

## **Net-Effects of Objective 4 Measures**

- Results and Method of a Comparison Group Analysis in Germany –

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# **Net Effects of Objective 4 Measures in SME. Results and Method of a Comparison Group Analysis (CGA) in Germany**

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## **1. Introduction: Surprisingly Positive Results**

Below, I would like to present you some results and the method of a comparison group analysis that has been carried out by us in the framework of an Objective 4 evaluation in Germany. Aim of the analysis was the determination of net effects for enterprises, resulting from these ESF-interventions.

Since this is - according to our knowledge - the first comparison group analysis in the framework of Objective 4 measures, we took the opportunity to present and discuss it in detail here at Edinburgh within a broader and more methodically oriented framework. Since we herewith enter an empirical new territory, we are very much looking forward to get some constructive critic from our capable colleagues. For us, the most important methodical question is whether it makes sense to further continue this path of measuring the success of ESF-measures and how the chosen approach can be optimised.

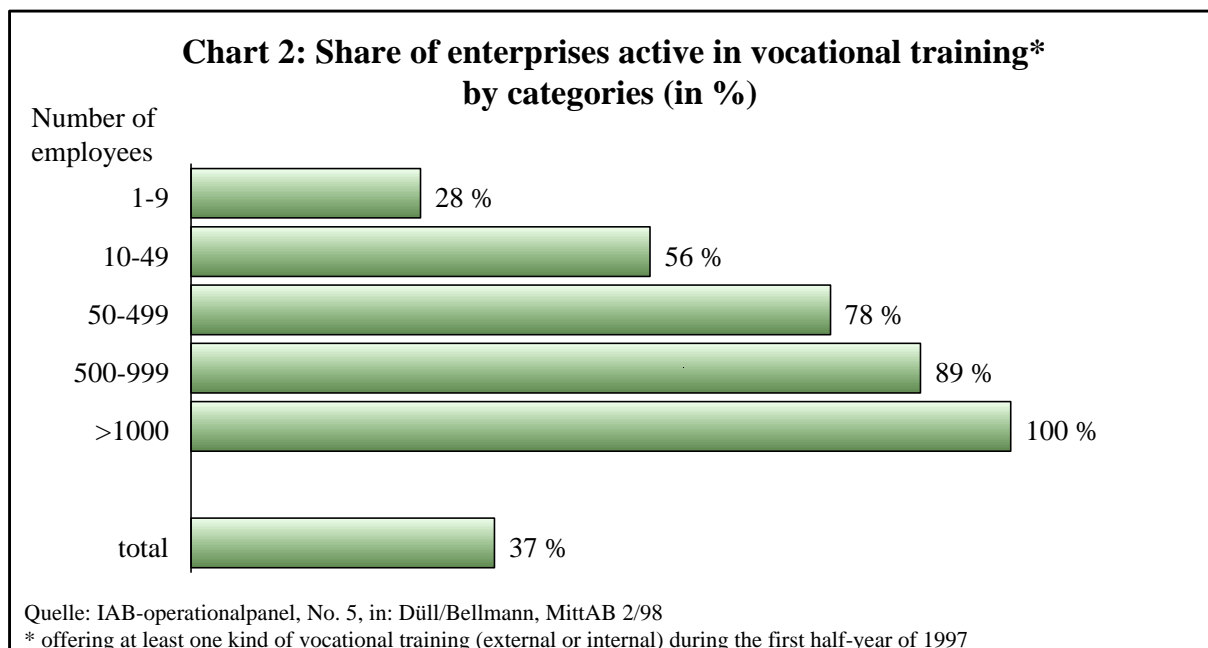
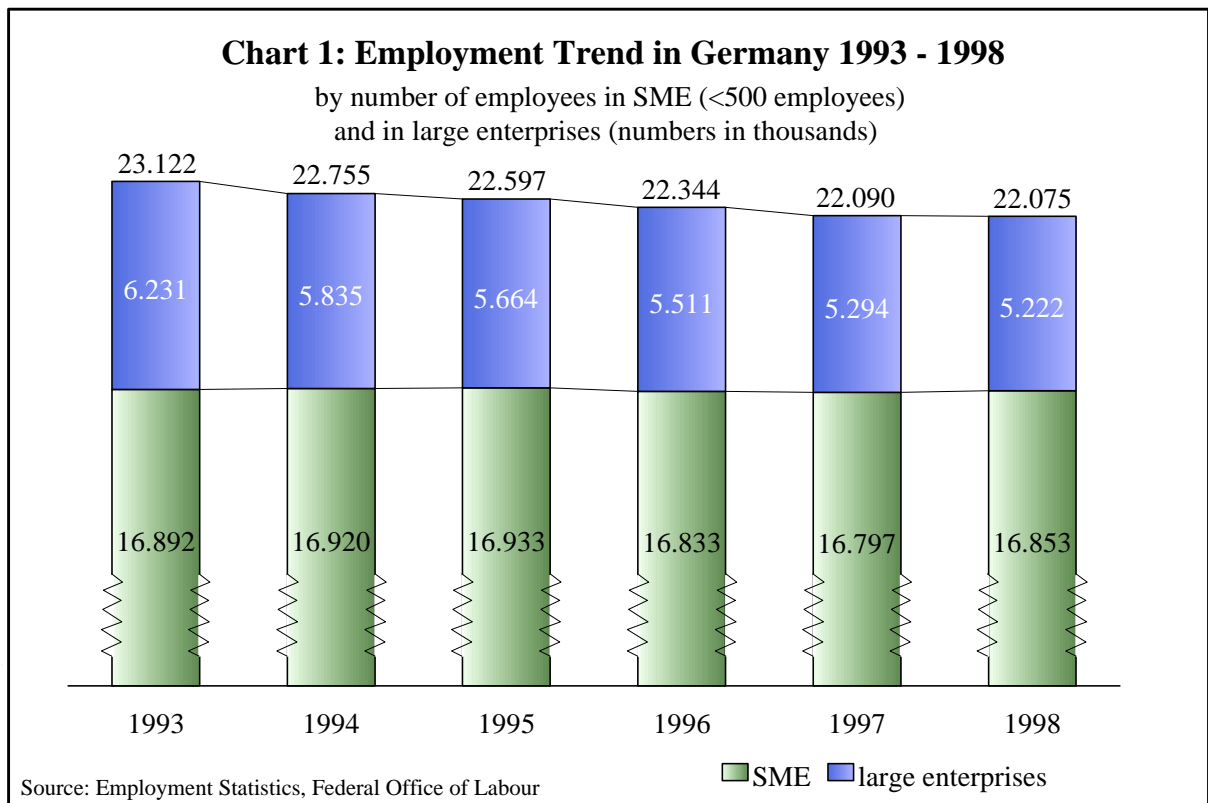
Before I will present the details of our research to you, I would like to briefly give some background information concerning the link between SME, vocational training and employment in Germany.

Within this context it is definitely worth mentioning that Objective 4 measures in Germany are carefully directed towards SME: 88% of the enterprises participating in Objective 4 measures were SME, i.e. they employed less than 250 persons.

## **2. Background: The Contribution of SME to Developing Employment and their Intensified Training**

Chart 1 shows the employment trend in Germany for the period of 1993 to 1998. With the time series below showing the total employment, the slight but continuous decrease of employment in Germany during this period becomes apparent. Especially two points are of great importance for our topic. First, the chart demonstrates the extremely important role that SME (here with up to 500 employees) play on the employment sector in Germany. About  $\frac{3}{4}$  of all employees are working here. Secondly, we see that the decline in employment solely concerns the sector of large enterprises with more than 500 employees. In 1998, roughly one million persons were employed less in large enterprises than in 1993. For the SME, however, the employment trend remained constant within this period. In case the line between large enterprises and SME would be drawn at 250 employees, the result would even show some employment increase for SME. As a result, even in Germany employment policies set great expectations on SME, and they therefore need – and already do receive – corresponding support and promotion.

The main aspect of the Objective 4 promotion lies in strengthening the competitiveness of SME and the employees in SME by qualification. Chart 2, however, shows that in smaller

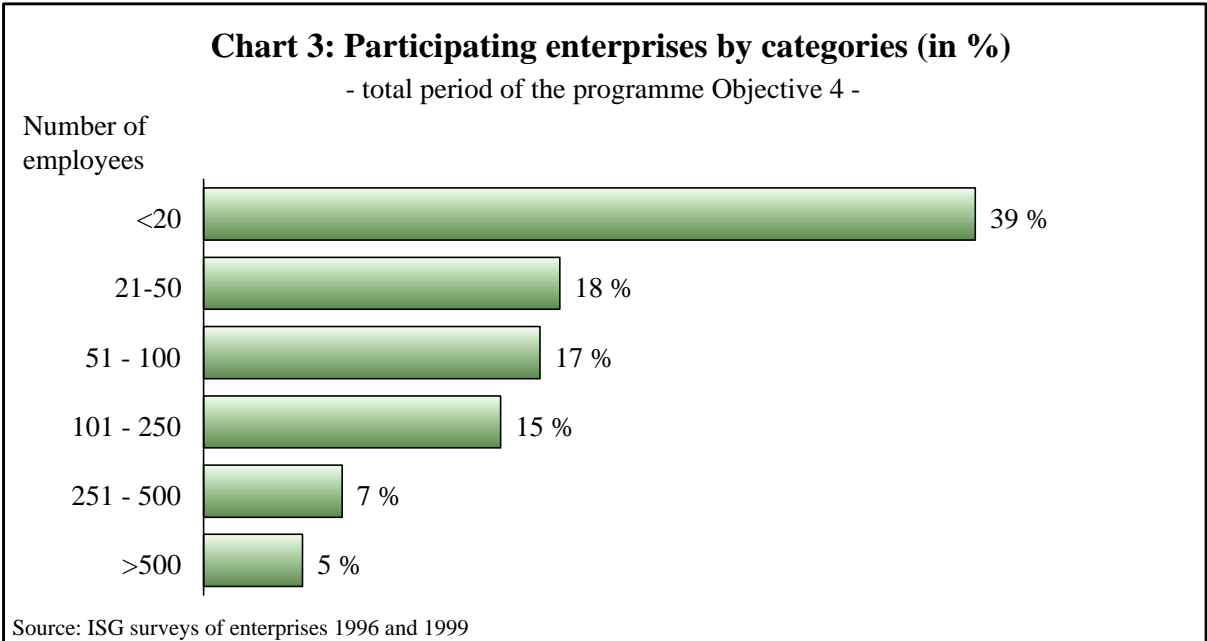


enterprises qualification measures are carried out less often than in larger enterprises. Yet, this context has to be relativized when regarded from a different angle. When regarding the share of vocational training within enterprises, this share (percentage of employees in enterprises who participate in vocational training) almost does not vary along with the size of an enterprise. In West-Germany, the share, however, varies (according to the IAB enterprise panel) along with the size of an enterprise between 16% and 18%. When differentiating the training measures offered and financed by enterprises by means of supply, i.e. internal or external providers, we can see that the difference between SME and large enterprises on the sector of training activities especially lies in offering internal training. According to the

FORCE-survey of the Federal Office of Statistics in 1996 with regard to vocational training in enterprises, the percentage of enterprises who offer internal training to their employees increased continuously with 35% for enterprises with less than 50 employees up to 92% for enterprises with 1,000 employees or more. This means – in short – that SME also show some disadvantages in the field of employee qualification since qualification measures that are offered by external providers often do not show the quality and are not “tailor made” as internal measures, which again can hardly be “afforded” by SME.

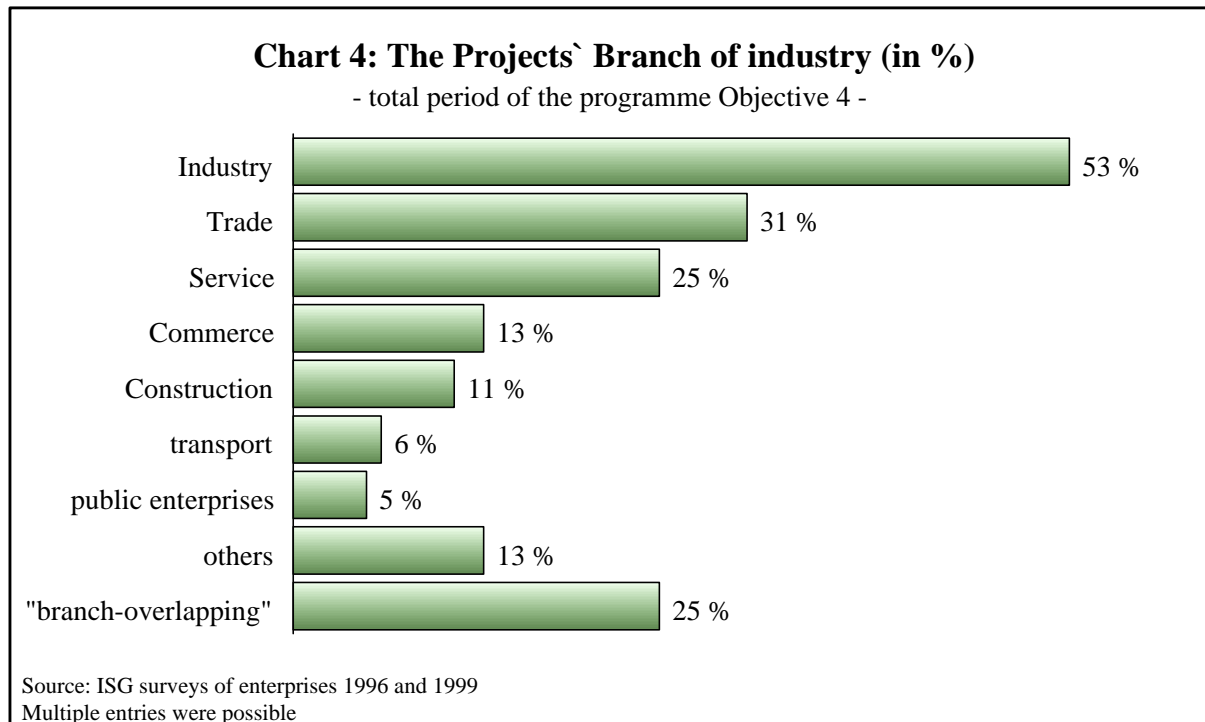
**3. Participation of Enterprises in the Objective 4 according to Size and Branch of Enterprise**

Chart 3 shows that the participation in Objective 4 runs contrary to the above pictured “usual” intensity of vocational training within German enterprises: the project managers handled the acquisition of smaller enterprises for the Objective 4 in a remarkable way: Only about 5% of the participating enterprises are large enterprises with more than 500 employees, little less than 90% of the enterprises are SME with up to 250 employees. Among these, the small enterprises take a dominating role. 39% of the involved enterprises are small enterprises with at maximum 20 employees, another 18% have a staff of 21 to 50 employees. Therefore Objective 4 strongly refers to the medium sized enterprises in Germany and hence offers the chance to give important impulses to the development of qualification offers that are especially tailored to the needs of SME.



The mixture of branches shown in Chart 4 can be called balanced and adapted to the demands of the structural change: More than half of the projects (53%) were attended by enterprises from the industrial sector. Enterprises from the service sector (including commerce and transport) participated in 44%. 42% of the measures were directed towards trade (including construction). Another 25% were outlined in a general “branch overlapping” way. The focus on the industrial sector makes sense because mastering the structural change has to start where branches and regions already got, or are running risk of getting, into difficulties.

In Germany, Objective 4 consequently followed a pragmatic and promising double strategy: mastering the structural change by supporting endangered branches and enterprises *and* at the same time promoting promising branches and enterprises in the service sector.



#### 4. Methodical Draft of the Comparison Group

A crucial question for the assessment of qualification measures that were carried out in the framework of ESF to enhance the competitiveness of SME is whether they are of actual and perceptible use to the enterprises and employees. The question can only be answered theoretically by comparing the so-called “contra-factual effects”, i.e. clarify the changes in enterprises that would have taken place even without them participating in the promotion. On the empirical side this means a comparison between the participating enterprises and other enterprises that did not participate in these measures but are, however, comparable to the first. The focus of the conception of a CGA is therefore set on the creation of an appropriate comparative sample.

##### *Regarding the Sample*

We solved the central problem for a CGA, i.e. to find an adequate comparison group, in a very pragmatic way by choosing a **mirror sample** (through creating layers) from a pool of over one million addresses of German enterprises, of which – among other characteristics – the branch category and enterprise size could be identified. This mirror sample resembles on an aggregated level the sample of enterprises participating in Objective 4 with regard to the matrix won by multiplying both characteristics branch and enterprise size. Misrepresentations due to the reflux of our questionnaire could be adjusted by weighting. This was, however, only possible within certain limits which I will mention at a later moment.

In order to not only compare the effects of Objective 4 measures on the participating enterprises with those other qualification measures but as well – so-to-say as a “base-line” – follow the developments in enterprises that did **not** carry out qualification measures during this period, the comparison sample was further divided into those enterprises active and those not active in vocational training. As a result, following three samples were available for the comparison analyse:

- Enterprises participating in Objective 4 (n = 430)
- Enterprises active in vocational training during the period of report (n = 780)
- Enterprises not active in vocational training during the period of report (n = 290)

Since, as shown above, the training activities of enterprises are clearly connected to their size, it was not possible to find larger enterprises that are not active in vocational training and that would participate in the survey. This means that the comparison group of enterprises not active in vocational training comprises on average smaller enterprises than the two other groups of enterprises that are active in vocational training. In terms of 1996, the enterprises of the two groups active in vocational training employed on average 200 persons, the group not active in vocational training was much smaller, they had on average roughly 70 employees. This difference of size has to be taken into account, yet only inasmuch as they concern the differences between the two groups of enterprises active in vocational training on one side and the one not active in vocational training on the other side. This restriction, however, does not apply for the comparison between the enterprises participating in the framework of Objective 4 and other enterprises active in vocational training.

### ***Indicators and Period of Report***

Some **indicators** were chosen as target variable for the analysis of effects on enterprise level that demonstrate the development in enterprises with regard to following aspects:

- Earnings progress
- Sales
- Export
- Investment
- Employment

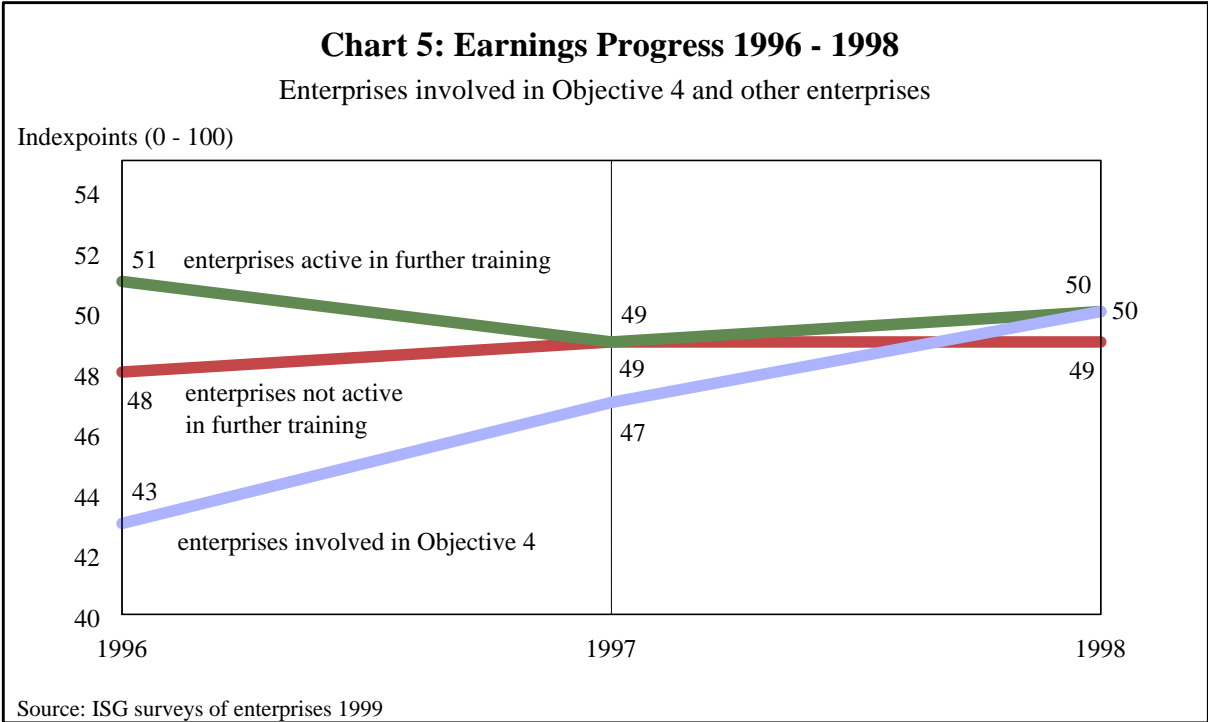
The indicators therefore contain – according to our knowledge – the most important characteristics to assess the development in enterprises. The earnings progress was recorded with a rating scale of six levels (from “very good” to “acute risk for the enterprise”), and the sales and investment trend with a rating scale of five levels (from “strong increase” to “same level” and up to “strong decrease” compared to the previous year). Export share and employment trend were asked for numerically, i.e. in absolute numbers. The decision to record these characteristics with an ordinal scale resulted from our experience that for large numbers of metrically scaled variables, the quality of answers decreases and the risk of “missing values” increases at the same time.

For the analysis, the data with regard to the earnings progress, investment and sales trend were transformed into index-points from 0 to 100, with 50 points meaning a medium earnings progress, res. an unchanged level of investment and sales trend compared to the previous year.<sup>1</sup> The export share remained in its actual form as percentage of each year's sales. The data concerning employment status for each individual year were changed into a percental variation of the basis year 1996 (=100%).

Since qualification measures show their effects within the enterprise only after some time, the **period of 1996 to 1998** was chosen as the phase of vocational training of which the effects should be recorded: 1996, because in that year the first enterprises began their participation in Objective 4; 1998, because there is a time difference of about one year between the termination of measures in that year and the reporting period of 1999 which is regarded as minimum period to reasonably measure the effects of long-term of measures.

### 5. Results

The results of the CGA show – according to our understanding – the positive effects of Objective 4 on the development in the participating enterprises. The group of enterprises participating in Objective 4 demonstrated in total, with exemption of the investment trend, a more favourable development compared to the two other comparison groups; and this even though, as shown by Chart 5, they start off the comparably worst earnings progress.

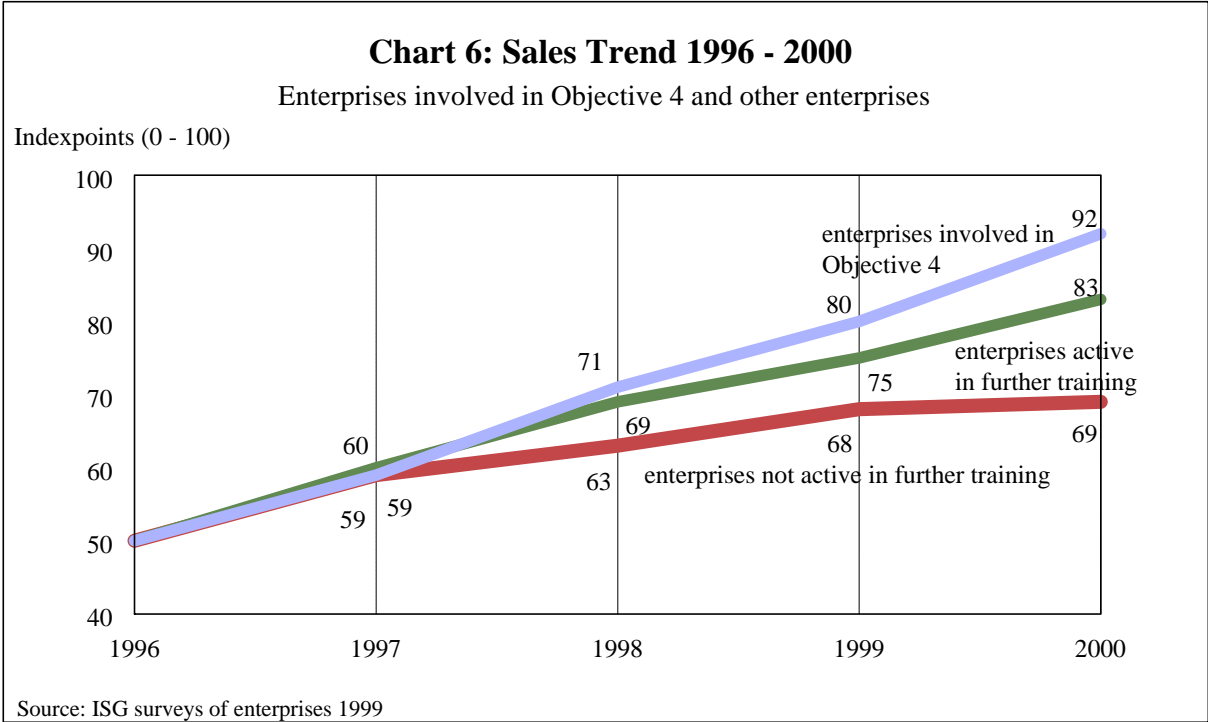


With regard to the **earnings progress**, all the enterprises participating in the Objective 4 commenced with 43 index points – the comparably most unfavourable starting position – at the beginning of the survey period (1996) which also marks the beginning of participation in

<sup>1</sup> This means that the index value for an enterprise concerning profit, sales and investment trend can theoretically increase or decrease by at maximum 50 points compared to the previous year.

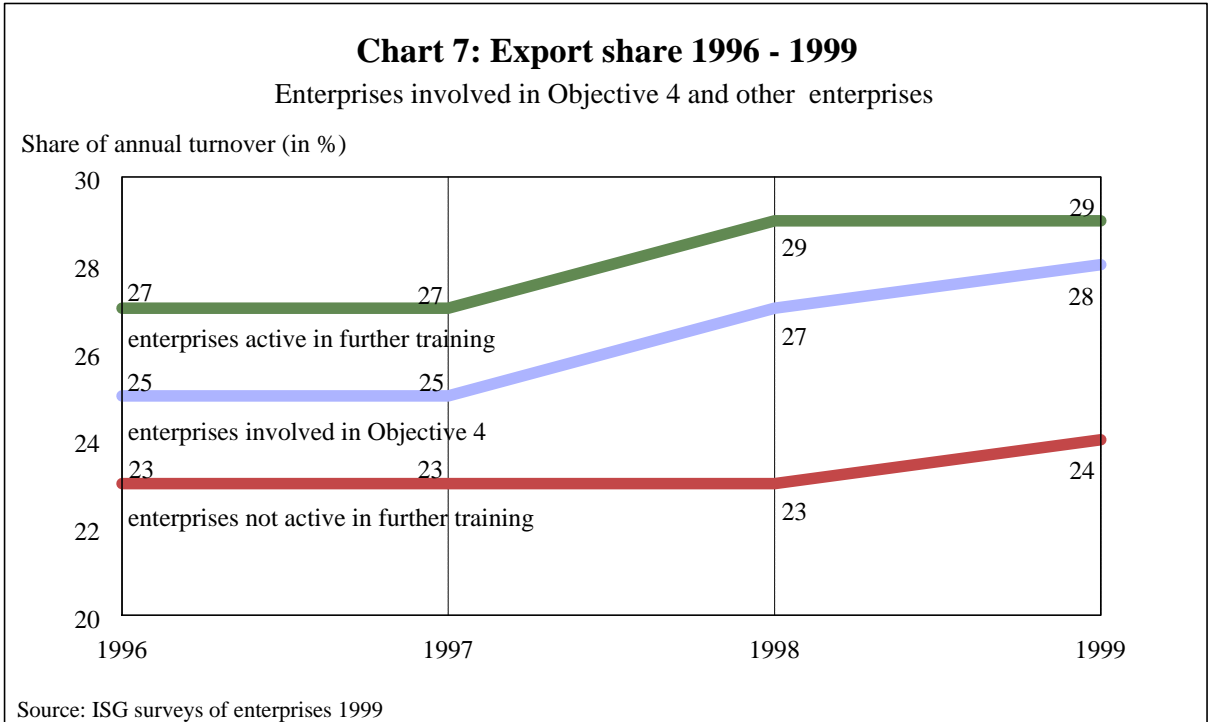
the Objective 4 for most of the enterprises recorded in this analysis. The comparison enterprises that are active in other vocational training held in total the best position with an earnings progress of 51% index points. The enterprises not active in vocational training retained a mid position with 48%. This is an exception since they usually show the more unfavourable points (see below). In the course of the following two years, which means mainly within the period of the project, the Objective 4 enterprises made up arrears and reached the earnings level of the other two groups whose level stagnated at about 50 points.

Moreover, the **sales trend** (Chart 6) was on average more favourable for the enterprises participating in Objective 4. Beginning with a nearly identical increase of about 10 points for all three groups from 1996 to 1997, the enterprises participating in Objective 4 held the highest position with 71 points in 1998 and maintained their lead on the comparison groups until the sales trend in the year 2000 that made up 92 points (prognosticated) for the participating enterprises (other enterprises active in vocational training: 83 points; enterprises not active in vocational training: 69 points).<sup>2</sup>

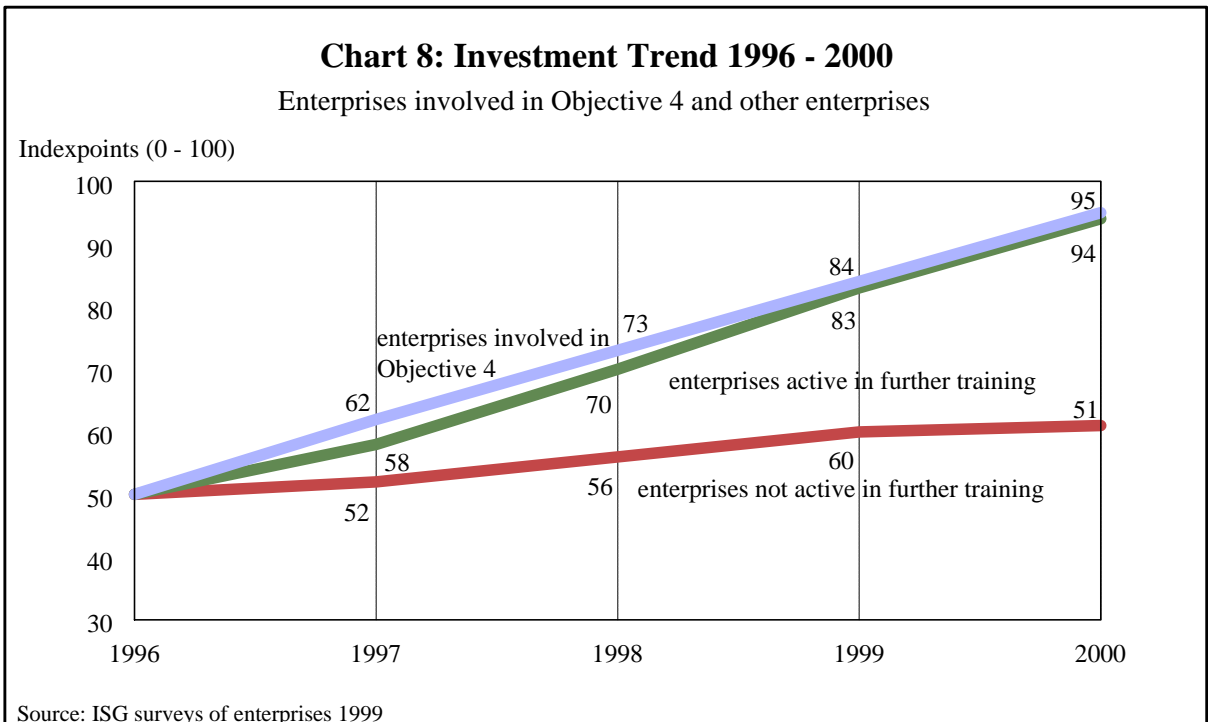


According to tendency, the **export share** for enterprises participating in Objective 4 also displayed the above shown positive direction, on the basis of, however, slight differences. For these enterprises, the export share increased by 3% points from 1996 to 1999 (i.e. from 25% to 28%); for the enterprises active in vocational training, an increase by 2% points was recorded (i.e. from 27% to 29%) and the enterprises not active in vocational training showed an increase of 1% point (from 23% to 24%). The Objective 4 enterprises, however, could not overtake the comparison enterprises active in vocational training within the period of survey.

<sup>2</sup> For the sales and investment trend a consecutive presentation of the index values: Not the absolute index points are presented but their variation to the 50 points line (= same level) compared to the value of the previous year. For example: the Objective 4 enterprises obtain 63 points in 1998. This means an increase of 13 points compared to 1997 (50 points indicate the same level). Since they reached 58 index points in 1997, they get 58 + 13 = 71 index points for 1998.

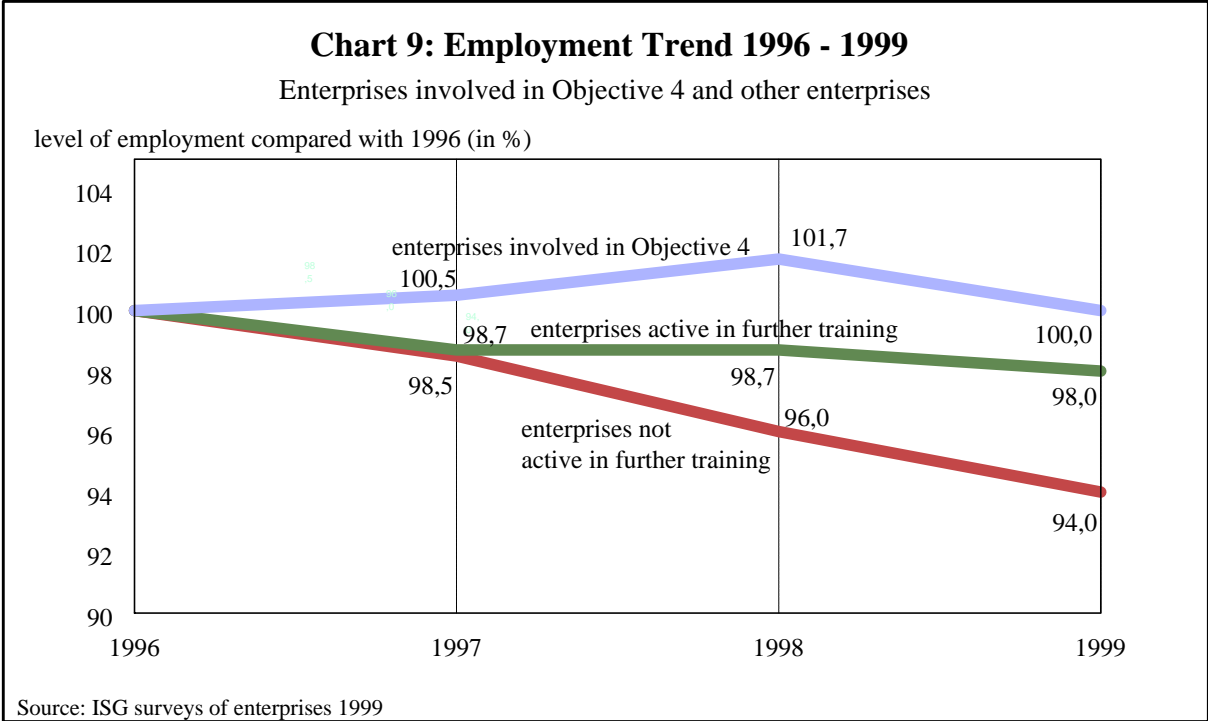


The **investment trend** (Chart 8) of both enterprises active in vocational training was almost identical. It showed a continuous increase and stood out against the stagnating investment activities of the enterprises not active in vocational training.



Especially the comparatively favourable **employment trend** of enterprises participating in Objective 4 (Chart 9), supports our impression that Objective 4 can be judged as success in Germany. Since it was not obvious that the measures aiming at improving the competitiveness of enterprises would show a – relatively – positive employment trend within such a short time: The enterprises participating in Objective 4 are the only group that at the end of the re-

porting period (1999) showed the same employment level as at the beginning (1996). For the comparison enterprises active in vocational training, a decrease to 98% of the starting position was recorded, which was even more for the enterprises not active in vocational training with 94%.



Of course, the differences between the Objective 4 enterprises and other enterprises active in vocational training are partly small with regard to the employment trend, they could also be some statistical artefacts. The other results, however, demonstrate that the qualification and consulting carried out in the framework of Objective 4 enabled the enterprises to significantly catch up with arrears in earnings and increase their sales more than others. Therefore, they probably did not have to cut down on jobs as was the case for other enterprises, especially those not active in vocational training.

**6. Analysis of Results**

From the results of the comparison group analysis we have drawn the conclusion that the Objective 4 interventions of the ESF achieved their double aim in Germany: to enhance the competitiveness of SME by qualification measures and consulting, and at the same time contribute to at least securing employment. This assessment is, of course, not only based on the few “plain” numbers presented here. It moreover results from the general impression that we won in the course of nearly five years during which we attended and evaluated the Objective 4 in Germany. We got the impression that many projects were engaged and competent in looking for new ways to support SME according to their need for qualification and consulting offers. Quite a number of interviews and case studies lead us to the conclusion that although this kind of support could not always be realised, it was, however, accomplished to a big part and very convincing. Therefore, the quantitative-analytical results of the CGA “fit” in the picture that we got through divers quantitative and qualitative ways.

As mentioned above, we would now like to discuss with you in a more general methodical approach the question which methodical position the CGA, as I have presented it here, should obtain in the framework of the evaluation of ESF-interventions. Of course, this is also connected to the validity of their results. In order to enter a methodical discussion, I would finally like to mention two aspects.

Objections to the validity of results can be made with regard to the indicators on one hand, since the reliability of assessing the earnings progress and sales trend by means of rating scales can surely be argued about. Remembering the restrictions to which a questionnaire over a longer period in the past is subject to, we consider such an operationalisation of target variables reasonable. Especially because these indicators were won in an identical manner for all three groups, they play a minor role when asking for the reliability of the CGA results with regard to an interpretation of differences between target and comparison group(s).

Of crucial importance, however, is the question whether the comparison sample(s) are representative, i.e. if they really represent an appropriate mirror sample for the groups of enterprises participating in Objective 4. It was already mentioned above that this does only apply with restrictions to the group of enterprises that are not active in vocational training due to their on average smaller size. Crucial is the question whether both samples of enterprises active in vocational training can be compared. It might be that an enterprise involved in Objective 4 is more motivated, stronger and success-orientated from the very beginning. This is a very important argument that was already mentioned by a few of our colleagues from other countries who have national experience in the Objective 4. Can this argument – which by the way would assume a very high participating effect for the Objective 4 – be invalidated with reference to the comparably worst earnings progress for Objective 4 enterprises at the beginning, as shown above in Chart 5? I am very grateful for answers and suggestions concerning these methodical questions.

Refinements in the method of comparison group analysis could be obtained if – the analysis were not based on a retrospective assessment as shown in our approach – but the possibility of carrying out an ex-ante assessment before the measure starts, as well as an assessment in between and finally, for example, twelve months after ending the activities an ex-post-assessment were given.