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## Conference Paper

# Entry-rates, the share of surviving businesses and employment growth: differences between West and East Germany since unification

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**Entry-rates, the share of surviving businesses and employment growth: differences  
between West and East Germany since unification**

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**Abstract:**

The aim of this paper is to evaluate the significance of newly founded firms for employment and restructuring of the economy in East Germany since 1991 until 2000. It is shown that newly founded establishments are of great importance for the employment today. Especially firms that were founded shortly after unification were very successful and survived and grew at astonishingly high rates. But in the last years the overall poor economic performance of East Germany hinders the development of these new firms. Today newly founded firms in East Germany have worse chances to survive and to grow than in West Germany.

**1 Introduction**

German unification and the introduction of the market economy in the former GDR triggered a complete restructuring of corporations and an enormous boom in the establishment of new firms. Most of the larger businesses that had been founded prior to unification were being administered by the *Treuhandanstalt*, a special body charged with privatising these formerly state-owned enterprises. The majority of these enterprises usually manufactured a number of extremely diverse products or offered a broader range of services than western European companies. Before they could be privatised, they had to be subdivided into a number of smaller viable business units. The process could be graphically termed a “top-down reform”. In December 1994, the *Treuhandanstalt* was dissolved, bringing this restructuring of the East German corporate scene to an end. However, a parallel “bottom-up reform” played the greater part in the regeneration of East German establishment structures by establishing many new firms and thereby creating new jobs.

After unification, attention was initially directed to the privatisation of former state-owned enterprises (see e.g. Wahse et al, 1996). According to more recent literature, now the focus is on new establishments and their success. The question arises how much these new firms attribute to total employment today.

Therefore the aim of this paper is to show the significance of newly founded firms for the East German labour market. For this it is necessary to analyse the number of newly founded firms as well as their survival and growth rates.

## **2 New Business Growth in East Germany**

### **2.1 The IAB Establishment Register**

The IAB Establishment Register is derived from the employment statistics register of the German Federal Labour Office (*Bundesanstalt für Arbeit, BA*) and covers all firms with at least one employee liable to social security<sup>i</sup>. The employment statistics register is derived from counting the notifications given by employers' to the social security funds about the number of workers liable to pay social security contributions.<sup>ii</sup>

The IAB Establishment Register provides data on the population of establishments since the introduction of the employment statistics register in East Germany in January 1991. The register includes not only single units but branch plants also. Since unification longitudinal data on each establishment is available covering the number of employees in June of each year, the industry and the location. So it is possible to describe the development of employment of each unit. But the data set does not include any original data to reflect types of business (i.e. already existing firm/ new firm/ hive-off). In order to distinguish the firms according to their biography, some assumptions are necessary.

By this classification one obtains four different categories. The first two categories include companies of the former GDR. These are referred to as incumbent firms. They are subdivided according to size in January 1<sup>st</sup> 1991 when first registered. Establishments with more than 20 employees were assumed to be mainly parts of the former state owned industries (Kombinate). The second category summarises smaller firms which existed already in the former GDR but also firms that were founded in late 1989 and 1990.

All firms that have no employee information on January 1, 1991 are assumed to be new firms. As with incumbent firms, they are subdivided into two categories according to the number of persons employed on the first reference date. Firms with less than 20 employees are regarded as newly founded firms. This makes it possible to distinguish approximately genuine newly founded firms from hive-offs. Firms with more than 20 employees are regarded as newly founded firms. Whereas those with 20 or more employees are assumed to be mainly hive-offs and a few bigger newly founded branch plants.

Figure 1 shows the importance of these four types of firms for the employment in East Germany for the period from 1991 until 2000. In mid 1991 about 80% of employees

were working in large incumbent firms. Their share declined rapidly. By 1993 only 40% and in 2000 less than 20% of the employees were working in these firms. In contrast is the significance of the small newly founded firms. Their share grew fast, in 1995 it overtook the one of the large incumbent firms. Since then their share is the biggest of the four types. In 2000 some 40% of employees were working in these firms. The development of these firms, that means the continuing establishment of new firms as well as their performance when founded is of outstanding importance for the East German labour market. Therefore our analysis concentrates on these firms.

## **2.2 Employment Trends in East German Firms**

### **The Development of the Number of Firms after Unification**

The number of firms in the sectors surveyed more than doubled in the period under review (January 1991: approximately 178.000; June 2000: 394.000). Most of this increase is attributable to small newly founded firms. By mid-2000 they accounted for almost 40% of total employment and had become more than twice as significant for the labour market in the former GDR as larger, incumbent firms.

The proportion of new firms among all firms expanded so rapidly because on the one hand many new firms were being established (see Table 1) and successfully surviving, and on the other hand because there were so many closures and lay-offs by former state-owned enterprises (see e.g. Wahse et al, 1996).

Table 1 shows the number of newly founded firms per 1,000 employees in East Germany compared to West Germany<sup>iii</sup>. It shows that the total-birth-rates in East Germany are higher than in West Germany in every year. In the beginning there were 2.6 times as much new firms founded per employee in East Germany than in the West. There was a general decline during the whole period, with a short upswing in the late 1990s which corresponds with a short period of a slight recovery on the labour market.

In the beginning, the foundation-boom included all industries. But the year when this boom ended, varies considerably between industries. In the first year the rate was more than twice as high in the East in all industries, excluding financing. Remarkable were the high rates in industries that gained from the massive investments in infrastructure and improvements in the technical standards of the production sector (e.g. construction, investment goods industry) In most sectors the founding-rates levelled quickly. The boom in infrastructure was fuelled by massive transfers from the West. Due to

increasing problems with financing this boom and subsequently the affected firms, came into crisis.

**Table 1: Establishment Birth-rates in East Germany compared to West Germany (West Germany = 1)**

Industry	7/91-6/92	7/92-6/93	7/93-6/94	7/94-6/95	7/95-6/96
Electricity /Construction Materials	3.2	2.7	2.2	1.9	1.5
Investment Goods Industry	3.2	2.4	1.8	1.5	1.2
Consumer Goods Industry	2.3	1.9	1.4	1.2	1.1
Construction	3.4	2.6	2.3	2.2	2.0
Commerce	2.8	2.4	1.9	1.6	1.4
Transport / Communication	2.7	2.1	1.7	1.4	1.2
Financing / Insurance	1.5	1.7	1.7	1.7	1.5
Consumer Services	2.4	1.5	1.3	1.2	1.1
Business Services	2.3	2.0	1.9	1.7	1.4
<b>Total</b>	<b>2.6</b>	<b>2.0</b>	<b>1.7</b>	<b>1.5</b>	<b>1.3</b>

Industry	7/96-6/97	7/97-6/98	7/98-6/99	7/99-6/00	Average 91/00
Electricity / Construction Materials	1.6	2.0	1.6	1.2	2.0
Investment Goods Industry	1.2	1.4	1.2	1.1	1.7
Consumer Goods Industry	1.0	1.4	1.4	1.1	1.4
Construction	2.0	2.4	2.4	1.8	2.3
Commerce	1.2	1.8	1.6	1.1	1.8
Transport / Communication	1.0	1.3	1.2	0.9	1.5
Financing / Insurance	1.4	2.6	1.4	1.1	1.6
Consumer Services	0.9	1.3	1.1	0.9	1.3
Business Services	1.2	1.7	1.5	1.1	1.6
<b>Total</b>	<b>1.2</b>	<b>1.7</b>	<b>1.5</b>	<b>1.1</b>	<b>1.6</b>

But the number of newly founded firms alone tells nothing about the success of these firms. For this, data on the rates of survival and growth (i.e. employment growth) are needed.

### **New firm survival**

Figure 2 compares the survival rates of three cohorts of new firms<sup>iv</sup> with the corresponding West German cohorts<sup>v</sup>. However, in the first two cohorts, the survival rates of the East German firms are higher than for West German cohorts. In the third cohort the differences are nearly levelled. This shows that prospects for survival were especially high shortly after unification. In East Germany nine years later, 47% of the firms of the oldest cohort (1990/91) were still in business compared to 37% in West

Germany. A closer look reveals though that the discrepancy between East and West of this cohort is shrinking. Whereas the differences in the maximum (1993/94 until 1995/96) were above 13 percentage-points, it dropped to 10.6 in the 1999/00 period (see annex 1). This effect occurs in the other cohorts, too. So the decreasing economic activity affects East German firms harder. In addition it affects not only the survival of newer cohorts, but also the odds of older firms. On the other hand, for West German firms the situation deteriorated only slightly. But this crisis lead only to a normalisation of the survival rates in the East. This might also be an effect of the increasing competition among the growing numbers of newly founded businesses in East Germany.

There also exist distinct differences between industries. Figure 3 shows survival rates of the oldest cohort and the cohort 1994/95 for selected industries in East Germany<sup>vi</sup>. Figure 2 already showed, that the survival rates of the older cohort is much higher than of the younger one. Now it can be seen, that this holds for each single industry, too.

Considering the older cohort at first, it is noticeable that, depending on the duration, the construction industry and the consumer services are those industries with the highest survival rates. The favourable development of consumer service firms is for the most part due to the high proportion of public services (health, education) in this industry. During the first four years, construction was the industry with fewest closures. The afterwards declining odds may be the result of the decreasing economy, which hit this industry in particular. The third rank belongs to the production sector, followed by business services. The relatively poor performance of the production sector is due to high failures-rates in consumer goods industry. In commerce the survival rates are very low. This is presumably partly due to the effect of the very early privatisation of this sector (see Aachen/ Zarth 1994). Because of this the competition started early, which lowered the survival rates of the firms.

The most remarkable difference in the younger cohort is the performance of construction firms. They dropped from first resp. second rank to the last<sup>vii</sup>. Thus it seems as if born into a difficult economic situation, these firms have to struggle much and fail often. Nevertheless, the influx of newly founded firms in this industry remains astonishingly high (see table 1).

The highest survival rates are now in the producing industry. This comes with no surprise. The entrance of new firms in this industry is highly regulated compared to other industries. Special qualifications are required that are both expensive and time-consuming to obtain. But they are compulsory for setting-up a crafts-firm (“Handwerksordnung”). Moreover new firms in this industry need more capital and therefore founding is usually better planned. Taken together, these are all factors that have a positive influence on the odds of surviving.

### **New firm growth**

Figure 4 shows the differences between the average growth rates in the work force employed by new firms in East and West Germany. There are three effects noticeable. First, East German firms are bigger when founded. Second, the earlier a firm was established, the stronger its growth. Establishments of the first cohort grew during the first five years by factor 3.7, the second by 2.1 and the youngest cohort by factor 1.9. Therefore new East German firms founded shortly after unification have grown much more than their western counterparts. But - and this is the third effect which can be observed from figure 3 - this holds only until about 1996. Since then, the growth of the eastern firms slowed down and the West German cohorts grow faster. This means that the gap of the average size between both German parts is closing. However, by June 2000, the new East German firms even in the third cohort were still bigger than their western counterparts. Again this is an indication, that the extraordinary conditions for start-ups shortly after unification came to an end in the mid 1990's. But the now faster growth of West German firms indicates that the still huge differences between both parts of Germany are not narrowing but in the opposite widening.

Explanations for the difference in size when founded could be seen in the different industry-structure especially the higher share of construction or other structural differences of newly founded firms like owner structure etc..

The firm growth in different industries is shown in figure 5. The starting size in the older cohort is very similar in each industry (2.3 – 3.5 persons employed). In the newer cohort these differences are much more pronounced (2.6 – 4.8 persons employed). Especially the construction firms are relatively big when founded. The high share of construction in East Germany therefore might partly explain the overall differences in size of firms while established between East and West. In the older cohort the growth

period of the surviving firms came to an end after six resp. seven years (1996, 1997) in all industries. Especially the construction industry suffered under the decreasing economic situation that led not only to increasing failure rates, as shown in figure 3, but also by shrinking employment in the surviving firms. By 2000, construction firms are only second in size after production industry, close followed by the steady growing business service firms. Commerce and consumer service firms remain a good deal smaller than the other industries.

Every industry of the younger cohort, except consumer services, grew more slowly compared to the older cohort, even though the starting sizes are higher. In this younger cohort, the growth period appears to be even shorter, about four years only. Note that this holds not for the firms belonging to the producing industry. Here firms are still growing at high rates in the last period (5th year: 1999/00).

### **Development of the number of employees in cohorts of newly founded firms**

Together, all three effects (number, survival and growth) of new establishments are responsible for the development of the number of employees of a cohort. More than 10 years ago, Boeri and Cramer (1991) wrote that in the longer run the overall number of employees of a cohort of newly founded firms remains practically stable because closures on the one hand and expansion of surviving firms on the other hand balance out. As figure 6 shows, this is still true in West Germany. After a few years of moderate expansion the two older West cohorts stay close to 100. But the differences between East and West are distinct and with the first cohort even huge. This complies with the high founding-, surviving- and growth-rates of this cohort. However, after three years of rapid growth and one further year of stagnation, since 1995 employment of this cohort shrank sizeably. But nevertheless in 2000 these firms employ still about 70% more workers than in the beginning. The second shown eastern cohort (1992/93) also grows much more in the first years than the western complement. But in 2000 both cohorts are at the same level close to 100. The newest cohort (1994/95) grows slightly more in the East during the first two years. But shrinks to only 90% in 2000 what is considerably fewer than the corresponding western cohort.

It appears that the difference between new firms' employment growth in the territory of the former GDR and FRG is still more pronounced than between their survival rates<sup>viii</sup>. After unification there must have been a relatively short period when conditions for new

firm formation were particularly favourable and which positively affected their further prospects for survival and growth. Semlinger (1997) states that for a short period after unification there was an exceptionally favourable “start-up window” for new firms. One explanation might be that these firms initially encountered a wide open market where they were able to establish themselves quickly. Subsequent new firm cohorts did not enjoy the same advantage; just like their West German counterparts, they had to compete against existing firms. In addition, the economic climate for the more recent cohorts deteriorated, which was also detrimental for these new firms’ survival and employment growth. Because of the multitude of newly founded firms the stock of companies in the eastern states of Germany is now very young and on average much smaller than in West Germany (see Lehmann, 1996). Therefore it could be assumed that the thorough restructuring process in the East German economy is almost complete. But, as other important economic indicators, such as unemployment rate or incomes, also show, the leeway of the East German economy is no longer closing but widening. In this context it is of special concern if even newly founded businesses have a harder time in East than in West Germany.

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Figure 1: Shares of employment in incumbent and newly founded establishments in East Germany 1991-2000

Source: Establishment Register of the IAB

Figure 2: Survival rates of East and West German cohorts of newly founded firms

Source: Establishment Register of the IAB

Figure 3: Survival rates in selected industries: A comparison of the cohorts 1/91-6/91 and 7/94-6/95 in East Germany

Source: Establishment Register of the IAB

Figure 4: Comparison of the average size development of three cohorts of newly founded firms in East and West Germany

Source: Establishment Register of the IAB

Figure 5: Comparison of the average size development of two cohorts of newly founded firms in East Germany

Source: Establishment Register of the IAB

Figure 6: Development of the number of employees of East and West German cohorts of newly founded firms

Source: Establishment Register of the IAB

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<sup>i</sup> This dataset is described extensively in Keeble/ Potter (1990: 131ff).

<sup>ii</sup> Agriculture, public services, railways and postal service are omitted because of insufficiencies of the data in these industries.

<sup>iii</sup> Although it is not our intention to consider West German conditions as being a literal ‘benchmark’ for East Germany (see Lutz, 1996: 1-3), it is nevertheless interesting to compare both rates in order to assess the high founding-rates of East Germany. In this way effects from the business-cycles are excluded as well.

<sup>iv</sup> The first cohort includes firms formed between 1 July, 1990 and 30 June, 1991 (west) resp. 2 January 1991 and 30 June 1991 (east); the second and the third cohorts refer to the periods 1 July, 1992 to 30 June, 1993, and 1 July, 1994 to 30 June, 1995 both for East and West.

<sup>v</sup> A table of the exact rates for all cohorts are in annex 1.

<sup>vi</sup> For a better overall view we dropped financing and transportation/ communication. Both industries play a minor role for employment.

<sup>vii</sup> From 1993/94 onwards construction holds the last rank in every cohort.

<sup>viii</sup> It must be pointed out that this difference might be slightly exaggerated in the case of the first cohort, especially the difference in survival rate. Comparisons with the IAB Establishment Panel indicate that this cohort includes a relatively large number of companies that are not new firms at all but smaller long-established firms (hive-offs, private GDR firms).