related industries. While commuters earn higher wages than the median easterner the differential is of course much smaller than for those working in the west.

One striking feature in table 1 is that commuters in the last wave seem to look more like workers in the east as reported in the last column. Most likely, this is due to the fact that this question was asked again of everyone in wave four while the previous waves carried information forward for everyone who did not take a new job. There is a large number of workers reporting to commute to the west for the first time in wave four. For about 50 of those we do not find evidence for a job change from previous waves. It is possible that these employees were assigned jobs in the west at some time during the year. If this did not entail the beginning of a new employment spell they will turn up for the first time in wave four as working in the west. For the most part, we will focus on commuters who have started their job since the previous interview so that the samples of commuters will be roughly consistent between wave four and the previous waves.

The LMM does not follow migrants to the west. In waves two to four there is an interview protocol indicating reasons for nonresponses. 43 respondents moved to the west during the November 90 to November 91 period. Given that these numbers are small and since we do not have information on the movers once they are in the west we did not attempt to integrate this group into our analysis.



### 3. Going west: Commuters and other job starters

In this section we give a portrait of the type of labor market situations commuters are coming from. While it is impossible to draw any firm conclusions from this simple descriptive analysis, we have in back of our minds the question whether it is primarily unemployment or wage differentials that drive workers to find jobs in the western German labor market.

The question whether unemployment raises the propensity to commute would be addressed most directly by looking at the conditional probability of commuting among the unemployed versus the employed. However, we feel that it is also instructive to characterize the population of commuters and therefore report the opposite probabilities, e.g. the probability of previous unemployment among commuters compared to non-commuters. This is innocuous since either comparison will yield the same conclusions.<sup>5</sup>

Commuters are characterized by having started a new job since the opening of the wall. Other job starters are therefore a relevant comparison group for the commuters. We will therefore typically use those who started a new job since the previous wave for commuters as well as other employees in the east. For waves one and three we can also form a group of commuters in the east; those who report to commute more than one hour. Table 2 compares the employment status in the previous wave of the LMM for commuters and other job starters in eastern Germany. The rows on the first wave in November 90 refer to retrospective information collected on the labor force status and job held in November 89, i.e. a year prior to the survey.

The table shows that the majority of job starters comes out of previous employment. The fraction of previously employed is higher among commuters than among job starters in the east. Unemployment was unimportant before unification but about a fifth of both job starters and commuters came out of unemployment (registered as well as unregistered) by July 91. Labor force interruptions make up a significant fraction of job starters in the east. This category includes school leavers, those who end military service, pregnancy leave, and retraining programs. Much of the higher numbers in this category among job starters in the east is accounted for by pregnancy leaves. The lower propensity of women to commute makes this category unimportant for the commuters.

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<sup>5</sup> It is straightforward to show that  $P(x|a) > (<) P(x|1-a)$  holds if and only if  $P(a|x) > (<) P(a|1-x)$  holds.

Commuters in the east are more likely to come out of unemployment than commuters to the west. Starting in wave two we have broken out within the employed the fraction that reported in the previous wave that they expect to lose their job within the coming year. This fraction is higher among the commuters to the west while about equal fractions of employed with secure jobs are among commuters to the west and in the east. It may be that the individuals who expect job loss but find a new job immediately are more able and motivated. These might be skills that also make it easier to find a job in the west.

The low fraction of unemployed among the commuters seems to indicate at first sight that unemployment is not a significant driving force for looking for a job in the west. However, this is the fraction of unemployed conditional on commuting. For policy reasons we are interested in the reverse probability, the tendency of commuting given unemployment. This probability can be assessed by comparing the top and the bottom panel of table 2. There is no evidence that unemployed are more likely to be found among job starters in the west than among those in the east. However, there is some (slight) evidence that unemployed are more likely to take a commuting job in the east.

Even workers who were employed in the previous wave of the LMM may have a (short) intervening unemployment spell before starting a new job. Therefore we take a look at workers where we have information on the time of separations and the start of the new jobs, including retrospective information from the first wave. This sample excludes, for example, workers who were unemployed in the first wave of the LMM. Calculating nonemployment spells we find that 35 percent of the commuters start work in the west immediately and 88 percent after two months or less following separation. The corresponding numbers for job starters in the east are 16 and 67 percent, respectively. Obviously, job transitions to the west tend to be faster indicating that off-the-job search for positions in the west is not very important.

The group of job changers, i.e. those who come directly out of employment, deserves some special attention. Table 3 compares separation reasons for workers who changed their jobs between November 89 and November 90 or since the previous wave of the survey. A fairly consistent picture emerges from the table: two thirds of the commuters left their job voluntarily while quits account for only half the job changers who stayed in the east. Commuters in the east look much like those easterners who do not commute, not like commuters to the west. As before, to assess the probability of commuting conditional on job loss this comparison of the top and bottom panel is the relevant exercise. Thus, a large part of commuting to the west seems to be accounted for by workers who purposefully leave their previous employment. This can be both under

the pressure of pending job loss but many leave without such a threat. This would imply that unemployment or job loss is not the major consideration in accepting a job in the west.

To further investigate this question we take a look at search strategies. Survey respondents are asked about their job search behavior and this question is posed to employed as well as unemployed people. Those who report to search are then asked where they are looking for a job locally, elsewhere in the east or in the west. Nobody reports to search exclusively in the west. Table 4 pools the answers to the search questions from all four waves, classifying workers by the furthest location where they search. I.e. everybody who searches in the west, among other locations, is classified as searching in the west. This sample includes successful as well as unsuccessful searchers.

The top panel reveals that a lot of those unemployed do not search. Search intensity is also low among those threatened by job loss; only 40 percent are actively looking for alternatives. More interesting is the bottom panel which classifies only those searching at all. It reveals that the employed are most likely to look for jobs in the west. Breaking out those among the employed who report fears that they might lose their job in the near future we find that imminent job loss reduces the probability of searching in the west. All groups are equally likely to look for commuting jobs in the east. Thus, there is no indication that job loss or unemployment makes workers more likely to look for jobs in the west.

However, one reason why unemployed are less likely to search in the west might be that they tend to possess attributes that makes them less likely to be successful in locating a job in the west. For example, unemployment rates are higher among women and women have lower propensities to commute. With respect to observable characteristics, this is easily checked with a regression. Table 5 presents logit estimates of the probability to search in the west conditional on searching at all. Controls are education dummies, experience, gender and region; attributes that distinguish commuters from stayers. In addition, three dummy variables are included indicating labor force status. The groups are employed facing job loss, unemployed, and other leaving employed in secure jobs as the base group. The logit regressions reveal that the threat of job loss consistently increases search intensity by between 2.1 and 6.0 percentage points.<sup>6</sup> For the unemployed the effects range from -0.4 to 2.4 percentage points but are never significantly different from zero. Obviously, observed

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6 The derivative of the probability  $p$  of searching in the west with respect to characteristic  $k$  is given by  $p(1-p)b_k$ . The values reported in the text are arrived at by evaluating the predicted probabilities at their mean.

heterogeneity between these groups does play some role as the ranking of the different groups is changed. However, there is still no evidence that unemployed are more likely to look for jobs in the west.

To gain some more insights in how commuters located their jobs, table 6 reports the search behavior of commuters by previous employment status. Thus, it is only looking at those for whom the search did result in a new job. Less than half the commuters did actually search for a job in west. A third reports no search at all; this group consists mostly of previously employed who do not face the threat of job loss. A sixth takes jobs in the west while only reporting search in the east. Furthermore, previously unemployed and those employed but facing job loss look very similar in terms of their search behavior.

An additional perspective is gained considering job starters in the east. The incidence of no search is even higher among the employed. Amazingly, a third of those fearing job loss do not search for other employment. The numbers are even higher among those not in the labor force; this is probably mostly due to women on maternity leave returning to previous jobs. Obviously, more active search is necessary to get a job in the west than in the east but the fraction getting jobs in the west without search is amazingly high.

The fact that it is possible to find new employment without search seems to point to two important features of the east German labor market. First, there is a large dynamic in the market. Using the LMM sampling weights, about 600,000 new positions are filled in each of the four months periods between interviews. Assuming that nobody finding a new job turns over again during the same year, this means that about 20 percent of the original East German workforce found new jobs during 1991. This is an amazingly large number even compared to other dynamic labor markets like the U.S. Thus, it is possible for some to locate a job without much effort despite the high unemployment. Secondly, if workers can find jobs without actively looking for them there have to be extensive social networks that help in transmitting the necessary information. This conjecture is supported by evidence from the Socio Economic Panel for eastern Germany, where job starters were asked how they found their new job. The modal answer was through friends and relatives. 44 percent of job starters in the east and 39 percent of the commuters report such informal channels being most important in finding the new job (Pischke, 1993).

These conclusions seem sensible for those who find jobs in the east. It is more surprising that the patterns are not too dissimilar for commuters. The west German labor market lacks the same unusual dynamic. Furthermore, informal networks should be much weaker in the west. However, recall that about half a million people migrated from

East to West Germany between the opening of the wall and monetary union. They will have many remaining ties in the east and thus form the basis for an extensive social network. Furthermore, many firms in the west face tight labor markets in certain skill segments. The contacts of the initial hires from the east might have been a welcome source for additional recruitment during the unification boom in the west. Through such contacts, job options in the west might arise for workers who did not previously plan to take such a job.

All the results reported in this section seem to indicate that there is little evidence that unemployment increases the probability of choosing to commute to the west. However, those unemployed or laid off are more easily willing to accept a longer commute in the east although they do not actively search for such jobs. It is possible that those who once faced an unemployment spell are different from the general population, presumably with characteristics that make employment in the west less likely. In this case the experience of those workers are not relevant to the policy experiment: if we increase the probability of unemployment for someone currently employed, would she be more likely to take a job in the west? The behavior of currently observed unemployed could only serve as a lower bound for the commuting propensity. However, we doubt that negative selection among the unemployed can be very large since layoffs have been such a pervasive phenomenon in east Germany. It is interesting to note that one group that seems to stick out are those still employed who are facing the threat of losing their job in the east. They more actively search for employment in the west and are more successful in obtaining it.

The Federal Labor Office has continued the Labor Market Monitor in 1992. In the next survey wave in May respondents who commute to the west were asked specifically for reasons for their choice to work at a job in the west. Multiple answers were possible. 58 percent of the commuters gave the inability to find a job in the east as a reason; 47 percent mentioned higher wages; 43 percent pointed out that they wanted to learn new skills. Almost no one gave as a reason that they would like to live in the west (Magvas, 1992).

These numbers seem to be in stark contrast with our results that unemployment does not play a major role in commuting decisions. However, notice that the responses to the direct question were conditional on having found a job in the west, i.e. they are probabilities of having faced unemployment conditional on commuting. This probability can be high given the large (marginal) probability of unemployment in eastern Germany. The result is not in contrast to our claim that unemployment is not a driving force in the commuting decision. If anything, those employed are slightly more likely to start commuting if they change their job at all.

Will higher unemployment in the east lead to more commuting? The similarity of commuting propensities among employed and unemployed seems to indicate that the answer is no. However, there are also possible general equilibrium effects. Given a fixed number of new vacancies in the short run, higher unemployment would increase competition for jobs in the east. This might drive additional workers to look for a job in the west. On the other hand, selection effects might work in the opposite direction. Those losing their job will be on average the lower quality workers and possess characteristics that make commuting less likely. They will have fewer chances of locating a good job in the west. It is impossible to tell what the net effect of unemployment on commuting will look like but it is unlikely to be large.

If commuting to the west is due to the inability of finding a job in the east immediately while workers prefer to hold a local job we should observe a high intensity of search for eastern employment among the west commuters. Table 7 shows little evidence that commuters are planning to return to jobs in the east in the near future. Only 14 percent of those working in the west report to search for a new job. Among recent job starters in the east this number is 28 percent. Furthermore, the proportion of searchers among job starters in the east looking for local jobs is much higher. However, even recent job starters in the east may not be the relevant comparison group for commuters. For example, even new jobs in the east may be less secure than west jobs. Therefore, in the bottom panel of table 7, we present estimates of search intensities from logit models controlling for a variety of person and job characteristics and the threat of job loss. There is no systematic effect that commuters search any more than other workers. This again backs up our conclusion that unemployment is not the main driving force of commuting since commuters are not extremely active in looking for new jobs back in the east. Commuting is not seen as a very short term status.

The prime competitor of the unemployment view is of course the idea that commuters and migrants are in search of higher wages. In fact, the basic analysis of the west commuter sample in table 1 revealed that west jobs offer a substantial wage premium over eastern employment. Table 8 reports wage gains from commuting, i.e. the change in the net monthly wage of those who start a commuting spell and come out of previous employment. In order to be able to look at breakdowns with some accuracy we have pooled results from waves 2 to 4. It is problematic, of course, to pool wage reports even over such a short period since wages in eastern Germany grew by 22 percent from March to November 91. In such a situation the wage gains should decrease over time.<sup>7</sup> However, a comparison of different groups should still be possible. Also, even after pooling the numbers should give an idea about the magnitudes involved.

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<sup>7</sup> See Pischke (1993) for an analysis of changes in earnings during this period. Looking at wage gains by wave does not support the conjecture that these fall over time.

We present median wage gains in table 8 instead of means because some workers report extremely high or low wages leading to large gyrations of the means in such small samples while the medians are much better behaved.<sup>8</sup> Column 1 presents median wage gains in marks. These are in the order of 600 marks. This amount is large when compared to east German wage levels (around 1200 marks) and represents substantial gains in percentage terms. Commuters increased their wages by 55 percent while other job starters only gained 11 percent.<sup>9</sup>

600 marks is also a relatively large amount when compared to the wage gains for commuters in west Germany. About 2.5 percent of the employed in west Germany take more than one hour for a one way commute to a workplace outside their home town. This group should be comparable to west commuters from eastern Germany disregarding those who commute into West Berlin. Gerlach and Stephan (1992) estimate a gross wage gain of 260 marks for men associated with a one hour commute. Their study refers to 1985; nominal wages have increased by about 26 percent between 1985 and 1991. However, our east German numbers are net of taxes so that a reasonable number should be in the order of 200 marks. In this perspective, west commuting is a good deal. It should be kept in mind that commuting in west Germany, while obviously commanding some wage differential, presumably has very different reasons as east-west commuting. Commuters in west Germany tend to be better educated, work in higher level positions, are more often home owners and tend to live either in small communities or big cities.<sup>10</sup> Presumably this means that commuting is a way of combining living in the suburbs with a job in an urban center. Given the location of professional jobs this is probably the preferred arrangement for many commuters. It is unlikely that the east-west commuter case fits a similar description.

At the bottom of table 8 we present a comparison of wage gains for commuters to the west and those who spend more than one hour on their way to work in the east from the July wave. While there is a sizeable differential for commuters in the east, those who commute to the west have a wage gain that is three times as large. Again, this shows that west commuters occupy a special position with respect to their wages.

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8 The standard errors reported in table 8 involve the density of the wage gain distribution at the median. These were computed using kernel density estimates with a Gaussian kernel. The bandwidth is chosen as  $range/N^{1/3}$ .

9 The numbers in column 2 of table 8 represent actual percentage changes not log differences which would be quite different for the magnitudes involved.

10 See Heidenreich (1988) and Gerlach and Stephan (1992).

However, the 600 mark wage differential does not amount to terribly much when taking into account the monetary and intangible costs of commuting. A conservative estimate of the expenses on fuel for someone commuting 60 km is 200 marks per month while the full costs of driving easily could exceed 500 marks;<sup>11</sup> railway tickets are no cheaper. Of course, costs will be less for commuters into West Berlin but there will also be many in the relatively rural border regions to western Germany commuting further. Considering these costs, the wage differential for commuters in west Germany also seems rather small.

We found above that actual or pending unemployment, while no major driving force for commuting, was a reality for a fair number of those easterners who work in the west. If even these workers chose to commute not for the job prospects but purely for higher wages, then those laid off should exhibit the same wage gains as those who quit. However, as rows 2 to 5 of table 8 reveal, there is a visible differential for those who quit but the difference is not huge. The differential is even smaller among the groups leaving secure jobs and expecting layoffs. Of course, this differential may also result from negative selection effects among the laid off workers. For example, if those laid off are less productive and the wage structure in the west reflects productivity better than in the east, a reasonable assumption during this transitional period, then lower wage gains will result for the laid off workers.

Among the commuters who quit the median wage gain is 750 marks. Even this number may understate the true value of a job in the west. Many jobs, especially outside the small segment of unskilled jobs, have a rather steep tenure-earnings profile at the outset. In particular, many workers receive a raise after the first 6 months on their job while the wage gains in table 8 refer to the wage received during the first four months on the job. While there is also a higher layoff probability during these first months on a job, the expected value of a west job will probably exceed the wage gains reported in table 8.

In conclusion, there is obviously a relatively large group of east-west commuters who voluntarily left their jobs in the east. They make up 45 percent of all commuters and realize median wage gains of 750 marks immediately. It may be a reasonable conclusion that those who are actually above the median chose to commute to the west because of higher wages. However, the 25th percentile wage gain in this group is 316 marks.

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11 A commuter driving 60 km twice a day, on 20 days per month, will spend 268.80 marks if her car uses 8 liters/100 km and gas costs 1.40 marks per liter. With a marginal tax rate of 25 percent and enough other expenses to use up the tax deductible for employed (*Arbeitnehmerpauschbetrag*) of 2000 marks annually this translates into net costs of 201.60 marks. Full costs of even a cheap car are no less than 0.30 marks per kilometer which would yield a net cost of 540 marks.



Given the costs of commuting, to us, the gains of the below median commuters seem too small to warrant the conclusion that higher wages could be the sole explanation for commuting. In the following section we will therefore investigate whether human capital accumulation could be an important factor that makes west jobs attractive to east German workers.

#### **4. Getting better: Commuter jobs and firm provided training**

In this section we will address the question whether human capital acquisition may be a major incentive for commuters to take jobs in the west. A large fraction of commuters, about a third, reports participation in some type of job related training scheme in the LMM. We will begin this section by looking at the incidence and the type of training received by commuters and compare it to the level of training in east Germany. Subsequently, we discuss various hypotheses why commuters tend to receive more training than stayers.

Table 9 summarizes some basic facts about firm sponsored training among commuters to the west, commuters in the east and job starters in the east.<sup>12</sup> For comparison reasons the table also reports similar statistics for job starters and commuters in west Germany using information from the Socio Economic Panel (SOEP). First, let us describe sample and variable definitions for the LMM data. One of the goals of this table is to distinguish incidence and duration of the training. Since we also wanted to include the group of commuters in the east the construction of the sample for this table is slightly peculiar. We proceeded as follows. Respondents are included if they were employed in a new job and had two valid interviews following the job change. Since training is often related to the start of a new job and west commuters are job starters it is important to make this restriction. We have only used waves two to four in this construction. Thus, on average, people in the sample will have spent at least six months in their new job. Training measures often start after the first six months on the job are completed and the employee cannot easily be fired anymore. Note that due to the sample selection all respondents must have been employed in the relevant job at the third interview, so we can identify commuters in the east as those who commute at least one hour each way. Training incidence is defined as any training that began after the start of the new job. This is identified by the dates given for the start of the job and of the training measure.

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<sup>12</sup> Olaf Hübler suggested to compare east-west commuters to other commuters in the east and the west. This comparison leads to somewhat different conclusions compared to just looking at other job starters as we did in a previous draft.

The Socio Economic Panel conducted a special set of questions in the 1989 interview. In order to create a sample of job starters we pooled this information with reports on job changes in the previous waves. Since the training questions refer to the previous three years we used everybody who started a job after June 1986. In order to identify commuters we restricted the sample further to those who kept their jobs at least till the 1990 interview since commuting distance was only asked in 1990.<sup>13</sup> Commuting is again defined as commuting for one hour or more. We defined training as job related if respondents report that it took place at least partly during work hours. To be comparable to the east German data only training measures that started within the first six months since the job start are considered.

The first row in table 9 reveals that a third of the west commuters participated in any type of firm sponsored training.<sup>14</sup> Most of this training is on-the-job training related to the start of a new job (Einarbeitung) while firm sponsored courses make up about a third of all training of west commuters. In all cases, the incidence of training is clearly larger among commuters than among job starters in the east. This difference is significant below the 1 percent level in all cases using a Pearson chi-square test. Commuters in the east occupy an intermediate position. However, due to the small sample sizes their training incidence does not differ significantly from west commuters. For any type of training the p-value of a test for equal proportions is 0.16.

The training questions in the SOEP differ somewhat from the LMM. In the LMM respondents are asked whether they received any occupational qualification and are given the categories on-the-job training, courses held at the firm, courses at other educational institutions, and no training as possible answers. In the SOEP respondents were asked about participation in job related courses first. Only if they replied that they have participated in any such course were they asked further questions. Among those were the goals of the training; a possible answer is on-the-job training at a new job. Because of the skip logic of the questionnaire we feel that any report of training will be most comparable to the category firm sponsored courses in the east German data. However, it should be kept in mind that some responses may refer to training that would have been classified as on-the-job training in the LMM.<sup>15</sup>

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13 Overall results, not distinguishing commuters and non-commuters, are very similar in the bigger sample without this restriction.

14 A small fraction (about 5 percent) of the training received by commuters is actually paid for by the Federal Labor Office (i.e. the German unemployment insurance system). We do not delete those reports because presumably similar mistakes appear in the data from SOEP we also use.

15 21 percent of course participants report on-the-job training for a new job as a goal of the training.

Training incidence in the west is higher than for firm sponsored courses in the east but lower than any type of firm related training in the east. The same pattern emerges in the east and the west: commuters are about twice as likely to receive training as other job starters who do not commute. While it seems clear that there is a commuter effect it is less evident whether training incidence is higher in west Germany than in the east.

Table 9 also compares attributes of the training received by commuters and other job starters. On average the training last for about 5 months. There is not much difference in the duration between commuters and stayers in the east while in the west training for stayers tends to be shorter.<sup>16</sup> However, the training of west commuters is much more intensive. They spend on average 27 hours per week in the training scheme compared to 12 hours for other east Germans, 18 hours for west Germans, and 17 hours for commuters in the east. Amazingly, the results on training duration are very similar for east-west commuters and commuters in the SOEP.

For east Germans, training time is broken down into time during working hours and during leisure time. A higher fraction of the training time is during working hours rather than during leisure time among the west commuters. The differences are in each case significant. The p-value for a t-test comparing hours of working time for west and east commuters is 0.015. Notice, however, that the hours per week question was only asked in the first wave of the LMM and is reported for anybody in the relevant category in the first interview. Thus, this information may not be completely comparable to the other information reported in the table. With this caveat in mind, in total, an average training measure for an east-west commuter lasts for 620 hours compared to 400 hours for east commuters and 185 hours for a stayer. For west Germans total duration is 470 hours for commuters and 75 hours for stayers. The training provided to commuters is clearly more extensive in scope while duration in east and west Germany does not seem to differ too much for comparable groups.

Trainees in the LMM also report the goals of the training. Learning to operate new machines is the most important item on the curriculum for each group. Other skills are also relevant and the various groups do not differ much in mentioning the various goals. The only exception are commuters in the east, a third of whom answer that they are being trained for a new occupation. Only learning a new occupation is asked as a separate goal in the SOEP. It is much less important than for easterners.

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16 Duration is asked in seven categories in the SOEP. We have assigned the midpoints to the categories to compute means. Note that this has not been taken into account in computing standard errors.

We have identified commuting as an important factor related to more and more intensive training. An obvious explanation is that commuters tend to possess characteristics that make them more likely candidates for training. Furthermore, commuting from the east to the west seems to be associated with more training than commuting in the east. It is possible that the level of training for job starters is generally higher in the west. Or east-west commuters differ even more strongly from stayers than commuters in the east with respect to their trainability. We feel hesitant to conclude from the comparison with the SOEP data that the level of training is generally higher in the west given the problems in comparability of the questions. While West Germany is notorious for its high level of firm provided training, East Germany also had a high incidence of further education. According to a survey conducted by the Institut für Arbeitsmarkt- und Berufsforschung (IAB) and the Bundesinstitut für Berufliche Bildung (BIBB), participation in training during a five year span in the 1980s was 23 percent in West Germany but 38 percent in the East (see Bundesminister für Bildung und Wissenschaft, 1992, 73-74). More recently the provision of training could have been eroded in the east due to firms' low levels of cash flow or difficulties in obtaining external credit for investments. On the other hand, this should be counterbalanced by having to adapt to new market conditions, more modern technology and different business practices. All of these create large incentives for eastern firms to retrain their workforce in order to compete more effectively in the new environment.

We now turn to the hypothesis that commuters tend to be more easily "trainable." We have seen above, that commuters are younger, tend to be blue collar, and are less likely to lack any previous occupational qualifications. These attributes may be valued by employers when selecting candidates for training schemes. This hypothesis is checked in table 10 where we present estimates from logit models for training controlling for a variety of person and job attributes. We have chosen to estimate these models wave by wave using the answers to the participation question as the dependent variable. This will introduce a length bias, i.e. longer training measures tend to be sampled more often. Since both incidence and duration of training are different between commuters and stayers this procedure sensibly captures both these effects.

Table 10 presents results for a variety of specifications. We do not distinguish on-the-job training and firm sponsored courses since the results were very similar. However, firm level training should only be counted if the training measure actually relates to the current job and not a previous job. This hypothesis can only be checked starting in wave 2 where the begin of the training is asked. Results were qualitatively similar with either definition of training but are more clearcut with the better definition. In each case we present the estimated effect on a dummy for east-west commuters with no controls, with an additional dummy for commuting more than an hour (for waves 1 and 3), and with person and job characteristics also included.

The raw effect for west commuters is large and strongly significant. For the first wave, training refers to any training during the past twelve months. West commuters are 19 percentage points more likely to have received training. In the further waves, where training refers to the past four months, commuters are still 8 to 13 percentage points more likely to participate in training. Including commuting distance lowers the effect for west commuters slightly. In most cases, the coefficient on the distance dummy is much smaller than the effect on commuting west and insignificant. Including demographic and job controls lowers the effect of commuting west to about half its previous level. In our preferred specification, including both distance and other controls and using firm level training only in the current job, west commuters still are 5 percentage points more likely to be trained and this effect is significant. The qualitative result holds up in all specifications. Thus, while commuter characteristics play a role and there may be a (small) commuter effect independent of commuting to the west, there is clearly a differential probability of training for west commuters.

This still leaves open whether it is something about west commuters (e.g. unobserved characteristics like initiative and motivation) or about west German jobs that is responsible for this result. We cannot give a definite answer. Instead, we want to return to the issue whether it may be possible that west commuters seek out jobs with higher training possibilities. Recall that 43 percent of west commuters reports this to be a consideration in their choice to work in the west. Human capital theory suggests that workers who receive training content themselves with lower current wages (Mincer, 1974). If the human capital view is correct then wage gains of west commuters who receive training should be lower than wage gains of those who do not. An alternative hypothesis is provided by dual labor market theory (Doeringer and Piore, 1971) or efficiency wages (Salop, 1979). According to the dual labor market view there are good jobs providing high wages, training possibilities, and other job amenities. Bad jobs lack these attributes. Firms paying efficiency wages may want to deter turnover among trained workers by offering them a wage premium. If either of this is the case wage gains should be higher among commuters who receive training.

Computing wage gains among previously employed west commuters by training incidence (in the sample used for table 9) tends to favor the latter view. The median commuters who receives training increases her wage by 800 marks (standard error 160 marks) while the median commuter without training receives only 580 (145) marks more. In percentage terms the gains are 69 percent for trainees compared to 55 percent for the others. Presumably, the better jobs also go to the better workers. Indeed, 39 percent of those previously employed receive training while only 27 percent of the unemployed do. However, there is no difference in the training incidence depending on whether the employed felt they may loose their job.

In summary, we have found that commuters tend to receive more and longer training than stayers. This difference is found in the east as well as in the west. While some of this differential is attributable commuter characteristics a differential for west commuters remains even after controlling for observable attributes. The remainder may be either due to unobservables or to higher incidence of training in the west. We found no support for the hypothesis that training serves as a human capital investment and is associated with lower wages.

## 5. Conclusion

Commuting from eastern Germany to jobs in the west has become an important phenomenon of the unified German labor market. Since unification it has superseded migration as the major means for east Germans to benefit directly from the west German labor market. There is no agreement among economists why migration is relatively low at present despite the extraordinary wage and unemployment differentials between the eastern and western labor markets. Commuting may be either a complement to migration, by serving as a stepping stone to the west, or a substitute, by opening a temporary valve while the eastern German labor market is under pressure. Thus, the same or very different incentives might affect migrants or commuters. Depending on its nature, commuting might be seen as a benefit or a problem for the German economy as a whole.

We have considered three main hypotheses that might explain commuting. They are related to unemployment, wage differentials, and skill acquisition. We have not formulated and estimated structural models based on these hypotheses but, as a first pass at the data, presented some basic characteristics of the commuter population that might help us better understand problem. Given this setup and the small samples we have to operate with, we cannot arrive at firm answers. But certain tendencies in the data are quite clear.

While polar cases invariably tend to be false it is instructive to consider the most extreme formulations of the three hypotheses. The data are clearly inconsistent with the hypothesis that only employment possibilities and job security matter for commuting. Under this view we should not find any commuters coming out of secure jobs in the east. But almost half of the commuters have quit such jobs. On the other hand, the data can easily be reconciled with a pure wage differential view, that everybody searches for the jobs with the highest earnings. In this case, we will find both previously employed and unemployed among the commuters. Even the fact that those who lost their job in the east gain less by commuting is easily explained by standard search

theory. We are therefore drawn to the conclusion that wages may be the more important determinant for commuting than unemployment. This contrasts with the opposite finding by Akerlof et.al. (1991), Wagner (1992), and Keil and Newell (1993).

But we also have doubts that the pure wage view is the correct explanation. Even among the job quitters who commute are many who do not realize large wage gains. These are not just the ones who commute into West-Berlin and therefore may have very low commuting cost. We have offered the human capital argument as a possible explanation to account for this group. While east-west commuters receive a lot of job related training through their employer it is unlikely that this constitutes a main incentive for commuting. If the human capital view was correct we would expect to see trainees realize lower wage gains than other commuters which is not the case. Furthermore, some of the higher incidence of training is related purely to commuting per se and not being particular to east-west commuters.

This still leaves us with a puzzle that there seem to be some commuters whose behavior is not readily reconciled with economic incentives. Maybe it is not necessary to search for a special explanation for this phenomenon. Commuting is a wide spread phenomenon in western economies. About 5 percent of the east German work force (i.e. including the unemployed) commute to the west. A third of this is commuting into West-Berlin. In west Germany also 2.5 percent of the employed commute, some of them without realizing particularly high wages. Erroneous responses in survey data and highly idiosyncratic factors may be responsible for this.

Thus we come to the tentative conclusion that raising both wages and unemployment in eastern Germany is more likely to reduce commuting than to increase it. Does that mean that the union strategy of quickly adjusting eastern wages to the western level was desirable? The answer to this question is yes if the goal is to protect the wages and jobs of workers in the western part of the country from potential competition from the east.<sup>17</sup> From this perspective the union behavior, which has been dominated by the influence of western unions starting before unification, is quite rational. It is unlikely, however, that this strategy is in the interest of the eastern workers or the German economy as a whole.

There is no a priori reason why migration or commuting per se should be welfare decreasing. In fact, standard neoclassical analysis suggests the opposite that factor mobility tends to increase overall efficiency. However, models in modern industrial

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17 Analyzing qualification profiles of various migrant groups and west German unemployed, Klös (1991) finds that east German migrants tended to fill positions in which they did not compete directly with west German unemployed.

organization and growth theory with human capital externalities and similar features easily yield opposite results. A common presumption is that the most flexible, most motivated, and most able workers leave eastern Germany for the west. Those may also be the workers who might be most important during the transition phase in the east. The fact that many east Germans find jobs in the west without active search is consistent with this hypothesis. However, the argument presumes that these workers now leave important jobs open in the east that can only be filled by "lemons." It is indeed possible that not many eastern workers, having grown up in the socialist environment, possess the flexibility and initiative to cope with the new requirements at the workplace in the current situation in the east. But we have not seen any strong empirical evidence for this argument either. We hope that future research will yield more definite results on both the reasons for east-west migration and commuting and its welfare consequences.

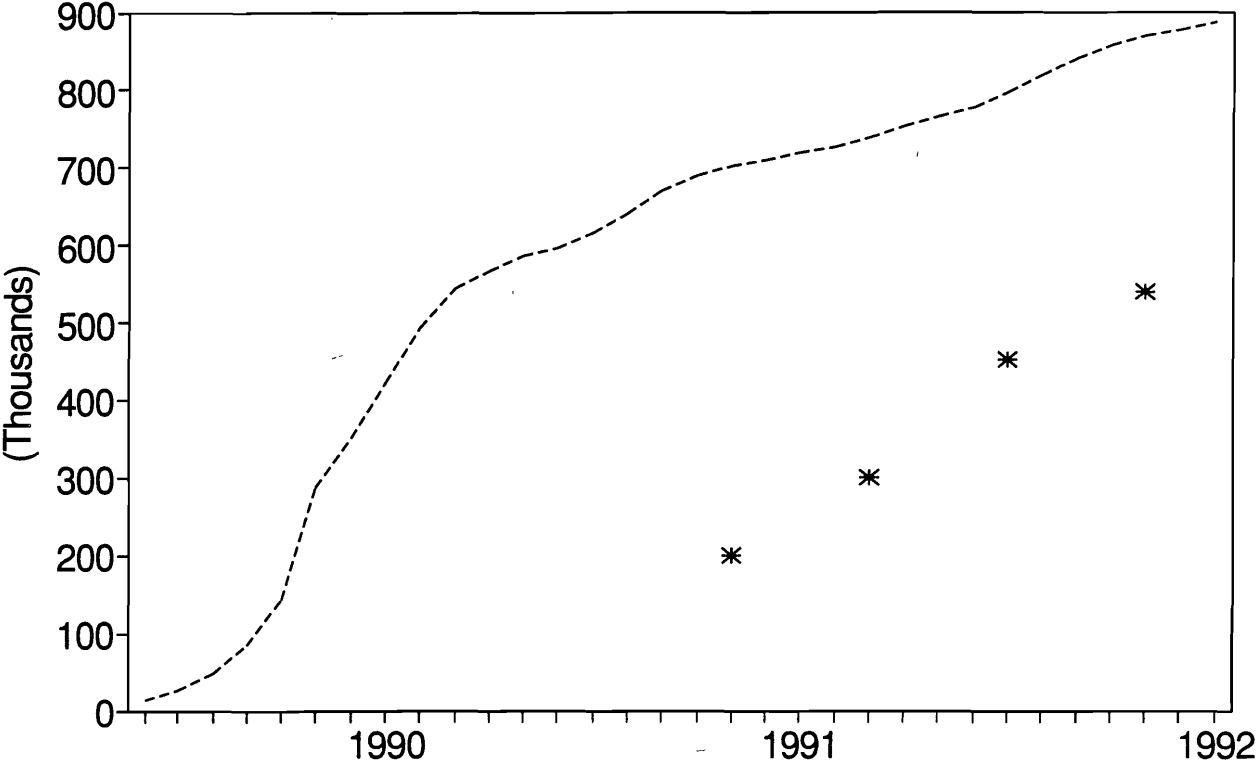


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Figure 1  
Eastern German Migrants and Commuters



----- Stock of Migrants \* Commuters

**Table 1**  
**Selected Characteristics of East-West Commuters**

Characteristic	East-West Commuters				all Eastern	East-East Comm.
	Nov. 90	Mar. 91	Jul. 91	Nov. 91	Jul. 91	Jul. 91
Male	76.4%	76.9%	78.0%	70.2%	49.0%	72.7%
Age	32.1	32.6	32.6	34.2	38.6	37.5
Age ≤ 30	49.7%	48.3%	48.5%	41.0%	27.2%	33.7%
Region of Residence						
Mecklenburg-Vorp.	10.1%	11.7%	14.2%	13.0%	11.7%	10.4%
Brandenburg	17.1%	16.5%	15.6%	17.7%	15.5%	17.8%
Sachsen-Anhalt	17.1%	14.8%	15.3%	11.2%	17.6%	16.1%
Thüringen	19.6%	17.4%	17.6%	14.7%	16.0%	11.0%
Sachsen	13.1%	15.6%	15.3%	21.8%	31.8%	30.4%
East-Berlin	23.1%	23.9%	22.0%	21.5%	7.3%	14.3%
Blue collar	45.2%	42.5%	42.4%	40.1%	32.5%	41.3%
Apprentice	10.1%	8.7%	10.2%	8.6%	3.9%	8.2%
Commuting Distance						
< 1 hour	35.8%	----	35.5%	----	90.4%	---
1-2 hours	18.7%	----	22.5%	----	4.5%	47.2%
> 2 hours	19.7%	----	3.4%	----	0.4%	3.7%
less than daily	----	----	21.5%	----	1.2%	12.4%
no fixed location	25.8%	----	17.1%	----	3.5%	36.8%
continued						

**Table 1 continued**

Characteristic	East-West Commuters				all Eastern	East-East Comm.
	Nov. 90	Mar. 91	Jul. 91	Nov. 91	Jul. 91	Jul. 91
Highest Qualification						
Compl. Apprenticeship	54.7%	52.1%	56.0%	56.2%	51.0%	57.0%
Master Craftsman	10.5%	10.7%	8.7%	7.5%	7.2%	8.9%
Technical School	16.0%	17.7%	17.8%	19.2%	21.7%	14.7%
University	12.7%	13.5%	12.4%	12.3%	12.8%	14.3%
Industry						
Agriculture/mining	3.0%	2.6%	2.7%	3.0%	12.8%	9.8%
Construction	17.6%	14.5%	15.3%	17.0%	9.1%	23.2%
Metal Manufacturing	21.1%	18.9%	19.8%	18.2%	16.8%	17.5%
Other Manufacturing	12.1%	13.6%	12.3%	10.2%	11.9%	9.6%
Trade	20.1%	18.9%	18.8%	18.8%	10.2%	7.3%
Transportation	7.0%	7.0%	7.8%	7.2%	7.8%	9.3%
Banking and Insurance	4.0%	6.1%	6.5%	5.6%	1.8%	3.7%
Services	15.1%	18.4%	16.7%	20.0%	29.7%	19.5%
Median Firmsize	100	100	100	70	119	180
Firmsize ≤ 200	61.8%	61.3%	59.7%	65.7%	56.4%	50.3%
Median net monthly earnings	1670	1900	1900	1800	1200	1300
observations	199	230	295	339	5477	517

Note: Data are from the Labor Markets Monitor for the New German States, waves 1-4. For each cell all valid answers for the variable are used; thus not all counts are based on the full number of observations given in the last line. All Eastern refers to those employed in the east; commuters in the east are those who commute more than one hour.

**Table 2**  
**Previous Labor Force Status of Job Starters**  
row percentages given  
(standard errors in parentheses)

Commuters to the west	unemployed	employed, facing job loss	employed, secure job	other
wave 1	0.6 (0.6)	79.4 (3.1)		20.0 (3.0)
wave 2	12.9 (3.3)	30.7 (4.6)	47.5 (5.0)	8.9 (2.8)
wave 3	22.6 (4.3)	34.4 (4.9)	28.0 (4.6)	15.1 (3.7)
wave 4	23.3 (5.5)	10.0 (3.9)	41.7 (6.4)	25.0 (5.6)
wave 2-4	18.9 (2.5)	27.2 (2.8)	39.0 (3.1)	15.0 (2.2)
<b>Commuters in the east</b>				
wave 1	0.6 (0.6)	57.1 (3.7)		42.4 (3.7)
wave 3	28.3 (6.6)	21.7 (6.1)	32.6 (6.9)	17.4 (5.6)
<b>Job starters in the east</b>				
wave 1	0.2 (0.1)	78.5 (0.8)		21.4 (0.8)
wave 2	14.6 (1.8)	27.2 (2.2)	30.7 (2.3)	27.5 (2.2)
wave 3	21.3 (2.2)	24.2 (2.3)	31.3 (2.5)	23.3 (2.3)
wave 4	27.0 (2.2)	20.7 (2.0)	26.8 (2.2)	25.5 (2.2)
wave 2-4	21.0 (1.2)	24.0 (1.3)	29.5 (1.4)	25.5 (1.3)

Note: Data are from waves 1-4 of the Labor Market Monitor for the New German States. All entries refer to workers who started their current job since the previous interview (or the previous year in case of wave 1). Commuter status refers to the current wave while labor force status refers to the previous wave or to retrospective reports in the case of wave 1.

**Table 3**  
**Separation Reasons for Previously Employed Job Starters**  
row percentages given  
(standard errors in parentheses)

Commuters to the west	layoff	quit, facing job loss	quit, secure job	other
November 90 (wave 1)	16.9 (3.1)	82.4 (3.1)		0.6 (0.7)
March 91 (wave 2)	22.8 (4.7)	25.3 (4.9)	48.1 (3.8)	3.8 (2.2)
July 91 (wave 3)	25.4 (5.7)	32.2 (6.1)	39.0 (6.4)	3.4 (2.4)
November 91 (wave 4)	33.3 (8.6)	3.3 (3.3)	50.0 (9.1)	13.3 (6.2)
pooled waves 2-4	25.6 (3.4)	23.8 (3.3)	45.2 (3.8)	5.4 (1.7)
<b>Commuters in the east</b>				
November 90 (wave 1)	18.5 (4.0)	80.4 (4.1)		1.1 (1.1)
July 91 (wave 3)	48.2 (9.6)	15.8 (6.8)	29.6 (8.8)	7.4 (5.0)
<b>Job starters in the east</b>				
November 90 (wave 1)	31.4 (1.1)	35.0 (1.1)		33.6 (1.1)
March 91 (wave 2)	44.5 (3.4)	16.5 (2.5)	35.8 (3.3)	3.2 (1.2)
July 91 (wave 3)	45.0 (3.4)	15.6 (2.5)	32.2 (3.5)	7.2 (1.9)
November 91 (wave 4)	46.5 (3.7)	12.0 (2.4)	32.3 (4.5)	8.2 (2.0)
pooled wave 2-4	45.3 (2.1)	14.8 (1.5)	33.9 (2.0)	6.0 (1.0)

Note: Data are from waves 1-4 of the Labor Market Monitor for the New German States. All entries refer to workers who started their current job since the previous interview and were employed at the previous interview (or the previous year in case of wave 1).

**Table 4**  
**Current Job Search Behavior by Employment Status**  
column percentages given  
(standard errors in parentheses)

	unemployed	employed, facing job loss	employed, secure job	other	total
search in the west	17.5 (0.8)	11.5 (0.4)	3.1 (0.1)	5.2 (0.3)	5.9 (0.1)
search elsewhere in the east	3.3 (0.4)	1.7 (0.2)	0.4 (0.1)	0.7 (0.1)	0.9 (0.1)
search locally	63.6 (1.0)	26.8 (0.6)	5.1 (0.2)	10.8 (0.4)	14.5 (0.2)
do not search	15.6 (0.7)	60.1 (0.6)	91.4 (0.2)	83.4 (0.5)	78.7 (0.2)
Conditional on searching					
search in the west	20.7 (0.9)	28.8 (0.9)	35.7 (1.3)	31.2 (1.6)	28.2 (0.6)
search elsewhere in the east	4.0 (0.4)	4.1 (0.4)	5.1 (0.6)	4.1 (0.7)	4.3 (0.3)
search locally	75.4 (1.0)	67.1 (1.0)	59.2 (1.3)	64.7 (1.7)	67.6 (0.6)

Note: Data are pooled from waves 1-4 of the Labor Market Monitor for the New German States. Top panel refers to the entire potentially active population. Bottom panel refers only to those who answered yes when asked whether they are currently searching for a job.



**Table 5**  
**Logit Models for Searching**  
**in the West Conditional on Search**  
(standard errors in parentheses)

Independent Variable	November 90	March 91	July 91	November 91
Constant	-0.198 (0.353)	-0.061 (0.410)	0.030 (0.450)	-0.606 (0.535)
Apprenticeship	0.237 (0.212)	0.501 (0.246)	0.450 (0.267)	0.054 (0.306)
Master	0.323 (0.301)	0.485 (0.345)	0.145 (0.386)	-0.002 (0.422)
Technical School	0.203 (0.243)	0.749 (0.272)	0.843 (0.294)	0.664 (0.326)
University	0.744 (0.255)	1.037 (0.289)	1.132 (0.308)	0.835 (0.345)
Experience	-0.042 (0.024)	-0.050 (0.026)	-0.083 (0.029)	-0.025 (0.033)
Exp <sup>2</sup> /100	0.016 (0.046)	0.019 (0.050)	0.080 (0.056)	0.058 (0.065)
Female	-1.368 (0.124)	-1.549 (0.132)	-1.341 (0.143)	-1.253 (0.154)
Brandenburg	0.374 (0.196)	0.520 (0.221)	0.329 (0.239)	0.574 (0.263)
Sachsen-Anhalt	-0.106 (0.204)	-0.095 (0.222)	0.184 (0.238)	0.207 (0.268)
Thüringen	0.207 (0.206)	0.433 (0.216)	0.188 (0.238)	0.096 (0.273)
Sachsen	-0.340 (0.194)	-0.341 (0.207)	-0.351 (0.226)	-0.371 (0.257)
East-Berlin	2.222 (0.225)	2.218 (0.250)	2.226 (0.261)	2.639 (0.286)
employed, facing job loss	0.337 (0.135)	0.164 (0.151)	0.114 (0.171)	0.259 (0.189)
unemployed	0.058 (0.165)	-0.020 (0.174)	0.047 (0.176)	0.148 (0.207)
other labor force status	-0.445 (0.243)	-0.350 (0.251)	0.159 (0.248)	0.402 (0.241)
Number of obs.	2267	1704	1569	1564
Pseudo R <sup>2</sup>	0.187	0.186	0.181	0.211

Note: Data are from waves 1-4 of the Labor Market Monitor for the New German States. Samples include respondents who answered yes if asked whether they searched for currently for a job.

**Table 6**  
**Search Behavior of Job Starters**  
**in the Previous Period by Previous Employment Status**  
 column percentages given  
 (standard errors in parentheses)

Commuters to the west	unemployed	employed, facing job loss	employed, secure job	other	total
searched in the west	47.9 (7.2)	51.5 (6.1)	37.8 (4.9)	39.5 (7.9)	43.5 (3.1)
searched elsewhere in the east	0.0	5.9 (2.8)	0.0	0.0	1.9 (0.9)
searched locally	35.4 (6.9)	20.6 (4.9)	10.2 (3.1)	5.3 (3.6)	17.2 (2.3)
did not search	16.7 (5.4)	22.1 (5.0)	52.0 (5.1)	55.3 (8.1)	37.4 (3.0)
<b>Job starters in the east</b>					
searched in the west	23.0 (2.7)	16.2 (2.2)	6.1 (1.3)	7.4 (1.6)	12.3 (1.0)
searched elsewhere in the east	5.1 (1.4)	2.9 (1.0)	2.1 (0.8)	1.4 (0.7)	2.6 (0.5)
searched locally	60.9 (3.2)	47.4 (3.0)	25.8 (2.4)	21.6 (2.4)	37.7 (1.4)
did not search	11.1 (2.1)	33.5 (2.9)	66.1 (2.6)	69.6 (2.7)	47.4 (1.5)

Note: Data are pooled from waves 1-4 of the Labor Market Monitor for the New German States. All entries refer to workers who started their current job since the last interview. Commuter status refers to current wave, waves 2-4 are used. Labor force status and search refer to previous wave, which means waves 1-3.

**Table 7a**  
**Current Search Behavior of Commuters and Job Starters**

row percentages given  
 (standard errors in parentheses)

	search in the west	search elsewhere in the east	search locally	do not search
Commuters to the west	6.7 (1.2)	0.9 (0.5)	5.8 (1.1)	86.5 (1.6)
Job starters in the east	7.1 (0.4)	1.3 (0.2)	19.3 (0.7)	72.3 (0.7)

**Table 7b**  
**Logit Model for Searching**  
**Conditional on Being Employed**

wave	independent variable		
	commutes west	commuter	expects job loss
November 90	0.174 (0.262)	---	2.164 (0.082)
November 90	0.135 (0.271)	0.072 (0.129)	2.164 (0.082)
March 91	-0.253 (0.287)	---	1.970 (0.087)
July 91	-0.327 (0.276)	---	1.961 (0.105)
July 91	-0.333 (0.288)	0.011 (0.172)	1.961 (0.105)
November 91	0.427 (0.312)	---	2.414 (0.124)

Note: Data are from waves 1-4 of the Labor Markets Monitor for the New German States. Data are pooled for the top panel. All entries in the top panel refer to respondents who have started their job since the last interview. Entries in the bottom panel refer to employed excluding self-employed and apprentices. Commuters are respondents who report to commute more than one hour to work. Expects job loss are respondents who answered yes to the question whether they expect to loose their job within the next year. Regressions also include a constant, four education dummies, experience, experience squared, a linear term for the first twelve months of tenure, three dummies for tenure over one year, a dummy for gender, eight industry dummies, and the log of the firm size.

**Table 8**  
**Median Gain in Net Monthly Wages of Commuters in Marks and in Percent**  
 (standard errors in parentheses)

Commuters to the west	waves 2 to 4 pooled	
	in Marks	in percent
all employees previous wave	600 (32)	56.2 (6.2)
separation by quit	750 (96)	61.3 (5.5)
separation by layoff	512 (58)	44.0 (18.4)
secure job	670 (99)	56.0 (5.3)
expecting job loss	575 (85)	58.0 (13.9)
job starters in the east	115 (17)	11.1 (2.2)
	July 91 (wave 3)	
commuters to the west	800 (159)	73.0 (20.6)
commuters in the east	273 (168)	31.0 (17.6)

Note: Data are from waves 1-4 of the Labor Markets Monitor for the New German States. All entries refer to respondents who were employed in the previous wave excluding self-employed and apprentices and reported non-zero wages in both the previous and the current wave. Commuters in the east are respondents who report to commute more than one hour to work. Expecting job loss are respondents who answered yes to the question whether they expect to loose their job within the next year; secure job is the remainder group.

**Table 9**  
**Training Received by Commuters and Other Job Starters**  
 (standard errors in parentheses)

	commuters to the west	commuters in the east	job starters in the east	commuters in the west	job starters in the west
Incidence: (in percent)					
any type of firm level training	33.5 (3.4)	25.0 (4.7)	18.6 (1.4)	---	---
firm sponsored courses	11.5 (2.3)	9.5 (3.2)	4.1 (0.7)	18.6 (5.9)	8.9 (1.1)
on-the-job-training	24.6 (3.1)	19.1 (4.3)	15.9 (1.3)	---	---
Mean Duration (months)	5.3 (1.1)	5.5 (3.1)	3.6 (0.6)	4.6 (1.8)	1.4 (0.3)
Hours of working time per week (wave 1)	23.6 (3.6)	11.3 (2.5)	7.5* (0.6)	27.7 (3.5)	18.2 (1.7)
Hours of leisure time per week (wave 1)	3.3 (0.9)	5.2 (1.5)	4.4* (0.3)		
Goals of the training: (in percent)					
Learn to operate new machines	46.0 (6.3)	42.1 (11.3)	42.5 (4.3)	---	---
Learn new business skills	31.7 (5.9)	31.6 (10.7)	31.3 (4.0)	---	---
Learn other skills	20.6 (5.1)	15.8 (8.4)	24.6 (3.7)	---	---
Learn new occupation	19.1 (5.0)	31.6 (10.7)	18.7 (3.4)	9.1 (8.7)	1.8 (1.2)

a. Refers to all employees in the east, not just job starters

Note: Data in columns 1-3 are from waves 1-4 of the Labor Markets Monitor for the New German States. Unless otherwise noted data are pooled from waves 2 to 4 on respondents who started a new job and remained in that job for at least two adjacent interviews. Attributes of reported training refer to the first incidence of firm related training (courses or on-the-job) in this job. Training that started prior to commencement of the job is excluded. Differencing from the remaining rows in the table reports on hours per week are for all respondents in the relevant category in wave 1. Data in columns 4 and 5 are from the Socio Economic Panel for West Germany. Respondents are included if they started a job after June 1986 and still held that job at the 1990 interview. Training information comes from the 1989 interview, commuting information from the 1991 interview. Also see text.

**Table 10**  
**Logit Models for Receiving Firm Related Training:**  
**Effect of Commuting West**  
 (standard errors in parentheses)

[derivative of probability with respect to commuting west in brackets]

Control variables	November 90	March 91	July 91	November 91
	Dep. var.: Any type of firm level training			
Raw effect for west commuters only	1.268 (0.176) [0.190]	1.417 (0.173) [0.132]	1.001 (0.187) [0.088]	0.808 (0.239) [0.085]
Including commuting distance	1.175 (0.185) [0.176]	---	0.812 (0.207) [0.072]	---
Including person and job characteristics	0.343 (0.198) [0.051]	0.725 (0.211) [0.068]	0.509 (0.222) [0.045]	0.417 (0.281) [0.044]
Including commuting distance, person and job characteristics	0.281 (0.206) [0.042]	---	0.348 (0.236) [0.031]	---
	Dep. var.: Firm level training in current job			
Raw effect for west commuters only	---	1.387 (0.181) [0.112]	1.087 (0.193) [0.084]	0.831 (0.256) [0.072]
Including commuting distance	---	---	0.938 (0.215) [0.072]	---
Including person and job characteristics	---	0.613 (0.222) [0.050]	0.727 (0.234) [0.056]	0.606 (0.305) [0.053]
Including commuting distance, person and job characteristics	---	---	0.601 (0.250) [0.046]	---
Number of observations	6224	5308	4335	3173

Note: Data are from waves 1-4 of the Labor Market Monitor for the New German States. Firm level training refers to firm sponsored courses or on-the-job training during the four months preceding the interview. For firm level training in current job training spells that started before commencement of the current job are excluded. Commuting distance refers to a dummy variable that is one if commuting distance is one hour or more. Person and job characteristics included are four education dummies, experience, experience squared, a dummy for gender, eight industry dummies, three dummies for firm size, tenure in month if tenure is less than one year and three dummies for tenure greater than one year. All regressions also include a constant. Derivatives of the probability with respect to regressor  $k$  are  $p(1-p)b_k$  evaluated at mean predicted probabilities.