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Participation in vocational education and training: a summary of indicators and rates

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DISCUSSION PAPERS

No. 143

Regina Dionisius
Nicole Lissek
Friedel Schier
(Eds.)

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and training –
a summary of indicators and rates**

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Federal Institute for
Vocational Education and Training
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Bonn

Federal Institute for
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1 Preface

The present publication is a joint work by colleagues in Department 2 of BIBB “Sociology and Economics of Vocational Education and Training”. Alongside socio-scientific research work into vocational education and training, the Department also carries out further permanent tasks such as involvement in VET statistics and the survey of newly concluded training contracts as of 30 September each year.

The analyses and information drawn up within Department 2 are frequently used to inform educational policy debate. Major topics over recent years are: e.g. company participation in dual vocational education and training, the chances of young people seeking a training place and structure and the development within the transitional sector. The effects of demographic development and concern regarding a sufficient supply of young skilled workers are current main focuses of discussion.

Vocational education and training reporting uses various indicators, rates and guidance values to describe developments and problem areas in VET. There are, however, considerable differences in the construction and significance of some of these indicators, even when they relate to similar facts and circumstances. For this reason, a systematic description of the most important vocational education (and training) indicators seemed apposite to us in order to facilitate their application.

The indicators focus on transitions from the general educational system to the training system (“1st threshold”). All indicators and rates are regularly used in vocational education and training reporting (in particular in the Report on Vocational Education and Training and in the Data Report to accompany the Report on Vocational Education and Training).

The present publication explains the calculation method of the individual indicators and documents their scope and explanatory capacity. The aim is for it to serve as a basis and guide for educational policy debate and be of equal benefit to educational policy and educational research.

Bonn, December 2011

Dr. Günter Walden
(Head of Department “Sociology and Economics of Vocational Education and Training”)

2 Introduction

What is the proportion of young people who enter vocational education and training?

What is the proportion of companies which participate in training?

What is the ratio between supply and demand on the training places market?

These three questions address completely different aspects of vocational education and training. A large number of indicators and rates exists for the purpose of describing various sides of VET. In order to decide which indicators will deliver responses to the questions posed and how the corresponding numerical values should be interpreted, the questions stated above need to be defined in more precise terms. This requires the clarification of points such as the following.

- Firstly, the object of the indicator (**target variable**) needs to be exactly defined. Is, for example, the “vocational education and training” to be observed a fully qualifying course at a venue such as a school or hospital or a dual course of VET governed by the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO)? Different facts and circumstances may otherwise be mixed up.
- The **reference variable** also needs to be stipulated. Does the variable used (e.g. proportion “of young people”) refer to the resident population, the age class, the school leavers within a certain cohort or the group of young people interested in training? It would also be conceivable to select companies or the totality of training systems/supply as a reference value. All these different reference variables place one and the same object in a quite different light.
- Consideration also needs to be accorded to which **counting variables** are used. Is the focus on persons, e.g. pupils with a training contract attending part-time vocational schools (vocational school statistics), or on the newly concluded training contracts reported by the chambers? In the case of the newly concluded training contracts, it is also relevant whether such contracts are counted by means of the BIBB survey of newly concluded training contracts as of 30 September or within the scope of the Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States as of 31 December. Differences in data recording may lead to differences in interpretation.
- In order to interpret an indicator, both the scope of the indicator and possible **information regarding the quality** of the indicator need to be known. The cut-off date may, for example, exert an influence on the significance of the indicator. If such a cut-off date lies at the beginning of a school year, pupils who enter a vocational school class at a later point are not recorded. In addition to this, account needs to be

taken of the (methodological) limits of the database used. Facts and circumstances not recorded in the data cannot be mapped via the indicator.

These considerations provide a basis for the formulation of precise questions (or statements) which facilitate interpretation.

Applied to the questions which were couched in general terms in the introduction, the following indicators provide answers to a fully specific question in each case.

The situation in Germany in 2009 was as follows.

- The arithmetic proportion of the resident population entering training within the dual system and in possession of a training contract was 53.6% (not taking into account the age at which training in the dual system was begun).
- 24.0% (2008) of companies with employees subject to mandatory social insurance contributions were training young people in possession of a dual training contract.
- The ratio between the number of training places on offer and the number of persons identified as seeking a training place was 100.3% according to the 'classical' method of calculation.
- The same figure according to the 'new and extended' method of calculation was, however, 88.5%.

The individual chapters are each divided into an introduction providing background information and descriptions of indicators and rates on the basis of a pre-stipulated grid¹.

- Core statement
- Current validity
- Significance for vocational education and training
- Reference variables
- Calculation formula
- Possible differentiations
- Data sources
- Cut-off date/period of observation

¹ STATISTISCHES BUNDESAMT, DEUTSCHES INSTITUT FÜR ERWACHSENENBILDUNG, STATISTISCHES LANDESAMT BADEN-WÜRTTEMBERG (*FEDERAL STATISTICAL OFFICE, GERMAN INSTITUTE FOR ADULT EDUCATION, STATISTICAL OFFICE OF THE FEDERAL STATE OF BADEN-WÜRTTEMBERG*): Anwendungsleitfaden zum Aufbau eines kommunalen Bildungsmonitorings (*Application guidelines for the structuring of local government educational monitoring*). Wiesbaden 2011. URL: <http://www.statistik-bw.de/BildungKultur/Analysen!Aufsaetze/bildungsmonitoring.pdf> [last accessed: 02.02.2011]

- Information on the quality of the indicator

Interpretation guidance for each indicator is provided in the form of a list of frequently asked questions. Central publications and further literature are provided at the end. This structure makes it easier to draw comparisons between the indicators. These aspects are addressed for each of the total of 20 indicators.

The structure of the order of chapters moves from the general to the specific. We begin with the description of indicators which reflect the whole system of training offers (**Chapter 3**). This is followed by indicators which shed light on fully qualifying vocational training supply and on the various training provision within the integration area (**Chapter 4**). **Chapter 5** presents indicators which describe the company side of training participation. **Chapter 6** addresses the aspect of young people interested in training, training place applicants and training place demand. A description of indicators relating to the training place market brings together demand and supply (**Chapter 7**). **Chapters 8 and 9** provide more detailed analytical opportunities for the quantitative significance and efficiency of dual vocational education and training pursuant to the Vocational Training Act (BbIG) and the Crafts and Trades Regulation Code (HwO). We end by presenting indicators relating to the scope of vocational training (**Chapter 10**).

Updates of the calculation and indicators are presented online:

<http://www.bibb.de/de/wlk59687.htm>

3 Training participation indicators

3.1 Introduction

Young people have many possible ways of shaping their route into the adult world of work. Training supply ranges from vocational preparation schemes to vocational education and training and second-chance school qualifications and extends to include higher education study. Demand² for and supply of vocational training do not, however, develop independently from each other. If a young person does not, for example, find a training place, he or she will, depending on qualification, enter a measure within the transitional sector (“transitional system”) or commence higher education study. This chapter presents indicators which are significant for training activities of an age group and for demand for training.

- How many young people use the offers within the training system? (The term training system represents all educational opportunities for school leavers in its entirety.)
- In addition, how many are in offers of formal training supply (training system plus continuing training and lower secondary level)?
- What is the scope of the demand for offers within the various educational sectors?
- Does the ratio between the educational sectors change?

3.1.1 Hints for the interpretation of the indicators

The indicators “Young people in the training system” (German abbr.: Auge) and “Young people in formal education” (German abbr.: FormBild) make use of particular age groups as reference variables and thus, provide estimations regarding the following.

- The proportion of young people within a certain age group who use the training and educational offers available within the training system or the formal education system
- The groups of persons who are outside the training system or formal education, thus enabling possible funding requirements to be identified and
- Past and current developments

Collected data is used to calculate the indicators. The indicators “FormBild” and “Auge” are independent of demographic fluctuations because the underlying reference variable is the resident population. On the other hand, this sort of indicator requires the definition of an

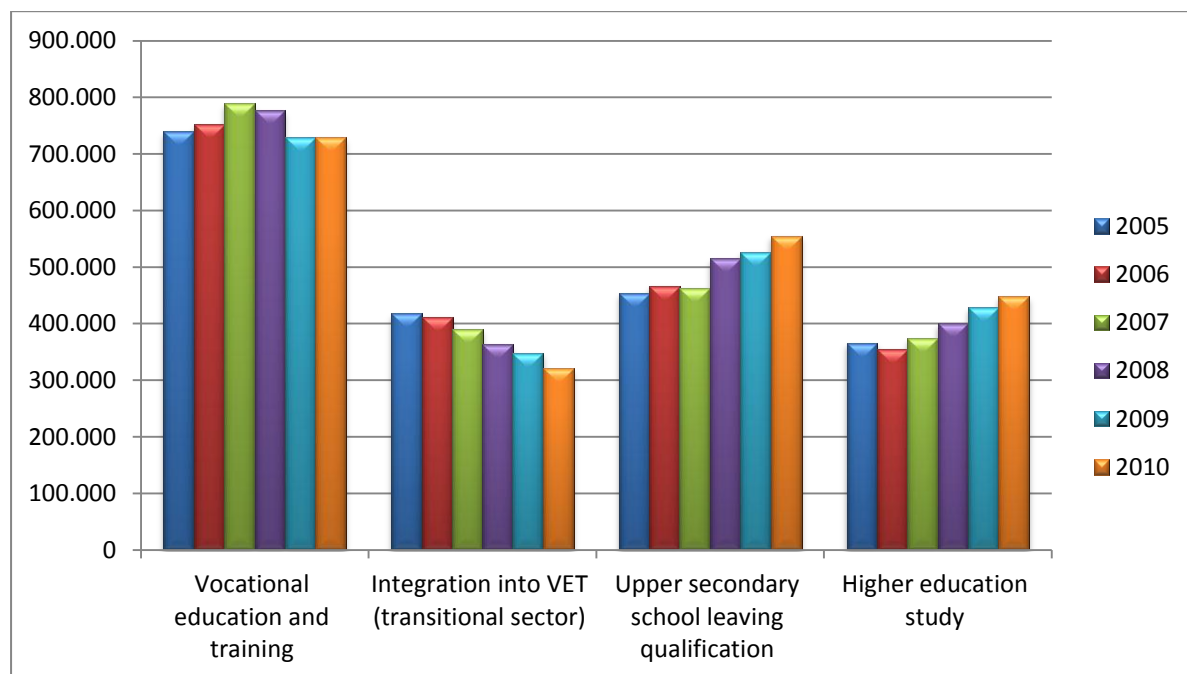
² In relation to the Integrated Training Reporting System (iABE), the term “demand” means the result of the supply and demand processes – realised demand or supply. As is usual with market processes, this does not necessarily reflect (supply/demand) wishes.

age group for which the indicator is calculated. This means that statements are only valid for the age group selected. In interpreting the proportion of young people in “formal education”, consideration needs to be accorded, for example, to the fact that increasing age brings a growth in the proportion of young adults who are already in possession of a completed qualification and may be in active employment.

Because the different educational sectors do not develop independently of one another, it is also necessary to observe the training system in detail. In order to obtain a demand-oriented overview of the relative significance of the educational sectors within the training system, the sectors will also be considered independently of age³.

The indicator “Relative significance of educational sectors of the training system” states the size of the proportion of the sectors in the training system.

Figure 1: Development of the “Relative significance of educational sectors of the training system” (entrant data)



Source: “Integrated Training Reporting System” based on data provided by the Federal Statistical Office, the Statistical Offices of the federal states and the Federal Employment Agency (data status 7 December 2011); own calculations

³ Age-independent observation involves establishing a ratio between all entrants into an educational sector and the total number of entrants within the whole training system. This makes the indicator sensitive to fluctuating numbers of entrants, which may be caused by such factors as double upper secondary school cohorts or a decline in the population. Because entrants in the sector of integration in vocational education and training (transitional sector) are significantly younger than entrants to the sector of higher education study (around 17 as opposed to around 22 years of age), the decrease in population is already visible whereas the decrease in the sector of higher education study will only appear in a time-delayed manner.

Various reference variables can be selected for the indicators depending on the question.

- Resident population of a certain age
- Total of all entrants to the training system

This enables young people in the training system to be reflected against the resident population of the same age or entrants to educational sectors against overall entrants to the training system.

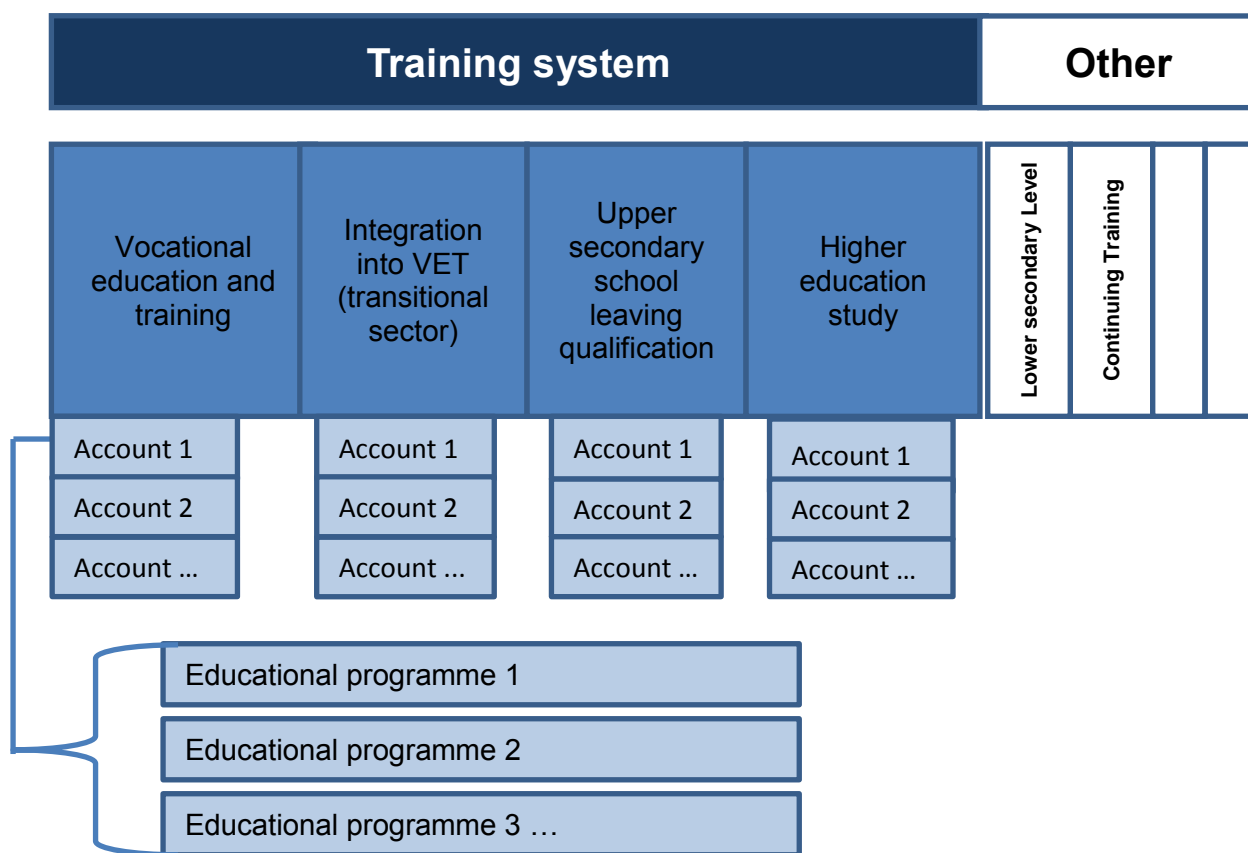
3.1.2 The “Integrated Training Reporting System (iABE)”

The iABE uses so-called “educational sectors” and “accounts” to record all training pathways upon which young people may embark in a systematic, clear-cut and largely complete manner.

The main focus of the educational sectors and accounts system is on formalised educational and training offers (dark-blue area, Figure 2) which are commenced following the lower secondary level of general education. These are collated as the “training system”. The training system is divided into four educational sectors (light-blue area), which differ from one another on account of their various objectives.

- Vocational education and training (aim: a full vocational qualification)
- Integration into VET (transitional sector) (aim: vocational education and training)
- Upper secondary school leaving qualification (aim: higher education entrance qualification)
- Higher education study (aim: higher education degree)

Figure 2: Educational sectors, accounts and educational programmes



In the iABE System, educational programmes with similar vocational educational content and uniform ISCED classification (International Standard Classification of Education) are collated to form accounts (blue-grey area) and aligned to educational sectors in accordance with their main objective. The sector vocational education and training, for example, thus consists of seven accounts, some of which are made up of several educational programmes.

The (white) area next to the training system is summarised under the title of “Others”, where further training pathways and career progressions of young people are systematically recorded (“Continuing training”, “Lower secondary level”, “Employment with training”, “Societal services” and “Other pathways with and without completed vocational education and training”. The aim of quantifying “Others” is to document the destination of an age cohort in as complete a way as possible.

3.2 Young people in the training system (Auge)

Name	Young people in the training system – Auge
Core statement	<p>In the year 2009:</p> <ul style="list-style-type: none"> • 62.0% of the resident population aged 15 – 19; • 42.7% of the resident population aged 20 – 24; • 51.7% of the resident population aged 15 – 24 • and 51.1% of the resident population aged 16⁴ <p>were in offers within the training system.</p> <p style="text-align: right;"><i>Data status 30.06.2011</i></p>
Current validity	The respective data for the reporting year is available in October/November of the following year.
Significance for vocational education and training	<p>The indicator</p> <ul style="list-style-type: none"> • shows the size of the proportion of young people (of each respective age) using training system offers, • gives information regarding the different groups of persons within the training system thus enabling specific support requirements to be identified and • describes past and current developments.
Reference variables	<p><u>Numerator:</u> persons (populations) in the educational sectors of the training system covered by the iABE aged 16 years:</p> <ul style="list-style-type: none"> • vocational education and training, • integration into vocational training (transitional sector), • higher education entrance qualification • higher education study. <p><u>Denominator:</u></p> <ul style="list-style-type: none"> • Persons aged 16 in the resident population <p><u>Remarks on the reference variable</u> The indicator can either be calculated per year of age (e.g. 16-year olds) or in age groups (e.g. 15 to 19-year olds). Whereas at the age of 14 virtually all young people are in lower secondary education, the first age at which young people commence training is 15 (14 %). For this reason, the age of 15 is included as the lowest level for consideration. Because factors such as the funding of many measures in the</p>

⁴ 16 year olds are used below as an example for the calculation of the indicator because in 2009 most young people in the training system were in this age class (mode = 16 years).

	<p>integration sector continue until the age of 25, an age limit seems useful.</p> <p>At the age of 19, virtually all young people (99.7%) have completed the lower secondary level of general schooling. For this reason, the 15-19 age group is the focus of many educational reporting systems, such as the OECD “Education at a glance” study or the internationally comparable ELLI indicators used by the Bertelsmann Foundation⁵ and thus provides international connectivity.</p>
Calculation formula	$\frac{\text{Young people in the training system (16 years of age)}}{\text{Resident population (16 years of age)}} * 100$
Possible differentiations	<ul style="list-style-type: none"> • Reporting year (from 2005) • Age (15-29 years) • Gender • Sector • Account • Federal states of the former West Germany and East Germany
Data sources	<p>“Integrated Training Reporting System (iABE)”:</p> <ul style="list-style-type: none"> • Vocational school statistics (Destatis) • Human resources statistics (Destatis) • Funding statistics (Federal Employment Agency, BA) • General school statistics (Destatis) • Higher education statistics (Higher Education Information System, HIS) • Population Forecast (Destatis)
Cut-off date/ period of consideration	<p>The indicator relates to a cut-off date. Cut-off dates vary between the (training) accounts depending on the data source. Cut-off dates also vary between the accounts mapped by the “Vocational school statistics”⁶. The cut-off dates of all statistics used is in the second half of the year (cf. DESTATIS 2011, p. 40).</p> <p>The various cut-off dates may lead both to over-recording (multiple counting) and under-recording (non-counting). Young people who are engaged in dual vocational education and training in October and who drop out of such training to commence introductory training in December of the same year are, for example, counted twice – in the dual vocational education and training account and in the</p>

⁵ Descriptions of the Indicator Values, e.g. Learning to Know, Secondary education are available at http://www.deutscher-lernatlas.de/fileadmin/user_upload/Projekt/Publikation_unter_Ergebnisse/Indicators_in_Depth.pdf

⁶ The survey cut-off date is between the end of September and the beginning of November depending on federal state.

	<p>introductory training account. On the other hand, young people who are engaged in introductory training in January and complete such training in June are not counted due to the fact that the cut-off date for introductory training measures is at the end of the year.</p>
<p>Information on the quality of the indicator</p>	<p><u>Content limits</u></p> <p>The indicator reflects participation in the training system (“core area⁷” of the iABE). No consideration is accorded to accounts “outside the core area” such as branch and company-specific vocational training and vocational training preparation pursuant to §§ 1 Paragraph 2 and § 68 ff of the Vocational Training Act (BBiG) or within the scope of vocational support for young people (pursuant to § 13 Paragraph 2 of the German Children’s and Young People’s Welfare Act, KJHG) by dint of the fact that no robust data is currently available.</p> <p>Participation in special measures for young people with disabilities (Federal Employment Agency, BA) is also not taken into account for reasons of comparability with the German Education Report and in order to avoid double countings.</p> <p>Consideration further needs to be given to the fact that large numbers of the young people, especially in the young age classes, are still in general education (lower secondary level).</p> <p>The proportion of young people in possession of completed training rises with age.</p> <p><u>Limits of the database</u></p> <p>The iABE is based on data from a number of sources, some of which use different cut-off dates. This means that the double recording of young adults in different accounts and in the database figures cannot be entirely excluded. At the same time, it is also possible for under-recording (non-counting) to occur (cf. Cut-off-date/period of consideration).</p> <p><u>Limits of calculation</u></p> <p>The rate may be distorted by the fact that young people resident abroad may be recorded as collected data in the numerator but not in the denominator⁸. Commuter movements cannot be taken into account because the iABE does not record the place of residence of young people in the training system. Commuters may distort the rate</p>

⁷ The core area comprises the accounts within the training system which can be quantitatively mapped via means of official statistics.

⁸ This will probably prove to be a limited phenomenon (as also argued by UHLY/GERICKE 2010, p. 3).

	<p>for individual regions because they are counted as part of the training system at the learning venue but as part of the resident population at their main place of residence. For this reason, the rate is not calculated at federal state level.⁹</p>
<p>Other interpretation information (Frequently asked questions)</p>	<p>Who is counted? <i>The database records:</i></p> <ul style="list-style-type: none"> • <i>young people who have just begun their qualification (e.g. first year of training);</i> • <i>those who have already been in training for some time (e.g. second year of training) and</i> • <i>those who are virtually at the end of their training (e.g. third year of training).</i> <p>Who is not counted?</p> <ul style="list-style-type: none"> • <i>Persons who avail themselves of training provision outside the so-called iABE core area (cf. Information on the quality of the indicator)</i> • <i>Persons who do not fall into the selected age group¹⁰</i> • <i>Persons who are not recorded because of the cut-off date counting (cf. Cut-off date/period of consideration)</i> <p><i>It would therefore be incorrect to say, for example, that 51.1% of 16 year-olds were in formal education in 2009 because only part of formal education is recorded. The “FormBild” indicator (cf. 3.3), on the other hand, also records the educational sectors of lower secondary level and continuing training.</i></p> <p>Does the duration of training have an influence on the indicator? <i>As a result of the cut-off date counting, all young people are generally (cf. Cut-off dates) only recorded once – both those participating in a qualification which extends across several years (such as dual vocational education and training) and those who are involved in measures of less than one year’s duration (e.g. introductory training).</i></p> <p>How can the recording of young people in measures of less than one year’s duration be ensured?</p>

⁹ See also UHLY/GERICKE 2010, p. 4.

¹⁰ In order fully to map the age groups, the sectors outside the training system need to be taken into account at all times.

	<p><i>The end of the year was selected as the cut-off date for Federal Employment Agency measures because the training year begins in September and the aim is also for unplaced training applicants to have progressed to alternative provision by December. This means that the probability of under-recording (non-counting) should be categorised as low (cf. Cut-off date/period of consideration).</i></p> <p>What are the effects of demographic fluctuations?</p> <ul style="list-style-type: none"> • <i>Demographic fluctuations are controlled because reference is always established to the age cohorts within the resident population. This means that changing population structures are always directly included in the calculation.</i> • <i>Focusing on a single age group (such as 15 to 24 year-olds), however, enables demographic events to be displayed or hidden (see below).</i> <p>What influence does the choice of an age group have on the indicator?</p> <p><i>The choice of the age group determines the results of the indicator. The following are examples of various age groups (2009):</i></p> <ul style="list-style-type: none"> • <i>Participants in the training system aged 15-19 (2,676,139 /4,317,072 = 62.0%)</i> • <i>Participants in the training system aged 20-24 (2,107,818 /4,934,457 = 42.7%)</i> • <i>Participants in the training system aged 15-24 (4,783,957 /9,251,529 = 51.7%)</i> • <i>16-year old participants in the training system (420,466/823,424 = 51.1%)</i> <p><i>Data status: iABE 30.06.2011, Population Forecast 27.04.2011</i></p> <p>Can educational histories be represented?</p> <p><i>Educational histories cannot be represented. This requires personal individual data in conjunction with an identification number. Notwithstanding this, pseudo cohort histories can be used as a basis for obtaining initial indications of educational history patterns.</i></p>
<p>Main publications</p>	<p>SCHIER, FRIEDEL; DIONISIUS, REGINA; LISSEK, NICOLE: Integrierte Ausbildungsberichterstattung - Bildungsstatistik und Indikatorensystem [<i>Integrated Training Reporting – educational statistics and indicators system</i>]. Ongoing. 2010. - URL:</p>

	<p>http://indikatorik.bibb.de</p> <p>BAMMING, RUTH; SCHIER, FRIEDEL: Ausbildungsberichterstattung - Mehr Transparenz durch einen integrierten Ansatz [<i>Training reporting – more transparency via an integrated approach</i>]. In: Berufsbildung in Wissenschaft und Praxis [<i>Vocational Training in Research and Practice</i>] 39 (2010) 1, pp. 39-42</p> <p>BUNDESINSTITUT FÜR BERUFSBILDUNG (Ed.): Datenreport zum Berufsbildungsbericht 2011: Informationen und Analysen zur Entwicklung der beruflichen Bildung [<i>Data Report to accompany the 2011 Report on Vocational Education and Training: information and analyses on the development of vocational education and training</i>] [HTML version]. 2011. - URL: http://datenreport.bibb.de/ [last accessed: 01-07-2011]</p> <p>DIONISIUS, REGINA; LISSEK, NICOLE; SCHIER, FRIEDEL: Einmündungen im Übergangsbereich rückläufig [<i>Reduction in progressions in the transitional sector</i>]. In: Berufsbildung in Wissenschaft und Praxis [<i>Vocational Training in Research and Practice</i>] 40 (2011) 4, pp. 4-5</p> <p>FEDERAL STATISTICAL OFFICE AND THE STATISTICAL OFFICES OF THE FEDERAL STATES (DESTATIS): Qualitäts- und Ergebnisbericht - Integrierte Ausbildungsberichterstattung [<i>Quality and results report – Integrated Training Reporting</i>]. Wiesbaden 2011</p> <p>FEDERAL STATISTICAL OFFICE: Schnellmeldung integrierte Ausbildungsberichterstattung – Anfänger im Ausbildungsgeschehen nach Sektoren/Konten und Ländern [<i>Integrated Training Reporting Flash Report – entrants to the training system according to educational sectors/accounts and federal states</i>] – 2010. Wiesbaden 2011</p>
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3.3 Young people in formal education (FormBild)

Name	Young people in formal education (FormBild)
Core statement	<p>In the year 2009:</p> <ul style="list-style-type: none"> • 90.2% of the resident population aged 15 – 19; • 44.8% of the resident population aged 20 – 24; • 66.0% of the resident population aged 15 – 24 • and 88.7% of the resident population aged 18¹¹ <p>were in formal educational offers.</p> <p style="text-align: right;"><i>Data status 30.06.2011</i></p>
Current validity	The respective data for the reporting year is not available until October/November of the following year.
Significance for vocational education and training	<p>The indicator</p> <ul style="list-style-type: none"> • shows the size of the proportion of young people (of each respective age) in formal education; • describes different groups of persons within formal education thus enabling possible funding requirements to be identified and • describes past and current developments.
Reference variables	<p><u>Numerator:</u></p> <p>Persons (populations) in formal education aged 18 in the following educational sectors</p> <ul style="list-style-type: none"> • Vocational education and training • Integration into vocational training (transitional sector) • Higher education entrance qualification • Higher education study • Lower secondary level and • Continuing training <p><u>Denominator:</u></p> <p>Persons aged 18 in the resident population</p> <p><u>Remarks on the reference variable</u></p> <p>The indicator can either be calculated per year of age (e.g. 18-year olds) or in age groups (e.g. 15 to 19-year olds).</p>

¹¹ 18 year-olds are used below as an example of the calculation of the indicator. In 2009, most young people in formal education were in this age class (mode = 18 years).

	<p>Whereas at the age of 14 virtually all young people are in lower secondary education, the first age at which young people commence training is 15 (14 %). For this reason, the age of 15 is included as the lowest level for consideration.</p> <p>Because factors such as the funding of many measures in the integration sector continue until the age of 25, an age limit seems useful.</p> <p>At the age of 19, virtually all young people (99.7%) have completed the lower secondary level of general schooling. For this reason, the 15-19 age group is the focus of many educational reporting systems, such as the OECD “Education at a glance” study or the internationally comparable ELLI indicators used by the Bertelsmann Foundation¹² and thus provides international connectivity.</p>
Calculation	$\frac{\text{Young people in formal education (18 years of age)}}{\text{Resident population (18 years of age)}} * 100$
Possible differentiations	<ul style="list-style-type: none"> • Reporting year (from 2005) • Age (15-29 years) • Gender • Sector • Account • Federal states of the former West Germany and East Germany
Data sources	<p>“Integrated Training Reporting System (iABE)”:</p> <ul style="list-style-type: none"> • Vocational school statistics (Destatis) • Human resources statistics (Destatis) • Funding statistics (Federal Employment Agency, BA) • General school statistics (Destatis) • Higher education statistics (Higher Education Information System, HIS) • Population Forecast (Destatis)
Cut-off date/ period of consideration	<p>The indicator relates to a cut-off date.</p> <p>Cut-off dates vary between the (training) accounts depending on the data source used. Cut-off dates also vary between the accounts mapped by the “Vocational school statistics”¹³. The cut-off dates of all statistics used is in the second half of the year (cf. DESTATIS 2011, p. 40).</p>

¹² Descriptions of the Indicator Values, e.g. Learning to Know, Secondary education are available at http://www.deutscher-lernatlas.de/fileadmin/user_upload/Projekt/Publikation_unter_Ergebnisse/Indicators_in_Depth.pdf

¹³ The survey cut-off date is between the end of September and the beginning of November depending on federal state.

	<p>The various cut-off dates may lead both to over-recording (multiple counting) and under-recording (non-counting). Young people who are engaged in dual vocational education and training in October and who drop out of such training to commence introductory training in December of the same year are, for example, counted twice – in the dual vocational education and training account and in the introductory training account. On the other hand, young people who are engaged in introductory training in January and complete such training in June are not counted due to the fact that the cut-off date for introductory training measures is at the end of the year.</p>
<p>Information on the quality of the indicator</p>	<p><u>Content limits</u></p> <p>The indicator reflects participation in formal education. No consideration is accorded to educational provision such as branch and company-specific occupations and vocational training preparation pursuant to §§ 1 Paragraph 2 and § 68 ff of the Vocational Training Act (BBiG) or within the scope of vocational support for young people (pursuant to § 13 Paragraph 2 of the German Children’s and Young People’s Welfare Act, KJHG) by dint of the fact that no robust data is currently available.</p> <p>Participation in special measures for young people with disabilities (Federal Employment Agency, BA) is also not taken into account for reasons of comparability with the German Education Report and in order to avoid double countings.</p> <p><u>Limits of the database</u></p> <p>The iABE is based on data from a number of sources, some of which use different cut-off dates. This means that the double recording of young people in different accounts and in the database figures cannot be entirely excluded. At the same time, it is also possible for under-recording (non-counting) to occur (cf. Cut-off-date/period of consideration).</p> <p><u>Limits of calculation</u></p> <p>The rate may be distorted by the fact that young people resident abroad may be recorded as collected data in the numerator but not in the denominator¹⁴. Commuter movements cannot be taken into account because the iABE does not record the place of residence of young people in the training system. Commuters may distort the rate for individual regions because they are counted as part of the training system at the learning venue but as part of the resident</p>

¹⁴ This will probably prove to be a limited phenomenon (as also argued by UHLY/GERICKE 2010, p. 3).

	<p>population at their main place of residence. For this reason, the rate is not calculated at federal state level.¹⁵</p>
<p>Other interpretation information (Frequently asked questions)</p>	<p>Who is counted?</p> <p><i>The database records:</i></p> <ul style="list-style-type: none"> • <i>young people who have just begun their qualification (e.g. first year of training);</i> • <i>those who have already been in training for some time (e.g. second year of training) and</i> • <i>those who are virtually at the end of their training (e.g. third year of training).</i> <p>Who is not counted?</p> <ul style="list-style-type: none"> • <i>Persons who avail themselves of training provision outside the so-called iABE core area (cf. Content limits)</i> • <i>Persons who do not fall into the selected age group¹⁶</i> • <i>Persons who are not recorded because of the cut-off date counting (cf. Cut-off date/period of consideration)</i> <p>Does the duration of the formal training pathways have an influence on the indicator?</p> <p><i>As a result of the cut-off date counting, all young people are generally (cf. Cut-off date/period of consideration) only recorded once – both those participating in a qualification which extends across several years (such as dual vocational education and training) and those who are involved in measures of less than one year's duration (e.g. introductory training).</i></p> <p>How can the recording of young people in measures of less than one year's duration be ensured?</p> <p><i>The end of the year was selected as the cut-off date for Federal Employment Agency measures because the training year begins in September and the aim is also for unplaced training applicants to have progressed to alternative provision by December. This means that the probability of under-recording (non-counting) should be categorised as low (cf. Cut-off date/period of consideration).</i></p>

¹⁵ See also UHLY/GERICKE 2010, p. 4.

¹⁶ In order fully to map the age groups, the sectors outside formal education also need to be taken into account at all times.

What are the effects of demographic fluctuations?

- *Demographic fluctuations are controlled because reference is always established to the age cohorts within the resident population. This means that changing population structures are always directly included in the calculation.*
- *Focusing on a single age group (such as 15 to 24 year-olds), however, enables demographic events to be displayed or hidden (see below).*

What influence does the choice of an age group have on the indicator?

The choice of the age group determines the results of the indicator. The following are examples of various age groups (2009):

- *Participants in formal education aged 15-19
(3,894,707 /4,317,072 = 90.2%)*
- *Participants in formal education aged 20-24
(2,211,361 /4,934,457 = 44.8%)*
- *Participants in formal education aged 15-24
(6,106,068 /9,251,529 = 66.8%)*
- *18-year olds in formal education
(782,500/882,016 = 88.7%)*

Data status: iABE 30.06.2011, Population Forecast 27.04.2011

Can educational histories be represented?

Educational histories cannot be represented. This requires personal individual data in conjunction with an identification number. Notwithstanding this, pseudo cohort histories can be used as a basis for obtaining initial indications of educational history patterns.

How does the educational participation rate in the report “Education in Germany” differ from “FormBild”?

The educational participation rate in the report “Education in Germany 2010” calculates a proportion of 94.6% for 2008/2009 (B2.3a). This only takes those aged between 16 and 18 into account. This age group does not include 15-year olds, who display a very high educational participation rate, or 19-year olds, whose rate is very low. The result of this is that the educational participation rate for 16 to 19-year olds is higher in overall terms than for the age group of 15 to 19-year olds. The iABE, on the other hand, includes the 15 to 19-year olds.

	<p>How does the educational participation rate in the report “Education at a glance” (OECD) differ from “FormBild”?</p> <p><i>The indicator used in the report “Education at a glance 2011”, referred to as “Enrolment rates 2009 (C1.1)”, calculates a proportion of 88.5%. This does not take Federal Employment Agency measures (vocational preparation schemes and introductory training) into account.</i></p>
<p>Main publications</p>	<p>FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datenreport zum Berufsbildungsbericht 2011: Informationen und Analysen zur Entwicklung der beruflichen Bildung [<i>Data Report to accompany the 2011 Report on Vocational Education and Training: information and analyses on the development of vocational education and training</i>] [HTML version]. 2011. - URL: http://datenreport.bibb.de/ [last accessed: 01-07-2011]</p> <p>DIONISIUS, REGINA; LISSEK, NICOLE; SCHIER, FRIEDEL: Einmündungen im Übergangsbereich rückläufig [<i>Reduction in progressions in the transitional sector</i>]. In: Berufsbildung in Wissenschaft und Praxis [<i>Vocational Training in Research and Practice</i>] 40 (2011) 4, pp. 4-5</p> <p>SCHIER, FRIEDEL; DIONISIUS, REGINA; LISSEK, NICOLE: Integrierte Ausbildungsberichterstattung - Bildungsstatistik und Indikatorensystem [<i>Integrated Training Reporting – educational statistics and indicators system</i>]. Ongoing. 2010. - URL: http://indikatorik.bibb.de</p> <p>FEDERAL STATISTICAL OFFICE AND THE STATISTICAL OFFICES OF THE FEDERAL STATES (DESTATIS): Qualitäts- und Ergebnisbericht - Integrierte Ausbildungsberichterstattung [<i>Quality and results report – Integrated Training Reporting</i>]. Wiesbaden 2011</p>

3.4 Relative significance of the educational sectors within the training system

Name	Relative significance of the educational sectors within the training system
Core statement	<p>In 2009, those entering the training system were distributed across educational sectors in the following way.</p> <ul style="list-style-type: none"> • 35.9% vocational education and training • 17.1% integration into vocational training (transitional sector) • 25.9% higher education entrance qualification and • 21.1% higher education study <p style="text-align: right;"><i>Data status 21.06.11</i></p>
Current validity	<p>On the basis of the so-called “Flash Report” (FEDERAL STATISTICAL OFFICE 2011), the indicator can be calculated for the characteristics of federal state and gender within the reporting year as early as March of the following year.</p> <p>Differentiated data for the reporting year is available in October/November of the following year.</p>
Significance for vocational education and training	<p>Because areas of provision within the different educational sectors do not develop independently of one another, it is necessary to observe the training system in overall terms.</p> <p>The indicator states the degree of significance of the educational sectors of</p> <ul style="list-style-type: none"> ○ vocational education and training ○ integration into vocational training (transitional sector) ○ higher education entrance qualification and ○ higher education study <p>for the training system;</p> <ul style="list-style-type: none"> • describes various entrant groups within the educational sectors of the training system thus enabling possible funding requirements to be identified and • describes past and current developments.
Reference variables	<p><u>Numerator:</u> Entrants to the respective sector</p> <ul style="list-style-type: none"> • Vocational education and training • Integration into vocational training (transitional sector) • Higher education entrance qualification • Higher education study <p><u>Denominator:</u> Total of all entrants to the training system</p>

Calculation formula	$\frac{\text{Entrants to the respective sector}}{\text{Total of all entrants to the training system}} * 100$
Possible differentiations	<ul style="list-style-type: none"> • Reporting year (from 2005) • Year of birth • Gender • Account • Federal state • Nationality (German/not German) <ul style="list-style-type: none"> ○ Nationality/gender • Prior learning (highest general educational qualification achieved) <ul style="list-style-type: none"> ○ Prior learning/gender ○ Prior learning/nationality/gender <p><u>Note</u> Due to the fact that the iABE uses aggregated data, only the combinations of characteristics stated above are capable of evaluation.</p>
Data sources	<p>“Integrated Training Reporting System (iABE)”:</p> <ul style="list-style-type: none"> • General school statistics (Destatis) • Vocational school statistics (Destatis) • Higher education statistics (Higher Education Information System, HIS) • Human resources statistics (Destatis) • Funding statistics (Federal Employment Agency, BA)
Cut-off date/ period of consideration	<p>The indicator relates to a cut-off date. Cut-off dates vary between the educational sectors depending on the data source used. Cut-off dates also vary between the accounts mapped by the “Vocational school statistics”¹⁷. The cut-off dates of all statistics used is in the second half of the year (cf. FEDERAL STATISTICAL OFFICE 2011, p. 40).</p> <p>The various cut-off dates may lead both to over-recording (multiple counting) and under-recording (non-counting). Young people who are engaged in dual vocational education and training in October and who drop out of such training to commence introductory training in December of the same year are, for example, counted twice – in the dual vocational education and training account and in the introductory training account. On the other hand, young people who are engaged in introductory training in January and complete such training in June are not counted due to the fact that the cut-off date for introductory training measures is at the end of the year.</p>

¹⁷ The survey cut-off date is between the end of September and the beginning of November depending on federal state.

<p>Information on the quality of the indicator</p>	<p>The indicator reflects demand in the educational sectors of the training system within the so-called “core area” of the iABE. No consideration is accorded to accounts “outside the core area” such as branch and company-specific vocational training and vocational training preparation pursuant to §§ 1 Paragraph 2 and § 68 ff of the Vocational Training Act (BBiG) or within the scope of vocational support for young people (pursuant to § 13 Paragraph 2 of the German Children’s and Young People’s Welfare Act, KJHG) by dint of the fact that no robust data is currently available.</p> <p>Participation in special measures for young people with disabilities (Federal Employment Agency, BA) is also not taken into account for reasons of comparability with the German Education Report and in order to avoid double countings.</p> <p>Consideration further needs to be given to the fact that large numbers of the young people, especially in the young age classes, are still in general education (lower secondary level).</p> <p>Account also needs to be taken of the fact that increasing age brings a growth in the proportion of young people who are already in possession of a completed qualification.</p> <p>The iABE is based on data from a number of sources, some of which feature varying cut-off dates and entrant definitions (cf. Cut-off-date/period of consideration).</p> <p>Under the term “entrants” , the “Vocational school statistics” normally group together pupils who are receiving instruction in this form of schooling for the first time or who are attending the first level class. This definition was standardised in 2009, since which time entrants have usually been pupils receiving instruction in this form of schooling for the first time (Vocational school statistics). Entrants to upper secondary level are considered to be pupils who are attending Class 11 at upper secondary schools, integrated comprehensive schools and Waldorf schools or who are attending the initial phase of upper secondary education (General school statistics).</p> <p>The number of entrants continues to encompass trainee civil servants for medium level entry (half the annual figure of the database population, Human resources statistics) and higher education study entrants in their first semester during the reporting year (Higher education statistics). As far as the measures conducted by the Federal Employment Agency are concerned (Funding statistics), the database population at the end of the year is used as a representative figure. In this case, the assumption can be made that entries = populations = exits. The end of the year was selected as the</p>
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	<p>cut-off date for Federal Employment Agency measures because the training year begins in September and the aim is also for unplaced training applicants to have progressed to alternative provision by December (DESTATIS 2011, p. 71).</p> <p>The various cut-off dates may lead both to examples of over-recording (multiple counting) and under-recording (non-counting) (cf. Cut-off date/period of consideration).</p>
<p>Other interpretation information (Frequently asked questions)</p>	<p>Who is counted? <i>All entrants commencing training are counted regardless of age and irrespective of the duration of such training.</i></p> <p>Who is not counted? <i>Entrants who avail themselves of training provision outside the so-called iABE core area (cf. Information on the quality of the indicator)</i></p> <p>Does the duration of training have an influence on the indicator? <i>As a result of the cut-off date counting, all young people are generally (cf. Cut-off date) only recorded once – both those participating in a qualification which extends across several years (such as dual vocational education and training) and those who are involved in measures of less than one year's duration (e.g. introductory training).</i></p> <p>How can the recording of young people in measures of less than one year's duration be ensured? <i>The end of the year was selected as the cut-off date for Federal Employment Agency measures because the training year begins in September and the aim is also for unplaced training applicants to have progressed to alternative provision by December. This means that the probability of under-recording (non-counting) should be categorised as low.</i></p> <p>What are the effects of demographic fluctuations? <i>Age-independent observation involves establishing a ratio between all entrants into an educational sector and the total number of entrants within the whole training system. This means that the indicator is affected by fluctuating numbers of entrants, which may be caused by such factors as double upper secondary school cohorts or a decline in the population.</i></p> <p>Can educational histories be represented? <i>Educational histories cannot be represented. This requires personal individual data in conjunction with an identification number. Notwithstanding this, pseudo cohort histories can be used as a basis for obtaining initial indications of educational history patterns.</i></p>

<p>Main publications</p>	<p>BAMMING, RUTH; SCHIER, FRIEDEL: Ausbildungsberichterstattung - Mehr Transparenz durch einen integrierten Ansatz [<i>Training reporting – more transparency via an integrated approach</i>]. In: Berufsbildung in Wissenschaft und Praxis [<i>Vocational Training in Research and Practice</i>] 39 (2010) 1, pp. 39-42</p> <p>FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datenreport zum Berufsbildungsbericht 2011: Informationen und Analysen zur Entwicklung der beruflichen Bildung [<i>Data Report to accompany the 2011 Report on Vocational Education and Training: information and analyses on the development of vocational education and training</i>] [HTML version]. 2011. - URL: http://datenreport.bibb.de/ [last accessed: 01-07-2011]</p> <p>DIONISIUS, REGINA; LISSEK, NICOLE; SCHIER, FRIEDEL: Einmündungen im Übergangsbereich rückläufig [<i>Reduction in progressions in the transitional sector</i>]. In: Berufsbildung in Wissenschaft und Praxis [<i>Vocational Training in Research and Practice</i>] 40 (2011) 4, pp. 4-5</p> <p>SCHIER, FRIEDEL; DIONISIUS, REGINA; LISSEK, NICOLE: Integrierte Ausbildungsberichterstattung - Bildungsstatistik und Indikatorensystem [<i>Integrated Training Reporting – educational statistics and indicators system</i>]. Ongoing. 2010. - URL: http://indikatorik.bibb.de</p> <p>FEDERAL STATISTICAL OFFICE AND THE STATISTICAL OFFICES OF THE FEDERAL STATES (DESTATIS): Qualitäts- und Ergebnisbericht - Integrierte Ausbildungsberichterstattung [<i>Quality and results report – Integrated Training Reporting</i>]. Wiesbaden 2011</p> <p>FEDERAL STATISTICAL OFFICE: Schnellmeldung integrierte Ausbildungsberichterstattung – Anfänger im Ausbildungsgeschehen nach Sektoren/Konten und Ländern [<i>Integrated Training Reporting Flash Report – entrants to the training system according to educational sectors/accounts and federal states</i>] – 2010. Wiesbaden 2011</p>
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3.5 Literature

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- ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT (OECD) (Ed.) Education at a glance 2010. OECD Indicators. Paris 2010
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- FEDERAL STATISTICAL OFFICE: Bevölkerung und Erwerbstätigkeit, Bevölkerungsfortschreibung 2008 [*Population and employment, Population Forecast 2008*] Specialist Publications 1, Series 1.3. Wiesbaden 2010
- UHLY, ALEXANDRA; GERICKE, NAOMI: Neuberechnung der Ausbildungsbeteiligungsquoten. Neuerungen der Berufsbildungsstatistik aus 2007 ermöglichen erstmals genauere Berechnung differenzierter Quoten für Personengruppen [*Recalculation of training participation rates. Improvements to the Vocational Education and Training Statistics from 2007 enable more precise calculation of differentiated rates for groups of persons to be undertaken for the first time.*] Bonn 2010. - URL: http://www.bibb.de/dokumente/pdf/a21_ausweitstat_informationsbeitrag-uhly-gericke_neuberechnung-ausbildungsbeteiligungsquote-2010.pdf (status: 22.03.2010), [last accessed: 23-11-2011]

4 Indicators for the relative significance of vocational training provision

4.1 Introduction

This chapter deals with offers within the educational sectors. The sector “vocational education and training” will be presented as an example. The formation of the indicator is based on the idea that educational offers (accounts) within a sector cannot be viewed independently of one another. From the point of view of those seeking to participate in training, the occupational career pursued can be achieved via various alternative educational offers.¹⁸ For this reason, the educational offers within the respective sector are considered simultaneously.

The indicators provide answers to the following questions.

- To what extent are the training offers used?
- Do entrants differ with regard to age, gender, nationality or prior learning?
- Has demand for the various offers changed over the course of time?

4.1.1 Hints for the interpretation of the indicators

In order to obtain a demand-oriented overview of the relative significance of the areas of offers within the educational sectors, the accounts will be considered independently of age. The indicator “Vocational education and training – relative significance of pathways to vocational qualification” is formed in the same way as the indicator “Relative significance of educational sectors of the training system” by calculating all entrants to the respective account as a proportion of all entrants within the sector.

Age-independent observation of entrants also involves according due consideration to demographic components. Because entrant age varies between the accounts, the indicator is susceptible to demographic effects (cf. Chapter 3.3).

¹⁸ Cf., for example, the results of the BIBB School Leaver Survey, most recently: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING 2011; in particular Chapter A3 Educational behaviour of young people. Especially for the perspective of lower secondary school leavers, see also: Von der Hauptschule in Ausbildung und Erwerbsarbeit [From lower secondary school to training and work]: FEDERAL MINISTRY OF EDUCATION AND RESEARCH (Ed.): Ergebnisse des DJI-Übergangspanels [Results of the German Youth Institute (DJI) Transition Panel] Bonn, Berlin 2008

4.1.2 *The vocational education and training sector*

Completion of vocational education and training lays down decisive foundations for progression to and retention of employment and for the shaping of this process. For this reason, the sector vocational education and training¹⁹ comprises seven accounts encompassing all educational programmes which lead to fully qualifying vocational training.

Accounts in the vocational education and training sector

1. Vocational education and training in the dual system pursuant to the Vocational Training Act, BBiG, and the Crafts and Trades Regulation Code, HwO, (recognised training occupations) including comparable vocational education and training (§ 3 Paragraph 2 Clause 3 BBiG)
2. Basic vocational training year, undertaken on a cooperative and part-time basis
3. Training in healthcare, educational and social services occupations governed by federal state or Federal Government law
4. Educational courses at full-time vocational schools and specialised grammar schools which lead to a vocational qualification and a higher education entrance qualification
5. Fully qualifying vocational education and training at full-time vocational schools outside the scope of the BBiG/HwO
6. Fully qualifying vocational education and training at full-time vocational schools in accordance with the BBiG/HwO
7. Vocational education and training in a training contract under public law (civil service training for medium level entry)

¹⁹ Chapter 3.1.2 presented the educational sectors of the iABE and aligned these sectors to the training system.

4.2 Relative significance of the pathways to vocational education and training

Name	Relative significance of the pathways to vocational education and training
Core statement	<p>In 2009, entrants were distributed across the accounts within the sector vocational education and training as follows.</p> <p>67.4% vocational education and training in the dual system pursuant to the Vocational Training Act, BBiG, and the Crafts and Trades Regulation Code, HwO, (recognised training occupations) including comparable vocational education and training (§ 3 Paragraph 2 Clause 3 BBiG)</p> <p>21.1% training in healthcare, educational and social services occupations governed by federal state or Federal Government law</p> <p>3.5% educational courses at full-time vocational schools and specialised grammar schools which lead to a vocational qualification and a higher education entrance qualification</p> <p>3.2% fully qualifying vocational education and training at full-time vocational schools outside the scope of the BBiG/HwO</p> <p>2.9% basic vocational training year, undertaken on a cooperative and part-time basis</p> <p>0.9 % fully qualifying vocational education and training at full-time vocational schools outside the scope of the BBiG/HwO</p> <p>0.9% vocational education and training in a training contract under public law (civil service training for medium level entry)</p> <p style="text-align: right;"><i>Data status 21.06.11</i></p>
Current validity	<p>On the basis of the so-called “Flash Report” (FEDERAL STATISTICAL OFFICE 2011), the indicator can be calculated for the characteristics of federal state and gender within the reporting year as early as March of the following year.</p> <p>Differentiated data for the reporting year is not available until October/November of the following year.</p>
Significance for vocational education and training	<p>Because areas of provision within the vocational education and training sector do not develop independently of one another, it is necessary to observe the whole of the sector.</p> <p>The indicator states</p> <ul style="list-style-type: none"> • the degree of the relative significance within the vocational education and training sector of the accounts <ul style="list-style-type: none"> ○ Vocational education and training in the dual system pursuant to the Vocational Training Act, BBiG, and the Crafts

	<p>and Trades Regulation Code, HwO, (recognised training occupations) including comparable vocational education and training (§ 3 Paragraph 2 Clause 3 BBiG)</p> <ul style="list-style-type: none"> ○ Basic vocational training year, undertaken on a cooperative and part-time basis ○ Training in healthcare, educational and social services occupations governed by federal state or Federal Government law ○ Educational courses at full-time vocational schools and specialised grammar schools which lead to a vocational qualification and a higher education entrance qualification ○ Fully qualifying vocational education and training at full-time vocational schools outside the scope of the BBiG/HwO ○ Fully qualifying vocational education and training at full-time vocational schools in accordance with the BBiG/HwO ○ Vocational education and training in a training contract under public law (civil service training for medium level entry) <ul style="list-style-type: none"> ● describes the participation of different entrant groups in the accounts of the vocational education and training sector thus enabling possible funding requirements to be identified and ● describes past and current developments.
<p>Reference variables</p>	<p><u>Numerator:</u></p> <p>Entrants to the respective account</p> <ul style="list-style-type: none"> ● Vocational education and training in the dual system pursuant to the Vocational Training Act, BBiG, and the Crafts and Trades Regulation Code, HwO, (recognised training occupations) including comparable vocational education and training (§ 3 Paragraph 2 Clause 3 BBiG) ● Basic vocational training year, undertaken on a cooperative and part-time basis ● Training in healthcare, educational and social services occupations governed by federal state or Federal Government law ● Educational courses at full-time vocational schools and specialised grammar schools which lead to a vocational qualification and a higher education entrance qualification ● Fully qualifying vocational education and training at full-time vocational schools outside the scope of the BBiG/HwO ● Fully qualifying vocational education and training at full-time vocational schools in accordance with the BBiG/HwO ● Vocational education and training in a training contract under

	<p>public law (civil service training for medium level entry)</p> <p><u>Denominator:</u> Total of all entrants in the sector vocational education and training</p>
Calculation formula	$\frac{\text{Entrants to the respective cluster}}{\text{Total of all entrants in the sector vocational education and training}} * 100$
Possible differentiations	<ul style="list-style-type: none"> • Reporting year (from 2005) • Year of birth • Gender • Account • Federal state • Nationality (German/not German) <ul style="list-style-type: none"> ○ Nationality/gender • Prior learning (highest general educational qualification achieved) <ul style="list-style-type: none"> ○ Prior learning/gender ○ Prior learning/nationality/gender <p><u>Note</u> Due to the fact that the iABE uses aggregated data, only the combinations of characteristics stated above are capable of evaluation.</p>
Data sources	<p>“Integrated Training Reporting System (iABE)”:</p> <ul style="list-style-type: none"> • Vocational school statistics (Destatis) • Human resources statistics (Destatis)
Cut-off date/ period of consideration	<p>The indicator relates to a cut-off date.</p> <p>Cut-off dates vary between the (training) accounts depending on the data source used. The cut-off dates of all statistics used is in the second half of the year. Cut-off dates also vary between the accounts mapped by the “Vocational school statistics”²⁰(cf. FEDERAL STATISTICAL OFFICE 2011, p. 40)</p>
Information on the quality of the indicator	<p>The indicator reflects demand of the accounts within the sector vocational education and training in the core area of the iABE. For a complete consideration of the sector, account would also need to be taken of branch and company-specific vocational training and vocational training (e.g. pilot, flight attendant etc.). No robust figures are currently available in this regard.</p> <p>The sector uses data from a number of sources, some of which feature varying cut-off dates and entrant definitions (cf. Cut-off-</p>

²⁰ The survey cut-off date is between the end of September and the beginning of November depending on federal state.

	<p>date/period of consideration).</p> <p>Under the term “entrants” , the “Vocational school statistics” normally group together pupils who are receiving instruction in this form of schooling for the first time or who are attending the first level class. This definition was standardised in 2009, since which time entrants have usually been pupils receiving instruction in this form of schooling for the first time (Vocational school statistics).</p> <p>For the account “Vocational education and training in the dual system pursuant to the Vocational Training Act, BBiG, and the Crafts and Trades Regulation Code, HwO, (recognised training occupations) including comparable vocational education and training (§ 3 Paragraph 2 Clause 3 BBiG)”, part-time pupils in relevant educational courses at vocational schools are counted.</p> <p>The figure continues to encompass trainee civil servants for medium level entry (half the annual figure of the database population, Human resources statistics).</p> <p>Only estimated figures are available in Hessen for training in healthcare, educational and social services occupations governed by federal state or Federal Government law. Characteristics for this account are also available in a restricted form only (cf. DESTATIS 2011, p. 23).</p>
<p>Other interpretation information (Frequently asked questions)</p>	<p>Who is counted? <i>All entrants commencing a qualification are counted regardless of age and irrespective of the duration of such a qualification.</i></p> <p>Who is not counted? <i>Entrants who avail themselves of areas of educational provision which are not statistically recorded (cf. Information on the quality of the indicator)</i></p> <p>What are the effects of demographic fluctuations? <i>Age-independent observation involves establishing a ratio between all entrants in an educational account and the total number of entrants within the whole sector. This means that the indicator is affected by fluctuating numbers of entrants, which may be caused by such factors as double upper secondary school cohorts or a decline in the population.</i></p> <p>Can educational histories be represented? <i>Educational histories cannot be represented. This requires personal individual data in conjunction with an identification number.</i></p>

	<i>Notwithstanding this, pseudo cohort histories can be used as a basis for obtaining initial indications of educational history patterns.</i>
Main publications	<p>BAMMING, RUTH; SCHIER, FRIEDEL: Ausbildungsberichterstattung - Mehr Transparenz durch einen integrierten Ansatz [<i>Training reporting – more transparency via an integrated approach</i>]. In: Berufsbildung in Wissenschaft und Praxis [<i>Vocational Training in Research and Practice</i>] 39 (2010) 1, pp. 39-42</p> <p>FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datenreport zum Berufsbildungsbericht 2011: Informationen und Analysen zur Entwicklung der beruflichen Bildung [<i>Data Report to accompany the 2011 Report on Vocational Education and Training: information and analyses on the development of vocational education and training</i>] [HTML version]. 2011. - URL: http://datenreport.bibb.de/ [last accessed: 01-07-2011]</p> <p>DIONISIUS, REGINA; LISSEK, NICOLE; SCHIER, FRIEDEL: Einmündungen im Übergangsbereich rückläufig [<i>Reduction in progressions in the transitional sector</i>]. In: Berufsbildung in Wissenschaft und Praxis [<i>Vocational Training in Research and Practice</i>] 40 (2011) 4, pp. 4-5</p> <p>SCHIER, FRIEDEL; DIONISIUS, REGINA; LISSEK, NICOLE: Integrierte Ausbildungsberichterstattung - Bildungsstatistik und Indikatorensystem [<i>Integrated Training Reporting – educational statistics and indicators system</i>]. Ongoing. 2010. - URL: http://indikatorik.bibb.de</p> <p>FEDERAL STATISTICAL OFFICE AND THE STATISTICAL OFFICES OF THE FEDERAL STATES (DESTATIS): Qualitäts- und Ergebnisbericht - Integrierte Ausbildungsberichterstattung [<i>Quality and results report – Integrated Training Reporting</i>]. Wiesbaden 2011</p> <p>FEDERAL STATISTICAL OFFICE: Schnellmeldung integrierte Ausbildungsberichterstattung – Anfänger im Ausbildungsgeschehen nach Sektoren/Konten und Ländern [<i>Integrated Training Reporting Flash Report – entrants to the training system according to educational sectors/accounts and federal states</i>] – 2010. Wiesbaden 2011</p>

4.3 Literature

VOCATIONAL EDUCATION AND TRAINING REPORTING AUTHORS' GROUP (Ed.): Bildung in Deutschland 2010. Ein indikatorengestützter Bericht mit einer Analyse zu Perspektiven des Bildungswesens im demografischen Wandel [*Education in Germany 2010. An indicators-based report including an analysis of the prospects for the educational system within the*

- process of demographic change*]. Bielefeld 2010. – URL: http://www.bildungsbericht.de/daten2010/bb_2010.pdf
- BAMMING, RUTH; SCHIER, FRIEDEL: Ausbildungsberichterstattung - Mehr Transparenz durch einen integrierten Ansatz [*Training reporting – more transparency via an integrated approach*]. In: Berufsbildung in Wissenschaft und Praxis [*Vocational Training in Research and Practice*] 39 (2010) 1, pp. 39-42
- DATA REPORT TO ACCOMPANY THE 2011 REPORT ON VOCATIONAL EDUCATION AND TRAINING: Informationen und Analysen zur Entwicklung der beruflichen Bildung [*Information and analyses on the development of vocational education and training*] [HTML version]. 2011. - URL: <http://datenreport.bibb.de/> [last accessed: 01-07-2011]
- DIONISIUS, REGINA; LISSEK, NICOLE; SCHIER, FRIEDEL: Einmündungen im Übergangsbereich rückläufig [*Reduction in progressions in the transitional sector*]. In: Berufsbildung in Wissenschaft und Praxis [*Vocational Training in Research and Practice*] 40 (2011) 4, pp. 4-5
- SCHIER, FRIEDEL; DIONISIUS, REGINA; LISSEK, NICOLE: Integrierte Ausbildungsberichterstattung - Bildungsstatistik und Indikatorensystem [*Integrated Training Reporting – educational statistics and indicators system*]. Ongoing. 2010. - URL: <http://indikatorik.bibb.de>
- FEDERAL STATISTICAL OFFICE AND THE STATISTICAL OFFICES OF THE FEDERAL STATES (DESTATIS): Qualitäts- und Ergebnisbericht - Integrierte Ausbildungsberichterstattung [*Quality and results report – Integrated Training Reporting*]. Wiesbaden 2011
- FEDERAL STATISTICAL OFFICE: Schnellmeldung integrierte Ausbildungsberichterstattung – Anfänger im Ausbildungsgeschehen nach Sektoren/Konten und Ländern [*Integrated Training Reporting Flash Report – entrants to the training system according to educational sectors/accounts and federal states*] – 2010. Wiesbaden 2011

5 Indicators for company-based training participation

5.1 Introduction

The amount of trainees expressed as a proportion of all employees subject to mandatory social insurance contributions (training quota) and the number of companies providing training expressed as a proportion of all companies with at least one employee subject to mandatory social insurance contributions (proportion of companies providing training) are important indicators of the participation of trade and industry in vocational training. The data currently available for the calculation of these indicators relates to the reporting year of 2008.

At the end of 2008, 1.814 million training places²¹ were occupied in Germany. This represented an increase of 1.8% or 32,000 trainees compared with the previous year. An accompanying rise in the number of employees subject to mandatory social insurance contributions of 1.5% or 408,000 persons meant that the training quota remained at virtually the same level as the previous year at 6.6% (cf. TROLTSCH 2010b).

The number of companies providing training at the end of 2008 was 494,000, a small increase of 0.3% compared to the previous year²². Because the total number of companies rose by around 0.7% or 15,000 companies during the same period, the proportion of companies providing training fell by 0.1 percentage points to 24.0% (cf. TROLTSCH 2010b).

²¹ Alongside company-based training contracts, which fall within the scope of application of the Vocational Training Act (BBiG) or within the framework of vocational education and training on maritime ships, this figure also encompasses training contracts in the healthcare system not subject to the provisions contained within the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO). Trainees not shown separately in the employee statistics who have concluded a contract with an extra-company establishment are also included.

²² See the explanatory notes to footnote 22.

5.2 Training quota

Name	Training quota																																				
<p>Core statement</p>	<p>In 2008, the 27.6 million employees registered as subject to mandatory social insurance contributions included 1.8 million trainee employees. In this year, the average amount of trainees as a proportion of employees was 6.6%. Differentiated according to company size classes, the training quota was as follows.</p> <table data-bbox="564 555 1404 1406"> <tbody> <tr> <td>In the smallest category of company</td> <td>8.0 %</td> </tr> <tr> <td> With 1 employee</td> <td>4.9 %</td> </tr> <tr> <td> With 2 employees</td> <td>7.2 %</td> </tr> <tr> <td> With 3 employees</td> <td>8.2 %</td> </tr> <tr> <td> With 4 employees</td> <td>8.8 %</td> </tr> <tr> <td> With 5 – 9 employees</td> <td>8.8 %</td> </tr> <tr> <td>In small companies</td> <td>7.2 %</td> </tr> <tr> <td> With 10 – 19 employees</td> <td>7.8 %</td> </tr> <tr> <td> With 20 – 49 employees</td> <td>6.7 %</td> </tr> <tr> <td>In medium-sized companies</td> <td>6.2 %</td> </tr> <tr> <td> With 50 – 99 employees</td> <td>6.3 %</td> </tr> <tr> <td> With 100 – 249 employees</td> <td>6.2 %</td> </tr> <tr> <td>In small and medium-sized companies in total</td> <td>7.0 %</td> </tr> <tr> <td>In large companies</td> <td>5.6 %</td> </tr> <tr> <td> With 250 – 499 employees</td> <td>6.2 %</td> </tr> <tr> <td> With 500 – 999 employees</td> <td>6.0 %</td> </tr> <tr> <td> With 1,000 and more employees</td> <td>5.0 %</td> </tr> <tr> <td>Total</td> <td>6.6 %</td> </tr> </tbody> </table>	In the smallest category of company	8.0 %	With 1 employee	4.9 %	With 2 employees	7.2 %	With 3 employees	8.2 %	With 4 employees	8.8 %	With 5 – 9 employees	8.8 %	In small companies	7.2 %	With 10 – 19 employees	7.8 %	With 20 – 49 employees	6.7 %	In medium-sized companies	6.2 %	With 50 – 99 employees	6.3 %	With 100 – 249 employees	6.2 %	In small and medium-sized companies in total	7.0 %	In large companies	5.6 %	With 250 – 499 employees	6.2 %	With 500 – 999 employees	6.0 %	With 1,000 and more employees	5.0 %	Total	6.6 %
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Total	6.6 %																																				
<p>Current validity</p>	<p>Data is made available from October of the following year.</p>																																				
<p>Significance for vocational education and training</p>	<p>The indicator shows the amount of trainees as a proportion of all employees subject to mandatory social insurance contributions. It forms a yardstick for the evaluation of participation by private and public sector companies in the vocational training of young people and in the development of such training.</p> <p>In contrast to sample surveys such as the IAB Establishment Panel Survey, evaluations of employee and company statistics offer the particular advantage of facilitating statements regarding the statistical population of all companies and employees subject to mandatory social insurance contributions. This means that there is no need for extrapolations and the calculation of estimation intervals.</p>																																				

Reference variables	<p><u>Numerator:</u> Number of employees in training according to groups of person codes 102 and 141 in the Employee Statistics of the Federal Employment Agency</p> <p><u>Denominator:</u> Total of employees subject to mandatory social insurance contributions including trainees</p>
Calculation formula	$\frac{\text{Total number of trainees}}{\text{Total number of companies with employees subject to mandatory social insurance contributions}} * 100$
Possible differentiations	<ul style="list-style-type: none"> • Company size classes • Aggregated branches of trade and industry (WZ 2008) • Aggregated occupational groups (Classification of Occupations, KldB, 1988/2010) • Regions (East/West Germany, federal states, Employment Agencies)
Data sources	<ul style="list-style-type: none"> • Employee Statistics of the Federal Employment Agency Since 1 January 1998, the statutory basis for the preparation of the Employee Statistics has been German Social Security Code III – Employment Support (SGB III) of 24 March 1997 (Federal Law Gazette, BGBl. I p. 594) as amended. Pursuant to § 281, the Federal Employment Agency (BA) has the task of drawing up statistics on employment on the basis of reports received in accordance with § 28a of German Social Security Code IV – Social Insurance (SGB IV of 23 December 1976 [Federal Law Gazette, BGBl. I p. 3845]).
Cut-off date/ period of consideration	<p>The indicator relates to a cut-off date (31 December) and reflects the situation at the end of the reporting year.</p>
Information on the quality of the indicator	<p>The Federal Statistical Office is of the view that the Employee Statistics represent a valid basis for statistical calculations in overall terms because of the reporting procedure for the social insurance providers. The correctness and completeness of the information is largely guaranteed via test procedures. Notwithstanding this, there are accounts of insured persons which are incomplete. The result of this is that non-alignable or no information is available for some characteristics (FEDERAL STATISTICAL OFFICE 2005).</p> <p>In arriving at an interpretation, consideration needs to be accorded</p>

	<p>to the following points.</p> <ul style="list-style-type: none"> • The amount of trainees as a proportion of employees changes over the course of a year, and the selected cut-off date of the end of December does not permit any statements regarding the average participation of trade and industry within a year (JACOBEBBINGHAUS ET AL. 2008). • Reports on employees subject to mandatory social insurance contributions also contain employer reports regarding trainees in the healthcare sector (e.g. healthcare assistants and nurses etc.) whose training courses are not subject to the provisions of the Vocational Training Act or the Crafts and Trades Regulation Code. This results in a slight distortion of the database figures. • There has been a strong increase over the last few years in the proportion of missing occupational information on employees in training. This makes an evaluation of occupational sector developments more difficult. • The calculation of the training quota takes into account all employees of companies without entitlement to provide training on the cut-off date.
<p>Other interpretation information (Frequently asked questions)</p>	<p>Who is counted?</p> <p><i>Companies required to provide information report all employees who are employees subject to mandatory social insurance contributions by dint of the fact that they are liable for health insurance, pension insurance, long-term care insurance contributions or liable for contributions under the law of employment support.</i></p> <p><i>Employees subject to mandatory social insurance contributions who are in training are reported via the groups of persons codes 102 and 141 (Federal Employment Agency, BA 2008). These are trainees whose training contract is governed by the provisions of the Vocational Training Act or Craft and Trades Regulation Code or who are completing vocational education and training on maritime ships sailing under German flag. Relatively broadly defined alignment criteria mean that reports on employees subject to mandatory social insurance contributions who are in training also include employer reports regarding trainees in the healthcare sector, whose training is not governed by the Vocational Training Act (BBlG), and reports on trainees who have concluded a contract with an extra-company establishment. This method of counting results in a slight systematic overestimation of the quantitative significance of dual vocational education and training within the narrow definition of the term.</i></p>

	<p>Who is not counted?</p> <p><i>Persons in active employment who are not subject to mandatory social insurance contributions are not counted.</i></p>
<p>Main publications</p>	<p>JACOBEBBINGHAUS, PETER; MOHRENWEISER, JENS; ZWICK, THOMAS: Wie kann die durchschnittliche Ausbildungsquote in Deutschland korrekt gemessen werden? [<i>How can the average training quota in Germany be correctly measured?</i>] (ZEW Discussion Papers). Mannheim 2008</p> <p>FEDERAL STATISTICAL OFFICE: Qualitätsbericht [<i>Quality Report</i>]: Vierteljährliche Bestandsauszählungen sozialversicherungspflichtig Beschäftigter [<i>Quarterly database computations of employees subject to mandatory social insurance</i>]. Wiesbaden 2005</p> <p>TROLTSCH, KLAUS: Der Stellenwert des tertiären Wirtschaftssektors für das duale Berufsausbildungssystem. Folgen betrieblicher Beschäftigungsstrukturen und -entwicklungen für das Bildungsangebot [<i>The significance of the tertiary sector for the dual system of vocational education and training. Consequences of company-based employment structures and developments for training provision</i>]. In: WALDEN, GÜNTER (Ed.): Qualifikationsentwicklung im Dienstleistungsbereich. Herausforderungen für das duale System der Berufsausbildung [<i>Qualification development in the service sector. Challenges for the dual system of vocational education and training.</i>] Bielefeld 2007, pp. 51–97</p> <p>TROLTSCH, KLAUS: Ausbildung und Beschäftigung – Ergebnisse der Beschäftigten- und Betriebsstatistik im Zeitraum zwischen 1999 und 2007 [<i>Training and employment – results of the Employee and Company Statistics in the period from 1999 to 2007</i>]. In: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Data Report to accompany the 2009 Report on Vocational Education and Training. Bonn 2009, pp. 171-181</p> <p>TROLTSCH, KLAUS: Ausbildung und Beschäftigung – Ergebnisse der Beschäftigten- und Betriebsstatistik im Zeitraum zwischen 1999 und 2007 [<i>Training and employment – results of the Employee and Company Statistics in the period from 1999 to 2007</i>]. In: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Data Report to accompany the 2009 Report on Vocational Education and Training. Bonn 2009, pp. 171-181</p> <p>TROLTSCH, KLAUS; WALDEN, GÜNTER: Beschäftigungssystem dominiert zunehmend Ausbildungsstellenmarkt. Zur Responsivität des dualen Ausbildungssystems [<i>Employment system increasingly</i></p>

	<p><i>dominates training market. On the responsiveness of the dual system of vocational education and training]. In: Berufsbildung in Wissenschaft und Praxis [Vocational Training in Research and Practice] 36 (2007) 4, pp. 5-9</i></p> <p>TROLTSCH, KLAUS; WALDEN, GÜNTER; KRUPP, THOMAS: Angebots- und nachfragebezogene Einflussfaktoren des regionalen Ausbildungsplatzangebots <i>[Supply and demand related influencing factors of regional training place provision]</i>. In: Berufsbildung in Wissenschaft und Praxis <i>[Vocational Training in Research and Practice] 39 (2010) 6, pp. 15-19</i></p>
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5.3 Proportion of companies providing training

Name	Proportion of companies providing training																																				
<p>Core statement</p>	<p>In 2008, 0.5 million of the 2.06 million companies with employees registered as subject to mandatory social insurance contributions provided training for young people. In this reporting year, the amount of companies providing training as a proportion of all companies (proportion of companies providing training) was as follows.</p> <table data-bbox="635 607 1321 1496"> <tr> <td>In the smallest category of company</td> <td>16.6 %</td> </tr> <tr> <td>With 1 employee</td> <td>4.9 %</td> </tr> <tr> <td>With 2 employees</td> <td>12.7 %</td> </tr> <tr> <td>With 3 employees</td> <td>19.9 %</td> </tr> <tr> <td>With 4 employees</td> <td>26.2 %</td> </tr> <tr> <td>With 5 - 9 employees</td> <td>35.4 %</td> </tr> <tr> <td>In small companies</td> <td>48.6 %</td> </tr> <tr> <td>With 10 - 19 employees</td> <td>44.8 %</td> </tr> <tr> <td>With 20 - 49 employees</td> <td>54.5 %</td> </tr> <tr> <td>In medium-sized companies</td> <td>69.8 %</td> </tr> <tr> <td>With 50 - 99 employees</td> <td>66.3 %</td> </tr> <tr> <td>With 100 - 249 employees</td> <td>75.5 %</td> </tr> <tr> <td>In small and medium-sized companies in total</td> <td>23.6 %</td> </tr> <tr> <td>In large companies</td> <td>86.6 %</td> </tr> <tr> <td>With 250 - 499 employees</td> <td>84.3 %</td> </tr> <tr> <td>With 500 - 999 employees</td> <td>89.0 %</td> </tr> <tr> <td>With 1,000 and more employees</td> <td>93.0 %</td> </tr> <tr> <td>Total</td> <td>24.0 %</td> </tr> </table>	In the smallest category of company	16.6 %	With 1 employee	4.9 %	With 2 employees	12.7 %	With 3 employees	19.9 %	With 4 employees	26.2 %	With 5 - 9 employees	35.4 %	In small companies	48.6 %	With 10 - 19 employees	44.8 %	With 20 - 49 employees	54.5 %	In medium-sized companies	69.8 %	With 50 - 99 employees	66.3 %	With 100 - 249 employees	75.5 %	In small and medium-sized companies in total	23.6 %	In large companies	86.6 %	With 250 - 499 employees	84.3 %	With 500 - 999 employees	89.0 %	With 1,000 and more employees	93.0 %	Total	24.0 %
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With 1,000 and more employees	93.0 %																																				
Total	24.0 %																																				
<p>Current validity</p>	<p>Data is made available from October of the following year.</p>																																				
<p>Significance for vocational education and training</p>	<p>The indicator shows the size of the proportion of companies providing training. It forms a yardstick for the evaluation of participation by private and public sector companies in the vocational training of young people and in the development of such training.</p>																																				
<p>Reference variables</p>	<p><u>Numerator:</u> Number of companies in which employees in training are registered according to groups of person codes 102 and 141 in the Employee Statistics of the Federal Employment Agency</p>																																				

	<p><u>Denominator:</u></p> <p>Number of all companies with employees subject to mandatory social insurance contributions</p>
Calculation formula	$\frac{\text{Total number of companies providing training}}{\text{Total number of companies with employees subject to mandatory social insurance contributions}} * 100$
Possible differentiations	<ul style="list-style-type: none"> • Company size classes • Aggregated branches of trade and industry (WZ 2008) • Regions (East/West Germany, federal states, Employment Agencies)
Data sources	Company database of the Employee Statistics of the Federal Employment Agency
Cut-off date/ period of consideration	The indicator relates to a cut-off date (31 December) and reflects the situation at the end of the reporting year.
Information on the quality of the indicator	<p>The company database of the Employee Statistics represents the statistical population of all company units in Germany with employees subject to mandatory social insurance contributions.</p> <p>In arriving at an interpretation, consideration needs to be accorded to the following points.</p> <ul style="list-style-type: none"> • The proportion of companies providing training changes over the course of a year, and the selected cut-off date of the end of December does not permit any statements regarding the average participation of trade and industry within a year. • Reports on employees subject to mandatory social insurance contributions also contain employer reports regarding trainees in the healthcare sector (e.g. healthcare assistants and nurses etc.) whose training courses are not subject to the provisions of the Vocational Training Act or the Crafts and Trades Regulation Code. This results in a slight distortion of the database figures (cf. the interpretation information regarding the training quota stated above). • In calculating the proportion of companies providing training, consideration is also accorded to all companies not providing training at the cut-off date, irrespective of the fact that a considerable proportion of these companies does not have any entitlement to provide training. • The proportion of companies providing training does not permit

	<p>any conclusion as to the quantitative scope of training in companies providing training and needs at all times to be viewed within the context of the training quota.</p>
<p>Other interpretation information (Frequently asked questions)</p>	<p>Who is counted? <i>All company units in Germany with employees subject to mandatory social insurance contributions are counted.</i></p> <p>Who is not counted? <i>Company units exclusively employing persons in respect of whom no social insurance contributions need to be paid are not counted.</i></p>
<p>Main publications</p>	<p>TROLTSCH, KLAUS: Betriebliche Berufsausbildung als Auslaufmodell? Bemerkungen zu Befunden über das duale Ausbildungssystem [<i>Company-based vocational education and training an obsolescent model? Remarks on findings regarding the dual system of vocational education and training</i>] In: ICKING, MARIA (Ed.): Die berufliche Bildung der Zukunft. Herausforderungen und Reformansätze [<i>Vocational education and training of the future. Challenges and approaches to reform</i>] Berlin 2011 (Series of publications on education and culture issued by the Heinrich Böll Foundation), pp. 24–36</p> <p>TROLTSCH, KLAUS: Regionale Entwicklung der Berufsausbildung [<i>Regional development of vocational education and training</i>]. In: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Data Report to accompany the 2010 Report on Vocational Education and Training. Bonn 2010a, pp. 60-64</p> <p>TROLTSCH, KLAUS: Ausbildung und Beschäftigung – Ergebnisse der Beschäftigtenstatistik 2008 [<i>Training and employment – results of the 2008 Employee Statistics</i>]. In: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Data Report to accompany the 2010 Report on Vocational Education and Training. Bonn 2010b, pp. 191-195</p> <p>TROLTSCH, KLAUS; WALDEN, GÜNTER; ZOPF, SUSANNE: Im Osten nichts Neues? 20 Jahre nach dem Mauerfall steht die Berufsausbildung vor großen Herausforderungen [<i>All quiet on the eastern front? 20 years after the fall of the Berlin Wall, vocational training is facing enormous challenges</i>]. Bielefeld 2009</p> <p>UHLY, ALEXANDRA/TROLTSCH, KLAUS: Duale Berufsausbildung in der Dienstleistungs- und Wissensökonomie [<i>Dual vocational education and training in the service and knowledge economy</i>]. In: Zeitschrift für Berufs- und Wirtschaftspädagogik [<i>Journal of Vocational and Business Education</i>] 105 (2009) 1, pp. 15–32</p>

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- the future. Challenges and approaches to reform*] Berlin 2011 (Series of publications on education and culture issued by the Heinrich Böll Foundation), pp. 24–36
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- Ordinance on the Recording and Transmission of Data for Social Insurance Providers (Data Recording and Transmission Ordinance — DEÜV) as amended on 23 January 2006 (Federal Law Gazette, BGBl I p. 152), last amended by law on 19 December 2007 (BGBl I p. 3024) Annex 2 Key Figures for Groups of Persons in Reports pursuant to DEÜV, status: 6 November 2007 http://www.gesetze-im-internet.de/bundesrecht/de_v/gesamt.pdf [last accessed: 25-06-2013]

6 Indicators for ratios on the training places market

6.1 Introduction

This chapter presents three indicators for the description of annual ratios on the training market. All three indicators are aligned towards the training placement reporting year as defined by the Federal Employment Agency²³, which encompasses the period from 1 October of the previous year to 30 September and which in turn is itself broadly based on the placement period preceding the commencement of a new training year.

6.1.1 *Supply and demand ratio (ANR)*

The “Supply and demand” indicator has been in use since as long ago as the 1970’s, its purpose being to arrive at an overall final assessment of conditions on the training market for a training year just ended. The construction of this indicator takes place with reference to the Vocational Training Act (and preceding laws), which require the Federal Ministry of Education to provide annual vocational education and training reporting (LAKIES/NEHLS 2007, p. 322). Criticism, especially regarding the measurement of training place demand, arose at a very early stage. The main focus is on two points relating to the operationalisation of unsuccessful training place demand.

6.1.1.1 *Supply and demand ratio (ANR) according to the “classical method of calculation”*

The first point of criticism relates to the operationalisation practice of the statutory stipulation that the number of “persons registered with the Federal Employment Agency as searching for a training place” as of the cut-off date should be calculated. Within the framework of the so-called “classical” calculation of the supply-demand ratio, only applicants in respect of whom it has not been possible to identify an alternative destination such as the beginning of a vocational preparation scheme, the commencement of an internship, entry into employment or a return to school attendance as of the cut-off date are included. Despite their remaining interest in pursuing training, applicants who continue their search for a training place from within one of these alternative destinations are not taken into account.

6.1.1.2 *Supply and demand ratio (ANR) according to the new and extended method of calculation*

In order to decrease the deficits in validity described, a review of the classical supply-demand ratio was urged (ULRICH/TROLTSCH 2003, pp. 45ff.) to create a “new” or “extended supply-demand ratio” which also accords consideration to training place applicants who continue to be interested in commencing vocational education and training despite having progressed to an alternative destination. There is no doubt that such an indicator represents

²³ Within the following context, training always means training pursuant to the Vocational Training Act (BBiG), i.e. in the dual system.

an improvement, and it has been included as an additional calculation in both the Report on Vocational Education and Training (FEDERAL MINISTRY OF EDUCATION AND RESEARCH 2011, p. 21) and in National Education Reports (cf. e.g. VOCATIONAL EDUCATION AND TRAINING REPORTING AUTHORS' GROUP 2010, pp. 101ff.). This indicator is, however, also associated with an underestimation of the actual training place demand in the reporting year. This is due to the late cut-off date at which the overall assessment is made (30 September). At this date, the new training year is already several weeks old, and by this point many unsuccessful applicants have either long since given up on their wish to enter training or else have postponed their plans until the next year. Reference was made to this problem as long ago as in the 1977 Report on Vocational Education and Training (cf. FEDERAL MINISTER OF EDUCATION AND SCIENCE 1977, p. 24).

6.1.2 *Training places-applicants ratio (SBR)*

One attempt to resolve this problem is to indicate a training places-applicants ratio alongside the extended supply-demand ratio. This takes into account all training place applicants registered with the advisory and placement services within a reporting year and shows how many registered vocational education and training places there are compared to these applicants. This indicator therefore maps conditions on the training places market as represented from the perspective of the advisory and placement services (Federal Employment Agency, consortia, authorised local government providers). It is issued regularly by the Federal Employment Agency. At the end of the reporting year 2010, the training places-applicants ratio (SBR) was $SBR = 87,6$ (FEDERAL EMPLOYMENT AGENCY 2010, p. 7).

6.1.3 *Supply ratio of those interested in training (AQI)*

The calculation of the training places-applicants ratio does not, however, take into account all the young people interested in training who have arrived at their wish to enter training without the support of the advisory and placement services.

For this reason, a further indicator has been recently developed to express the ratio of the number of officially recorded training places on offer to the number of all persons who have been interested in vocational education and training in any way in the reporting year and have been registered by the relevant institutions (advisory and placement services, responsible chambers) (cf. also GERICKE/UHLY/ULRICH 2011).²⁴

²⁴ This extended perspective encompassing all registered persons interested in training *during the course of a year* is completely compatible with the Vocational Training Act (BBiG), which requires a more comprehensive perspective to be included with regard to the forecast of future development in demand (than in respect of the final assessment). For the future application and placement period, the law states that “the number of persons expected to be seeking training places up until 30 September of the current year” (§ 86) should be calculated (LAKIES/NEHLS 2007, p. 323). This means that the focus is on the cumulative number of young people seeking a vocational education and training place within the course of the year. It may be the case that the question as to whether and when a search is ceased does not play any part (otherwise successful applicants who conclude a training contract and therefore end their search before 30 September would also not be taken into account). This would, however, also mean that *unsuccessful* applicants who do not wish to continue searching until the cut-off date of 30 September (which is in any case several weeks after the start of the new training year) would need to be included (cf. MAIER/ULRICH 2011, pp. 69ff.).

6.1.4 Correlations between the three indicators

Because classical supply and demand ratio (ANR), the new and extended ANR and the supply ratio of those interested in training (AQI) only differ by dint of successive extensions of their denominators, the development lines show corresponding differences in level (Table 1). The training places-applicants ratio (SBR) is characterised by strong peaks which are the consequences of different degrees of involvement of the advisory and placement services by the companies or young people. These peaks are so pronounced because the degree of involvement of the companies and the young people often run counter to each other. "In the event of a growing demand surplus, companies make use of training placement less often and later, whereas the young people avail themselves of the service more frequently and earlier. In the event of a supply surplus, the opposite process takes place" (FEDERAL EMPLOYMENT AGENCY 2010, p. 4).

Table 1: Development of the market indicators over the course of time

Year	Supply and demand ratios		Training places-applicants ratio (SBR)	Supply ratio of those interested in training (AQI)
	According to classical calculation (ANR _(classical))	According to new calculation (ANR _(new))		
1992	118.7	117.0	153.4	90.6
1993	111.6	109.7	135.6	82.1
1994	106.0	103.9	109.1	74.2
1995	103.2	100.8	94.5	70.4
1996	99.4	96.6	85.0	66.7
1997	96.6	93.7	78.6	64.2
1998	98.1	93.8	75.9	64.1
1999	99.1	94.8	78.4	64.6
2000	100.3	95.5	81.2	65.3
2001	100.6	95.3	85.5	66.1
2002	99.1	92.7	82.4	63.1
2003	96.6	89.5	76.0	61.0
2004	95.0	88.1	70.6	62.0
2005	95.3	88.2	63.6	60.6
2006	94.6	84.7	60.2	60.8
2007	97.8	85.1	69.5	62.0
2008	100.8	89.2	82.5	66.6
2009	100.3	88.5	85.6	67.3
2010	101.3	89.9	87.6	68.6

In interpreting the new and extended supply and demand values, consideration needs to be accorded to the fact that the measurements relating to applicants who continue to search from within alternative areas of provision were revised in 2007 and that the measurements from 1992 to 1997 are only able to take data from West Germany into account.

Sources:

Federal Employment Agency, Federal Statistical Office, Federal Institute for Vocational Education and Training, own calculations

Table 2 states the correlations of the indicators over the years from 1992 to 2010. In order to exclude trend dependencies, first order differences, i.e. the respective changes between neighbouring years, have been correlated. The coefficient values permit us to interpret that the various indicators have, at least in the last 19 years, mapped both the *direction* and the *extent* of national training market conditions in a similar way.

Table 2: Intercorrelations of the indicators over the years 1992-2010

	ANR classical	ANR new	SBR	AQI
ANR classical	–	.9377	.8936	.9123
ANR new	.9377	–	.8630	.9070
SBR	.8936	.8630	–	.9203
AQI	.9123	.9070	.9203	–

First order differences have been correlated.

ANR = Supply-demand ratio, SBR = Training places-applicants ratio, AQI = Supply ratio of those interested in training. In interpreting the new and extended supply and demand values, consideration needs to be accorded to the fact that the measurements relating to applicants who continue to search from within alternative areas of provision were revised in 2007 and that the measurements from 1992 to 1997 are only able to take data from West Germany into account.

Sources: Federal Employment Agency, Federal Statistical Office, Federal Institute for Vocational Education and Training, own calculations

Lower levels of communality between the indicators are, however, revealed if the regional characteristics are correlated for a particular year (as here for the year 2010) (cf. Table 3).

Table 3: Intercorrelations of the indicator characteristics in the year 2010 in the 176 training market regions capable of analytical differentiations (usually Employment Agency districts)

	ANR classical	ANR new	SBR	AQI
ANR classical	–	.6321	.4578	.5237
ANR new	.6321	–	.7500	.8568
SBR	.4578	.7500	–	.8646
AQI	.5237	.8568	.8646	–

The 176 regions are identical with the Employment Agency districts. The three districts of Berlin have been consolidated into a single region.

Sources: Federal Employment Agency, Federal Statistical Office, Federal Institute for Vocational Education and Training, own calculations

In this case, the classical ANR correlates with the other indicators only at a medium level (coefficients between $r = .4578$ and $r = .6321$).

By way of contrast, the three other indicators (new ANR, SBR and AQI) are significantly more closely correlated (coefficients between $r = .7500$ and $r = .8646$). This shows that the new features compared to the classical ANR act together to reflect facts and circumstances on the training market which are not taken into account or else only taken into account to a limited extent in the classical ANR. This may be interpreted as an indication that the new features are both appropriate and necessary.

6.2 Supply and demand ratio (ANR)

Name	Supply and demand ratio (ANR)
Core statement	<p>In the reporting year 2009, the ratio between the amount of training provision and the number of persons identified as seeking a training place was 100.3% (according to the “classical” calculation of training place demand) and 88.5% (according to the new and extended method of calculation of training place demand).</p> <p>In other words, in arithmetical terms there were, in 2009, 100.3 or 88.5 training places for every 100 persons seeking to enter training (“classical” and “new” calculation respectively).</p>
Current validity	<p>The reporting year extends from 1 October to 30 September and is aligned to the Vocational Training Act. The data on which the indicator is based are available as early as the third month following the end of the reporting year. The fact that the data is available in December means that the supply and demand ratio can be calculated in an extremely timely manner.</p>
Significance for vocational education and training	<p>An official training market indicator stating the ratio in percentage terms between the scope of training place provision identified and the number of persons officially identified as seeking a training place.</p> <p>Comparability over the course of time, between regions and occupational groups or individual occupations</p>
Reference variables	<p><u>Numerator:</u></p> <p>The supply of training places in the reporting year.</p> <p>This is calculated by adding the number of newly concluded training contracts to the number of vocational training places registered with the Federal Employment Agency which remain unfilled at the end of the reporting year (end of September) (cf. § 86 of the Vocational Training Act).</p> <p><u>Denominator:</u></p> <p>The number of persons seeking a training place in the reporting year.</p> <p>This is calculated by adding the number of newly concluded training contracts to the number of persons registered with the Federal Employment Agency who are still seeking a training place at the end of the reporting year (end of September) (cf. § 86 of the Vocational Training Act).</p> <p><u>Variations in the calculation of the denominator</u></p> <p>Within the scope of the “classical” definition of demand, only applicants who were without any form of alternative destination</p>

	<p>opportunity as of 30 September, such as the beginning of an internship or a vocational preparation scheme, were previously counted. By way of contrast, the denominator today encompasses the new and extended definition of demand and includes applicants who are still seeking a training place as of 30 September and who have at least one alternative destination opportunity.</p> <p><u>Further specific characteristics for the calculation of the denominator</u></p> <p>Unsuccessful training place applicants who have decided upon alternative provision (e.g. a return to school, higher education study, employment, vocational preparation scheme) and who are no longer or initially no longer seeking a vocational training place as of 30 September are not included either within the framework of the “classical” definition of demand nor within the scope of the new and extended definition of demand. To this extent, this results in a significant under-recording of actual interest in vocational education and training. At the end of September, several weeks after the beginning of the new training year, many unsuccessful applicants have already given up their search or else postponed their plans until subsequent training years (cf. also in this respect the remarks in Section 6.4 on the supply ratio of those interested in training, AQI, which takes all persons interested in training into account).</p>
<p>Calculation formula</p>	$\frac{\text{Supply of training places}}{\text{Persons seeking a training place}} * 100$ <p>The Internet pages of the BIBB survey as of 30 September provide details of the supply of training places and the number of persons seeking a training place. Alongside information on the number of new training contracts, they also include data on the size of training place supply and demand.</p> <p>Variation 1</p> $\frac{\text{Company – based supply of training places}}{\text{Persons seeking a training place}} * 100$ <p>Variation 1 shows the number of company-based training places on offer in arithmetical terms per 100 persons seeking a training place. The scope of the company-based supply of training places is calculated arithmetically by deducting the number of extra-company training contracts (i.e. training contracts which are predominantly publicly funded).</p>

	<p>Variation 2</p> $\frac{\text{Extra – company supply of training places}}{\text{Persons seeking a training place}} * 100$ <p>Variation 2 shows the number of extra-company training places on offer in arithmetical terms per 100 persons interested in training. This means that the scope of the company-based supply of training places is arithmetically equal to the number of extra-company training contracts (i.e. training contracts which are predominantly publicly funded).</p>
<p>Possible differentiations</p>	<ul style="list-style-type: none"> • In accordance with “company-based” (= predominantly funded by the companies) and “extra-company” supply of training places (see above) • Germany; West and East Germany, federal states and Employment Agency districts • In accordance with occupational groups and occupations • In accordance with the respective combinations
<p>Data sources</p>	<ul style="list-style-type: none"> • BIBB Survey of newly concluded training contracts as of 30 September • Training Market Statistics of the Federal Employment Agency <p>Data sources online:</p> <ul style="list-style-type: none"> • URL: http://www.bibb.de/de/14492.htm [last accessed: 16.11.2011] <p>URL: http://statistik.arbeitsagentur.de/Navigation/Statistik/Statistik-nach-Themen/Ausbildungsstellenmarkt/Ausbildungsstellenmarkt-Nav.html [last accessed: 16.11.2011]</p>
<p>Cut-off date/ period of consideration</p>	<p>Cut-off date: 30 September</p> <p>This indicator provides the final assessment of a reporting year (beginning in October of the previous year until the end of September).</p>
<p>Information on the quality of the indicator</p>	<ul style="list-style-type: none"> • The supply and demand ratio is the official indicator for evaluating conditions on the training market in an up-to-date manner each year on the basis of official data and for comparing such conditions with the values from the previous year or with other regions and occupations. It is used both in the National Education Report and in the Report on Vocational Education and Training. • Data is available in a timely manner.

	<p><u>Limits of calculation</u></p> <ul style="list-style-type: none"> • Commuter movements exert an influence on the characteristics of the indicator. Supply of training places and the new training contracts are aligned to the location of the company rather than place of residence, whereas training place applicants are registered at their place of residence. If there are deviations between location of company and place of residence, the supply and demand ratio values are estimated at too high a level for regions in which there are more outgoing than incoming commuters. The opposite applies to regions with a surplus of incoming commuters. • In its classical form, the supply and demand ratio should not be used for research analyses to map training market conditions. The deficiencies in validity in recording training place demand are simply too large for this purpose. These deficiencies exert an effect both on the recording of the absolute amount of demand and on mapping the differences between the regions. This also has a negative impact on correlative analyses (e.g. on the correlations between the labour market and the training market. Although the deficiencies in validity regarding the measurement of demand are at least alleviated in the new and extended form of the supply and demand ratio, they are not fully eliminated.
<p>Other interpretation information (Frequently asked questions)</p>	<p>How high does the supply and demand ratio need to be in order to achieve sufficient supply for persons seeking a training place?</p> <p><i>There is talk in many places of a supply and demand ratio of ANR = 112.5 (i.e. a supply surplus of 12.5%). This frequently stated guidance value is, however, the result of a political compromise made within the socio-liberal coalition of the 1970's rather than having any basis in scientific research. "It actually represents the mean value of the 20% demanded by the SPD at the time and the FDP concept of a 5% surplus" (KATH 1999, p. 102).</i></p>
<p>Main publications</p>	<p>ULRICH, JOACHIM GERD; FLEMMING, SIMONE; GRANATH, RALF-OLAF: Ausbildungsmarktbilanz 2010 [Training market figures 2010]. In: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datenreport zum Berufsbildungsbericht 2011. Informationen und Analysen zur Entwicklung der beruflichen Bildung [Data Report to accompany the 2012 Report on Vocational Education and Training. Information and analyses on the development of vocational education and training]. Bonn 2010, pp. 11-29</p>

6.3 Training places-applicants ratio (SBR)

Name	Training places-applicants ratio (SBR)
Core statement	<p>In the reporting year 2009, the ratio between the number of registered vocational education and training places and the number of registered training place applicants was 85.6%.</p> <p>In other words, in arithmetical terms there were, in 2009, 85.6 registered training places for each 100 registered training place applicants.</p>
Current validity	<p>The reporting year extends from 1 October to 30 September and is aligned to the Vocational Training Act. The data on which the indicator is based are made available by the Federal Employment Agency as early as the first month following the end of the reporting year. This means that the SBR for the end of the training year can be indicated in October.</p> <p>It is also possible to calculate values for a period of less than one year and per month due to the fact that the Federal Employment Agency updates the benchmark values for its Training Market Statistics on a monthly basis. The training places-applicants ratio (SBR) is regularly indicated in the summary table included in the monthly publications of the Federal Employment Agency.</p>
Significance for vocational education and training	<p>A training market indicator which reflects the perspective of the advisory and placement services stating the ratio between the scope of the training places offered to the advisory and placement services for placement and the number of training place applicants wishing placement in dual vocational education and training.</p> <p>Attention needs to be drawn to the fact that use of the advisory and placement services is voluntary. For this reason, in calculating the training places-applicants ratio, consideration can only be accorded to those training places and training place applicants in respect of which the Employment Agencies, the consortia and the authorised local government providers have been awarded a placement commission.</p> <p>Comparability over the course of time (both annually and monthly), between regions and occupational groups or individual occupations.</p>
Reference variables	<p><u>Numerator:</u></p> <p>The number of reported vocational education and training places in the reporting year.</p> <p>The Federal Employment Agency defines as vocational education and training places “all company-based and extra-company vocational</p>

	<p>education and training places registered as commissioned for placement and to be filled within the reporting year for recognised training occupations pursuant to the Vocational Training Act (BBiG) including training places in vocational training centres and other institutions which implement training measures for disabled persons. Company-based vocational education and training places include registered vocational education and training places, but not vocational education and training places in extra-company institutions and not vocational education and training places for those undergoing rehabilitation with the exception of training places funded pursuant to § 241 Paragraph 2 German Social Security Code III, SGB III” (Federal Employment Agency 2010, p. 6).</p> <p><u>Denominator:</u></p> <p>The number of registered vocational education and training place applicants in the reporting year.</p> <p>The Federal Employment Agency defines vocational education and training place applicants as “registered persons who wish individual placement in a company-based or extra-company vocational education and training place in the reporting year in recognised training occupations in accordance with the Vocational Training Act and whose aptitude has been clarified or who are in possession of the necessary entry requirements. This also includes applicants for a vocational education and training place in a vocational training centre or in other institutions which implement training measures for disabled persons” (FEDERAL EMPLOYMENT AGENCY 2010, p. 5).</p>
<p>Calculation formula</p>	$\frac{\text{Registered vocational education and training places}}{\text{Registered training place applicants}} * 100$ <p>Data is available on the website of the Federal Employment Agency (see below).</p> <p><u>Variation 1</u></p> $\frac{\text{Registered company – based VET places}}{\text{Registered training place applicants}} * 100$ <p>Variation 1 shows the number of registered company-based training places in arithmetical terms per 100 training place applicants.</p> <p><u>Variation 2</u></p> $\frac{\text{Registered extra – company VET training places}}{\text{Registered training place applicants}} * 100$ <p>Variation 2 shows the number of registered extra-company training places in arithmetical terms per 100 training place applicants.</p>

Possible differentiations	<ul style="list-style-type: none"> • In accordance with “company-based” and “extra-company” vocational education and training places (see above) • Germany; West and East Germany, federal states, Employment Agency districts and partial regions within the Employment Agency districts • In accordance with occupational groups and occupations • In accordance with the respective combinations
Data sources	<ul style="list-style-type: none"> • Training Market Statistics of the Federal Employment Agency • Data sources online, URL: http://statistik.arbeitsagentur.de/Navigation/Statistik/Statistik-nach-Themen/Ausbildungsstellenmarkt/Ausbildungsstellenmarkt-Nav.html [last accessed: 16.11.2011]
Cut-off date/ period of consideration	<ul style="list-style-type: none"> • Cut-off date: 30 September • The indicator reflects the situation in a specific reporting year (beginning in October of the previous year to the end of September) or, alternatively, monthly.
Information on the quality of the indicator	<ul style="list-style-type: none"> • The training places-applicants ratio (SBR) represents a very useful indicator for estimating training market conditions (as shown from the perspective of the Federal Employment Agency) in an up-to-date manner each month or year on the basis of official data and for comparing such conditions with the values from the previous year or with other regions and occupations. • In comparing different years and regions, however, consideration needs to be accorded to the fact that the degree of involvement by the consultancy and placement services fluctuates both in terms of time and regionally. The FEDERAL EMPLOYMENT AGENCY (2010, p. 4) makes the following remarks in this regard. “In the event of a growing demand surplus, companies make use of training placement less often and later, whereas the young people avail themselves of the service more frequently and earlier. In the event of a supply surplus, the opposite process takes place”. As a result of the variation in the degree of involvement, “direct conclusions as to the absolute figures for total supply and total demand are not possible.” • Registered training places and training place applicants are indicated according to the place of residence of the applicants (Employment Agency district). • Data is available in an extremely timely manner directly at or following the end of the month. Notwithstanding this, the first monthly publication of a new reporting year does not take place until April (together with the interim results for the period from

	October of the previous year until March).
Other interpretation information (Frequently asked questions)	<p>Is a sufficient supply for registered training place applicants only achieved when the training places-applicants ratio (SBR) in the regions is at least 100%?</p> <ul style="list-style-type: none"> <i>This is not necessarily the case. A substantial proportion of applicants who display interest in vocational education and training over the course of a reporting year voluntarily relinquish their interest. This is, for example, the case when the alternatives of school-based VET or higher education study have been considered alongside dual vocational education and training and applicants ultimately decide to pursue such a course.</i> <i>On the other hand, a high SBR value does not necessarily mean that supply for the registered training place applicants is sufficient. Companies are, of course, at liberty to fill their reported places with persons interested in training who were not registered with the advisory and placement services.</i> <i>Greater distortion arises in this context, for example, if large numbers of training places are registered in relation to the number of registered applicants but there is a high demand from other regions on the part of young people interested in training who enjoy better chances. These outside applicants are not included in the number of locally registered applicants (due to the fact that the principle of place of residence applies to the regional registration of applicants at all times).</i> <p>How high must the training places-applicants ratio (SBR) be to make it likely that sufficient supply for persons interested in training is secured?</p> <ul style="list-style-type: none"> <i>This cannot be stipulated with certainty. Important indications are, however, provided by comparison with SBR values from previous years (especially training market years where the situation was easier) or by comparison with other regions (whereby, of course, differing levels of outgoing and incoming commuters and other particular regional characteristics need to be taken into account at all times).</i> <i>In addition to this, the degree of supply for registered training applicants can be directly discerned from the number of persons who progress to a vocational education and training place by the end of the reporting year (cf. the applicant progression rate in Section 7.3 below in this regard) or who are continuing to search for a vocational education and training place. This data is also regularly indicated in the Training Market Statistics Produced by the Federal Employment Agency.</i>
Main publications	FEDERAL EMPLOYMENT AGENCY: Arbeitsmarkt in Zahlen. Ausbildungsstellenmarkt. Bewerber und Berufsausbildungs-

	stellen. Deutschland. September 2010 [<i>Labour market in figures. Training places market. Applicants and vocational education and training places. Germany. September 2010</i>]. Nuremberg 2010
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6.4 Supply ratio of those interested in training (AQI)

Name	Supply ratio of those interested in training (AQI)
Core statement	<p>In the reporting year 2009, the ratio between the number of training places on offer and the number of persons institutionally recorded as being interested in training during the course of the training year was 67.3 %.</p> <p>In other words, in arithmetical terms there were, in 2009, 67.3 training places for each 100 persons interested in training.</p>
Current validity	The reporting year extends from 1 October to 30 September and is aligned to the Vocational Training Act. The data on which the indicator is based are available as early as the third month following the end of the reporting year. The fact that the data is available in December means that the AQI can be calculated in an extremely timely manner.
Significance for vocational education and training	<ul style="list-style-type: none"> • A training market indicator States the ratio between the extent of training place provision and the number of persons interested in training. • Comparability over the course of time and (to a limited extent) also between regions
Reference variables	<p><u>Numerator:</u></p> <p>The supply of training places in the reporting year. This is calculated by adding the number of newly concluded training contracts to the number of vocational training places registered with the Federal Employment Agency which remain unfilled at the end of the reporting year (end of September).</p> <p><u>Denominator:</u></p> <p>All persons institutionally recorded as interested in training in a reporting year.</p> <p>This includes:</p> <ul style="list-style-type: none"> • all persons who either concluded a new training contract (which was still in existence at the end of the reporting year); • or who, although they did not progress to vocational education and training, were at least registered as training place applicants with the Employment Agencies, the consortia or the authorised local government providers.

	<p><u>Specific characteristic of the denominator:</u></p> <p>By its very definition, the denominator only includes young people and young adults interested in training whose vocational aptitude (and thus also “apprenticeship entry maturity”) has been officially categorised as sufficient either by the advisory and placement services or the companies which have recruited the young people.</p>
<p>Calculation formula</p>	$\frac{\text{Supply of training places}}{\text{New training contracts + applicants who did not progress to training}} * 100$ <p>The BIBB survey as of 30 September provides details of the supply of training places. Alongside information on the number of new training contracts, it also includes data on the size of training place supply.</p> <p>The number of applicants not progressing to training is calculated by subtracting the number of applicants shown by the Training Market Statistics of the Federal Employment Agency to be “progressing applicants” from the total number of all registered training place applicants.</p> <p><u>Variation 1</u></p> $\frac{\text{Supply of company – based training places}}{\text{New training contracts + applicants who did not progress to training}} * 100$ <p>Variation 1 shows the number of company-based training places on offer in arithmetical terms per 100 persons interested in training.</p> <p>The scope of the supply of company-based training places is calculated arithmetically by deducting the number of extra-company training contracts (i.e. training contracts which are predominantly publicly funded).</p> <p><u>Variation 2</u></p> $\frac{\text{New extra – company training places}}{\text{New training contracts + applicants who did not progress to training}} * 100$ <p>Variation 2 shows the number of extra-company training places on offer in arithmetical terms per 100 persons interested in training.</p> <p>This means that the scope of the company-based supply of training places is arithmetically equal to the number of extra-company training contracts (i.e. training contracts which are predominantly publicly funded).</p>
<p>Possible differentiations</p>	<ul style="list-style-type: none"> • In accordance with “company-based” (= predominantly funded by the companies) and “extra-company” supply of training places

	<p>(see above)</p> <ul style="list-style-type: none"> • Germany; including restriction to West and East Germany and according to Employment Agency districts • In accordance with the respective combinations
Data sources	<ul style="list-style-type: none"> • BIBB Survey of newly concluded training contracts as of 30 September • Training Market Statistics of the Federal Employment Agency <p>Data sources online, URL:</p> <ul style="list-style-type: none"> • http://www.bibb.de/de/14492.htm • http://statistik.arbeitsagentur.de/Navigation/Statistik/Statistik-nach-Themen/Ausbildungsstellenmarkt/Ausbildungsstellenmarkt-Nav.html [last accessed: 16.11.2011]
Cut-off date/ period of consideration	<ul style="list-style-type: none"> • Cut-off date: 30 September • The indicator reflects the situation in a specific reporting year (beginning in October of the previous year to the end of September).
Information on the quality of the indicator	<ul style="list-style-type: none"> • Of all the training market indicators presented in Section 6, the supply ratio of those interested in training (AQI) is certainly the most appropriate approach for estimating the training market conditions for young people interested in training in an up-to-date manner each year on the basis of official data and for comparing such conditions with the values from the previous year or with other regions. • Data is available in a timely manner. • The AQI is suitable as an easily regionalisable variable to map training market conditions for young people interested in training in a relatively valid manner within the framework of research analysis. • The AQI exhibits a more or less close statistical relationship to the EQI (progression rate of those interested in training) and only differs from the later with regard to the different characteristic of the numerator (cf. Section 7.4). <p><u>Limits of calculation</u></p> <ul style="list-style-type: none"> • Commuter movements exert an influence on the characteristics of the indicator. Supply of training places and the new training contracts are aligned to the location of the company rather than place of residence, whereas training place applicants are registered at their place of residence. If there are deviations between location of company and place of residence, the supply ratio values are estimated at too high a level for regions in which there are more outgoing than incoming commuters. The opposite

	<p>applies to regions with a surplus of incoming commuters. Statistical distortions are, however, limited in extent.</p> <ul style="list-style-type: none"> • The number of non-progressing applicants (as part of the denominator) is calculated by deducting the number of progressing applicants from the total number of all registered applicants. Because applicants whose destination is unknown are added to non-progressing applicants, however, the presence in such a group of persons who were in actuality able to commence a course of vocational education and training (without informing the Federal Employment Agency) cannot be excluded. By the same token, it is also impossible to exclude the fact that part of the progressing applicants cannot be equated with applicants with newly concluded training contracts because they have not signed a contract (school-based training in BBiG occupations), vocational education and training does not begin until after 30 September or because they drop out of training during the probationary period. The results of the Applicant Survey carried out by the Federal Employment Agency (BA) and the Federal Institute for Vocational Education and Training (BIBB) show, however, that both forms of potential distortion are likely to be limited in extent. They also largely cancel each other out.
<p>Other interpretation information (Frequently asked questions)</p>	<p>Is sufficient supply of training places for persons interested in training only achieved if AQI = 100 %?</p> <p><i>No. A substantial proportion of persons who demonstrate interest in vocational education and training during the course of the reporting year voluntarily relinquish their interest. This is, for example, the case when the alternatives of school-based VET or higher education study have been considered alongside dual vocational education and training and applicants ultimately decide to pursue such a course.</i></p> <p>How high must the supply ratio of those interested in training (AQI) be in order to secure sufficient supply for persons interested in training?</p> <p><i>This cannot be stipulated with certainty. Important indications are, however, provided by comparison with AQI values from previous years (especially training market years where the situation was easier) or by comparison with other regions (whereby, of course, particular regional characteristics need to be taken into account at all times).</i></p>
<p>Main publications</p>	<p>GERICKE, NAOMI; UHLY, ALEXANDRA; ULRICH, JOACHIM GERD: Wie hoch ist die Quote der Jugendlichen, die eine duale Berufsausbildung aufnehmen? Indikatoren zur Bildungsbeteiligung [What is the proportion of young people who enter vocational education and</p>

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7 Indicators for progression to dual vocational education and training

7.1 Introduction

This chapter presents three indicators which provide information on the degree of progression to dual vocational education and training. All three indicators are aligned towards the training placement reporting year as defined by the Federal Employment Agency, which encompasses the period from 1 October of the previous year to 30 September and which in turn is itself broadly based on the placement period preceding the commencement of a new training year.

7.1.1 *Arithmetical progression rate (REQ)*

The arithmetical progression rate (REQ) is a very simple calculation which enables the development of the supply situation on the training market to be estimated in rough terms. It represents the ratio between the number of newly occupied training contracts and the current number of school leavers and those completing school leaving qualifications.

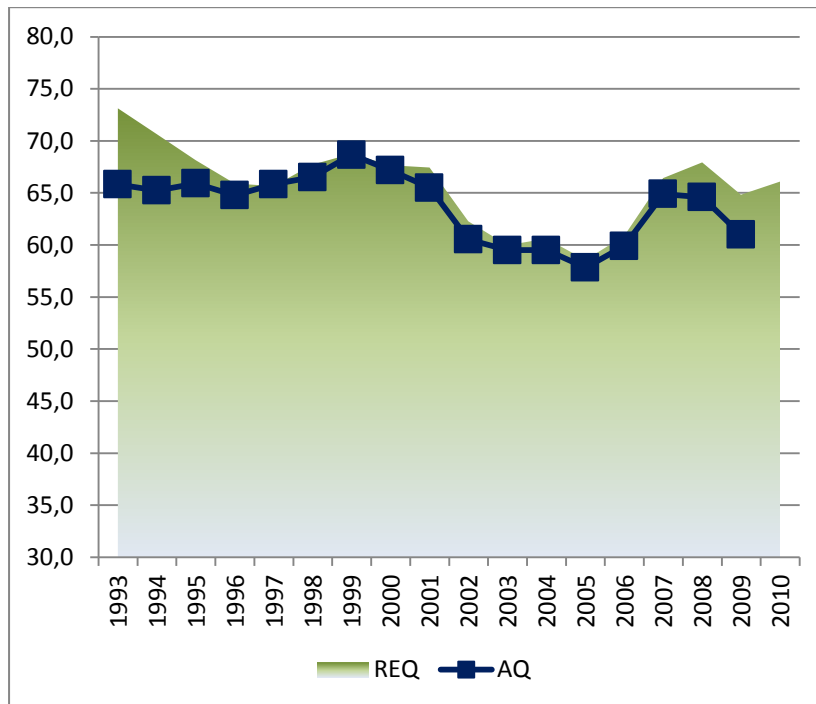
This practice resulted from the circumstance that the training participation rate (AQ), which is based on data from the Federal Statistical Office and a cut-off date of 31 December and ultimately provides a more precise indication of the extent of participation in vocational training by young people (cf. Section 8.2 for more detailed information), is not available until a relatively late point in time. This meant that the AQ could not be used for a current estimation of training market conditions (such as is, for example, required for vocational education and training reporting).

By way of contrast, the numbers of newly concluded training contracts as of the cut-off date of 30 September were always available before the end of the calendar year, as were updated estimates of the number of school leavers and the number of those completing school leaving qualifications at general schools within the same year. For this reason, it seemed useful to create an arithmetical ratio between the two figures in order to use the number of school leavers as a basis for estimating the relative scope of progression. Notwithstanding this, the arithmetical progression rate is not an actual progression rate since large parts of the young people and young adults with a new training contract also originate from earlier school leaving cohorts rather than only from the current cohort.

This is one of the reasons, why the calculation, which is arrived at by dividing the number of newly concluded contracts by the numbers of school leavers, can only be rough. Although significant changes to the scope and structure of numbers of school leavers necessarily exert a distorting effect on the estimated result, it has been shown in recent years that there is a close statistical correlation between the arithmetical progression rate (REQ) and the training participation rate (AQ) – “the correlation of the respective changes between two neighbouring years in the period 1993 to 2009 is $r = +0.858$ ” (GERICKE/UHLY/ULRICH 2011,

p. 42). This means that changes in the REQ displayed actual changes in direction in the degree of young people's participation in dual VET in a relatively reliable manner, and thus practical application seemed to be justified (cf. Figure 3).

Figure 3: Development of the arithmetical progression rate (REQ) and the training participation rate (AQ) from 1993 to 2009/2010



Sources: Federal Statistical Office; Federal Institute for Vocational Education and Training

Double cohorts of upper secondary school leavers in high-population federal states will, however, distort the REQ from 2011 onwards and bring about a significant deviation from the AQ, especially as these school leavers display only a limited degree of interest in dual vocational education and training compared to school leavers with the intermediate secondary school leaving certificate. An alternative is provided by the progression rate of those interested in training (EQI), which is presented in Section 7.4.

7.1.2 Applicant progression rate (BEQ)

The applicant progression rate (BEQ) is based on the Training Market Statistics of the Federal Employment Agency and shows the size of the proportion of training place applicants registered with the advisory and placement services for whom progression to dual vocational education and training can be identified by the end of the reporting year.

Because use of the advisory and placement services is voluntary, the BEQ calculation only accords consideration to persons who have requested support from the Employment Agencies, consortia or authorised local government providers and who have been registered as training place applicants (with the skills to commence training).

Even if all registered young people and young adults originally displayed interest in vocational education and training in the forthcoming new training year, this does not mean that sufficient participation from the point of view of applicants in dual VET is only achieved if the progression rate is 100%. The fact is that many “applicants who initially strive to enter company-based training (either exclusively, preferably or as one of various possibilities) ultimately pursue different routes (alternatives). This is the case even in times when training market situations are favourable for applicants” (FEDERAL EMPLOYMENT AGENCY 2010, p. 4). This does not, however, mean that the alternative pathways taken are always in line with the (changed) priorities of the training place applicants. “If there is a shortage of suitable training places, a growing proportion of applicants understandably switch to replacement solutions” (ibid.). Unfortunately, however, clear “alignments and qualified differentiation in accordance with the causes of the alternative destination (..) cannot be produced by statistical means” (ibid.). Representative surveys of training place applicants, however, show that voluntary reorientations especially include alternative fully qualifying education and training courses (school-based occupations, courses of higher education study), also encompassing to a limited extent a return to the school system, in order to achieve a higher school leaving qualification. By way of contrast, participation in vocational preparation schemes is in many cases perceived as a mere bridging or emergency solution and most of those affected view casual employment or unemployment as a dead end from which they wish to escape as quickly as possible (cf. EBERHARD/ULRICH 2010, pp. 150ff., ULRICH 2011).

It cannot be stipulated with certainty how high the applicant progression rate (BEQ) should ultimately be in order to be perceived by the training place applicants as being largely congruent with their destination wishes. Notwithstanding this, indications can be gained by drawing a comparison with results in years when the training market situation was highly eased (cf. also Section 7.5).

7.1.3 Progression rate of those interested in training (EQI)

The progression rate of those interested in training (EQI) shows the size of the proportion of persons interested in training in a reporting year which ultimately participate in vocational education and training or could be acquired for VET. It relates to all persons for whom an interest in vocational education and training could be institutionally identified in the reporting year,

- either because a) they were successful training place applicants who had signed a training contract subsequently registered by responsibility chambers
- or, if they were not successful, b) were at least registered as training place applicants with the advisory and placement services.

Information is available on both groups. The number of successful training place applicants can be equated with the number of newly concluded training contracts as identified within the scope of the BIBB survey as of 30 September. The number of those interested in training who did not progress to a vocational education and training place can be identified via the Training Market Statistics of the Federal Employment Agency, which also record the

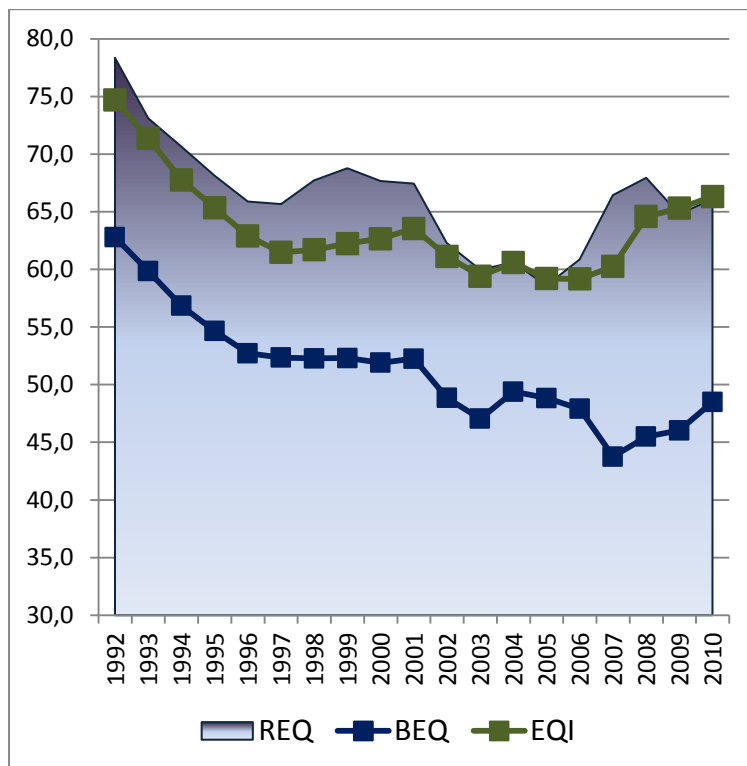
respective destination of the training place applicants. Section 6.4 provides detailed explanations regarding calculation and on the 3 groups of those interested in training.

The EQI ultimately states “the extent to which it was possible to acquire trainees with a new training contract from the group of those interested in training and young people with the skills to enter training. The rate for 2010 was 66.3 %. It is likely that the EQI will be able to serve as an alternative to the REQ in future, especially as it can be identified in an up-to-date manner each year and easily be calculated by every interested party” (GERICKE/UHLY/ULRICH 2011, p. 42).

7.1.4 Correlations between the three indicators

Figure 4 shows the characteristics which the three indicators have displayed over the past two decades.

Figure 4: Development of the progression indicators over the course of time



REQ = Arithmetical progression rate, BEQ = Applicant progression rate,
EQI = Progression rate of those interested in training

Sources: Federal Employment Agency, Federal Statistical Office, Federal Institute for Vocational Education and Training, own calculations

All three indicators show comparable development processes at first glance. It is, however, noticeable that the applicant progression rate (BEQ) and the arithmetical progression rate (REQ) in particular display developments which are divergent from each other in some cases. This is, for example, true of the second half of the 1990’s, when the REQ showed a significant rise and fall whereas the BEQ scarcely altered during these years. Correlation of

the respective changes between two neighbouring years relating to these two indicators is, therefore, relatively weak at $r = .2897$ (cf. Table 4).

Table 4: Intercorrelations of the indicators over the years 1992-2010

	REQ	BEQ	EQI
REQ	-	.2897	.6818
BEQ	.2897	-	.6879
EQI	.6818	.6879	-

First order differences have been correlated.

REQ = Arithmetical progression rate, BEQ = Applicant progression rate,

EQI = Progression rate of those interested in training

Sources: Federal Employment Agency, Federal Statistical Office, Federal Institute for Vocational Education and Training, own calculations

The progression rate of those interested in training (EQI) shows a clearer correlation with the arithmetical progression rate (REQ). This also justifies replacing the REQ with the EQI in years where there are double upper secondary school leaving certificate cohorts. The correlation between the progression rate of those interested in training (EQI) and the applicant progression rate (BEQ) is also strongly marked.

As far as regional differences between the three indicators are concerned, the weakest correlation to be found here, relating to the year 2010, is between the arithmetical progression rate (REQ) and the applicant progression rate (BEQ) (cf. Table 5).

Table 5: Intercorrelations of the indicator characteristics in the year 2010 in the 176 regions

	REQ	BEQ	EQI
REQ	-	.4245	.5932
BEQ	.4245	-	.7147
EQI	.5932	.7147	-

The 176 regions are identical with the Employment Agency districts. The three districts of Berlin have been consolidated into a single region.

REQ = Arithmetical progression rate, BEQ = Applicant progression rate,

EQI = Progression rate of those interested in training

Sources: Federal Employment Agency, Federal Statistical Office, Federal Institute for Vocational Education and Training, own calculations

The progression rate of those interested in training (EQI) correlates in turn significantly more closely with the arithmetical progression rate (BEQ) than is the case for the applicant progression rate (BEQ). The main reason here is also the fact that the numerator is the same for both indicators (newly concluded training contracts). The strongest correlation of all three indicators is, however, between the EQI and the BEQ. The effect here is that full quantitative account is taken of the group of registered training place applicants in both denominators.

7.2 Arithmetical progression rate (REQ)

Name	Arithmetical progression rate (REQ)
Core statement	<p>In the reporting year 2009, the arithmetical ratio of newly concluded training contracts as a proportion of the total number of all general school leavers and the number of those completing school leaving qualifications was 64.8%.</p> <p>This means that, in arithmetical terms, 64.8% of all general school leavers and the number of those completing school leaving qualifications accounted for one training place in use within the VET system.</p>
Current validity	<p>The reporting year extends from 1 October to 30 September and is aligned to the Vocational Training Act. The data on which the indicator is based are available as early as the third month following the end of the reporting year. The fact that initial preliminary data is available in December means that the REQ can be calculated in an extremely timely manner.</p>
Significance for vocational education and training	<ul style="list-style-type: none"> • The REQ is a rough calculation which indicates the arithmetical ratio between the number of newly filled training contracts and the current number of school leavers and the number of those completing school leaving qualifications. • Such a calculation is justified by the fact that the REQ and the training participation rate (AQ, cf. Section 8.2) have thus far exhibited a close statistical correlation (correlation of the respective changes between two neighbouring years in the period 1993 to 2009 is $r = +0.858$). • As a consequence of double upper secondary leaver cohorts in high-population federal states, however, the REQ has been diverging considerably from the AQ since 2011 because too great a weighting is accorded to only a small proportion of upper secondary school leavers interested in an apprenticeship, this in itself being sufficient reason to bring about a fall in the REQ. From 2011 onwards, therefore, the REQ is no longer useful for comparisons with results from previous years. • Comparability over the course of time and (to a limited extent) also between regions
Reference variables	<p><u>Numerator:</u></p> <p>Training contracts newly concluded within the reporting year (beginning of October of the previous year to the end of September) and still in existence at the end of the reporting year.</p>

	<p><u>Denominator:</u> All school leavers and those completing school leaving qualifications at general schools.</p> <p><u>Specific characteristic of the denominator:</u> All school leavers and those completing school leaving qualifications at general schools are included irrespective of whether they are interested in vocational education and training or not.</p>
Calculation formula	$\frac{\text{New training contracts}}{\text{School leavers and those completing school leaving qualifications at general schools}} * 100$ <p>The BIBB survey as of 30 September provides details of the number of newly concluded training contracts.</p> <p>The number of school leavers and those completing school leaving qualifications at general schools is taken from special Federal Statistical Office calculations for the preparation of the Report on Vocational Education and Training. No account is taken of participants pursuing a second-chance educational pathway (evening lower, intermediate and upper secondary school, college) and participants in external school examinations. For this reason, values differ from the official publications of the Federal Statistical Office on school leavers and those completing school leaving qualifications at general schools; cf. FEDERAL STATISTICAL OFFICE 2011.</p>
Possible differentiations	<ul style="list-style-type: none"> Germany; including restriction to West and East Germany and according to Employment Agency districts
Data sources	<ul style="list-style-type: none"> BIBB Survey of newly concluded training contracts as of 30 September Special Federal Statistical Office calculations for preparation of the Report on Vocational Education and Training <p>Data sources online, URL: http://www.bibb.de/de/14492.htm [last accessed: 16.11.2011]</p>
Cut-off date/ period of consideration	<p>Cut-off date: 30 September</p> <p>The indicator reflects the situation in a specific reporting year.</p>
Information on the quality of the indicator	<ul style="list-style-type: none"> Of all the indicators for progression to vocational education and training presented in Section 7, the arithmetical progression rate (REQ) certainly represents the roughest approach to estimating the actual degree of participation in the dual system by young people interested in training in an up-to-date manner each year

	<p>on the basis of official data and for comparing such participation with the values from the previous year.</p> <ul style="list-style-type: none"> • In light of the close statistical correlation with the training participation rate (AQ, cf. Section 8.2), however, calculation of the REQ could be justified especially given the benefit that the initial preliminary calculation was able to be undertaken in an extremely timely manner at the conclusion of the reporting year. • Limits of calculation: commuter movements can distort the characteristics of the indicator. New training contracts are aligned to the location of the company rather than place of residence whereas school leavers and those completing school leaving qualifications at general schools are, on the other hand, aligned to place of residence. If there are deviations between location of company and place of residence, the arithmetical progression rates are estimated at too high a level for regions in which there are more outgoing than incoming commuters. The opposite applies to regions with a surplus of incoming commuters. • In addition, the indicator does not react to fluctuating compositions in the educational structure of school leavers and those completing school leaving qualifications in terms of time and regionally. This means that all school leavers and those completing school leaving qualifications are included in the denominator with the same degree of weighting even if upper secondary school leavers, for example, display only a relatively low degree of interest in vocational education and training. • For this reason, the double upper secondary leaver cohorts in high-population federal states lead to distortion which mean that no useful comparison of the REQ with the previous year's values will no longer be possible from 2011 onwards, both in the regions affected and at a national level.
<p>Other interpretation information (Frequently asked questions)</p>	<p>How high must the REQ be in order to achieve sufficient supply for persons interested in training?</p> <ul style="list-style-type: none"> • <i>This cannot be stipulated with certainty. Important indications are, however, provided by comparison with REQ values from previous years (especially training market years where the situation was easier) or by comparison with other regions (whereby, of course, particular regional characteristics need to be taken into account at all times).</i> • <i>Historical values indicate that sufficient supply would be approximately achieved nationally if the REQ were to be at a continuous level (over the years) of at least 66.6%. This was, however, not the case in the 2000's.</i>

<p>Main publications</p>	<p>GERICKE, NAOMI; UHLY, ALEXANDRA; ULRICH, JOACHIM GERD: Wie hoch ist die Quote der Jugendlichen, die eine duale Berufsausbildung aufnehmen? Indikatoren zur Bildungsbeteiligung [<i>What is the proportion of young people who enter vocational education and training? Training participation indicators</i>]. Berufsbildung in Wissenschaft und Praxis [<i>Vocational Training in Research and Practice</i>] 40 (2011) 1, pp. 41–43</p>
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7.3 Applicant progression rate (BEQ)

Name	Applicant progression rate (BEQ)
Core statement	In the reporting year 2009, 46.0% of training place applicants registered with the advisory and placement services progressed to a vocational education and training place.
Current validity	<p>The reporting year extends from 1 October to 30 September and is aligned to the Vocational Training Act. The data on which the indicator is based are made available by the Federal Employment Agency as early as the first month following the end of the reporting year. This means that the BEQ for the end of the training year can be indicated in October.</p> <p>It is also possible to calculate BEQ values for a period of less than one year and per month due to the fact that the Federal Employment Agency updates the benchmark values for its Training Market Statistics on a monthly basis. These remain interim results, however, whilst the reporting year is still ongoing.</p>
Significance for vocational education and training	<ul style="list-style-type: none"> • An indicator for the degree of progression to dual vocational education and training of training place applicants registered with the advisory and placement services. • Attention needs to be drawn to the fact that use of the advisory and placement services is voluntary. For this reason, the BEQ calculation only accords consideration to persons who have requested support from the Employment Agencies, consortia or authorised local government providers and who have been registered as training place applicants (with the skills to commence training). • Comparability over the course of time (both annually and monthly) and between regions and occupational and applicant groups displaying a wide range of characteristics
Reference variables	<p><u>Numerator:</u></p> <p>The number of registered training place applicants in the reporting year who are recorded as “progressing applicants”.</p> <p>According to the definition of the Federal Employment Agency, “progressing applicants” include all registered applicants who “commence training during the course of the training year or at a later point” (Federal Employment Agency 2010, p. 5).</p> <p><u>Denominator:</u></p> <p>The number of registered vocational education and training place applicants in the reporting year.</p>

	<p>The Federal Employment Agency defines vocational education and training place applicants as “registered persons who wish individual placement in a company-based or extra-company vocational education and training place in the reporting year in recognised training occupations in accordance with the Vocational Training Act and whose aptitude has been clarified or who are in possession of the necessary entry requirements. This also includes applicants for a vocational education and training place in a vocational training centre or in other institutions which implement training measures for disabled persons” (FEDERAL EMPLOYMENT AGENCY 2010, p. 5).</p>
<p>Calculation formula</p>	$\frac{\text{Progressing applicants}}{\text{Registered training place applicants}} * 100$ <p>The figures necessary for calculation are available on the website of the Federal Employment Agency (see below).</p> <p><u>Variation 1</u></p> $\frac{\text{Applicants progressing to unfunded VET}}{\text{Registered training place applicants}} * 100$ <p>Variation 1 provides information on the proportion of registered applicants progressing to unfunded vocational education and training (“company-based” vocational education and training).</p> <p><u>Variation 2</u></p> $\frac{\text{Applicants progressing to funded VET}}{\text{Registered training place applicants}} * 100$ <p>Variation 2 provides information on the proportion of registered applicants progressing to funded vocational education and training (“extra-company vocational education and training”).</p>
<p>Possible differentiations</p>	<ul style="list-style-type: none"> • In accordance with “company-based” and “extra-company” vocational education and training (see above) • Germany; West and East Germany, federal states, Employment Agency districts and further partial regions within the Employment Agency districts • In accordance with occupational groups, occupations • In accordance with a diverse range of personal characteristics (including gender, prior school learning, nationality, school leaving year) • Respective combinations

Data sources	<ul style="list-style-type: none"> • Training Market Statistics of the Federal Employment Agency Data sources online, URL: http://statistik.arbeitsagentur.de/Navigation/Statistik/Statistik-nach-Themen/Ausbildungsstellenmarkt/Ausbildungsstellenmarkt-Nav.html [last accessed: 16.11.2011]
Cut-off date/ period of consideration	<ul style="list-style-type: none"> • Cut-off date: 30 September • The indicator reflects the situation in a specific reporting year (beginning in October of the previous year to the end of September) or, alternatively, monthly.
Information on the quality of the indicator	<ul style="list-style-type: none"> • The BEQ represents a highly useful indicator for estimating the degree of progression to vocational education and training of registered training place applicants in an up-to-date manner each month or year on the basis of official data and for comparing such conditions with the values from the previous year, with other regions or with applicant groups exhibiting various characteristics. • In comparing different years and regions, however, consideration needs to be accorded to the fact that the degree of involvement by the consultancy and placement services fluctuates both in terms of time and regionally. The FEDERAL EMPLOYMENT AGENCY (2010, p. 4) makes the following remarks in this regard. “In the event of a growing demand surplus, companies make use of training placement less often and later, whereas the young people avail themselves of the service more frequently and earlier. In the event of a supply surplus, the opposite process takes place”. As a result of the variation in the degree of involvement, “direct conclusions as to the absolute figures for total supply and total demand are not possible.” • In overall terms, registered training place applicants are indicated according to the place of residence of the applicants (Employment Agency district). When calculating the number of progressing applicants, however, the location where such persons have found their training place does not play any role. • Data is available in an extremely timely manner directly at or following the end of the month. Notwithstanding this, the first monthly publication of a new reporting year does not take place until April (together with the interim results for the period from October of the previous year until March).

<p>Other interpretation information (Frequently asked questions)</p>	<p>Is a sufficient supply for registered training place applicants only achieved when the applicant progression rate (BEQ) in the regions is at least 100%?</p> <p><i>No. A substantial proportion of persons who demonstrate interest in vocational education and training during the course of the reporting year voluntarily relinquish their interest. This is, for example, the case when the alternatives of school-based VET or higher education study have been considered alongside dual vocational education and training and applicants ultimately decide to pursue such a course.</i></p> <p>How high must the applicant progression rate (BEQ) be to make it likely that sufficient supply for persons interested in training is secured?</p> <ul style="list-style-type: none"> • <i>This cannot be stipulated with certainty. Important indications are, however, provided by comparison with BEQ values from previous years (especially training market years where the situation was easier) or by comparison with other regions (whereby, of course, particular regional characteristics need to be taken into account at all times).</i> • <i>Indications regarding the degree of supply for the registered training place applicants can also be obtained by taking into account the proportion of persons who continue to search for a vocational education and training place until the end of the reporting year. This data is also regularly indicated in the Training Market Statistics Produced by the Federal Employment Agency. Notwithstanding this, consideration needs to be accorded to the fact that the group of persons no longer searching for a training place as of 30 September also includes unsuccessful applicants who have postponed their search for a vocational education and training place until the following year by dint of the fact that the training year has already commenced.</i>
<p>Main publications</p>	<p>FEDERAL EMPLOYMENT AGENCY: Arbeitsmarkt in Zahlen. Ausbildungsstellenmarkt. Bewerber und Berufsausbildungsstellen. Deutschland. September 2010 [<i>Labour market in figures. Training places market. Applicants and vocational education and training places. Germany. September 2010</i>]. Nuremberg 2010</p>

7.4 Progression rate of those interested in training (EQI)

Name	Progression rate of those interested in training (EQI)
Core statement	At the end of the reporting year 2009, 66.3% of all persons institutionally recorded as being interested in training during the course of the reporting had progressed to vocational education and training.
Current validity	The reporting year extends from 1 October to 30 September and is aligned to the Vocational Training Act. The data on which the indicator is based are available as early as the third month following the end of the reporting year. The fact that the data is available in December means that the EQI can be calculated in an extremely timely manner.
Significance for vocational education and training	<ul style="list-style-type: none"> • An indicator of how many persons interested in training ultimately participate in vocational education and training or can be acquired for vocational education and training. • An indicator of the integration of groups of persons interested in training. • Comparability over the course of time, between the two genders and (to a limited extent) also between regions.
Reference variables	<p><u>Numerator:</u> Training contracts newly concluded within the reporting year (beginning of October of the previous year to the end of September) and still in existence at the end of the reporting year.</p> <p><u>Denominator:</u> All persons institutionally recorded as interested in training in a reporting year. This includes:</p> <ul style="list-style-type: none"> • all persons who either concluded a new training contract (which was still in existence at the end of the reporting year); • or who were at least registered as training place applicants with the Employment Agencies, the consortia or the authorised local government providers. <p><u>Specific characteristic of the denominator:</u> By its very definition, the denominator only includes young people and young adults interested in training whose vocational aptitude (and thus also “apprenticeship entry maturity”) has been officially categorised as sufficient either by the advisory and placement services or the companies which have recruited the young people.</p>

<p>Calculation formula</p>	$\frac{\text{New training contracts}}{\text{New training contracts} + \text{applicants who did not progress to VET}} * 100$ <p>The BIBB survey as of 30 September provides details of the number of newly concluded training contracts.</p> <p>The number of applicants not progressing to training is calculated by subtracting the number of applicants shown by the Training Market Statistics of the Federal Employment Agency to be “progressing applicants” from the total number of all registered training place applicants.</p> <p><u>Variation 1</u></p> $\frac{\text{New company – based training contracts}}{\text{New training contracts} + \text{applicants who did not progress to VET}} * 100$ <p>Variation 1 reflects how many persons interested in training ultimately participate in <i>company-based</i> vocational education and training or can be acquired for <i>company-based</i> vocational education and training.</p> <p><u>Variation 2</u></p> $\frac{\text{New extra – company training contracts}}{\text{New training contracts} + \text{applicants who did not progress to VET}} * 100$ <p>Variation 2 states how many persons interested in training ultimately participate in <i>extra-company</i> vocational education and training (i.e. in vocational education and training which is largely publicly financed).</p>
<p>Possible differentiations</p>	<ul style="list-style-type: none"> • Participation in “company-based” (= predominantly funded by the companies) and “extra-company” vocational education and training (see above) • Gender • Germany; including restriction to West and East Germany and according to Employment Agency districts • Respective combinations
<p>Data sources</p>	<ul style="list-style-type: none"> • BIBB Survey of newly concluded training contracts as of 30 September • Training Market Statistics of the Federal Employment Agency Data sources online, URL: http://www.bibb.de/de/14492.htm [last accessed: 16.11.2011] http://statistik.arbeitsagentur.de/Navigation/Statistik/Statistik-nach-Themen/Ausbildungsstellenmarkt/Ausbildungsstellenmarkt-Nav.html [last accessed: 16.11.2011]

<p>Cut-off date/ period of consideration</p>	<ul style="list-style-type: none"> • Cut-off date: 30 September • The indicator reflects the situation in a specific reporting year (beginning in October of the previous year to the end of September).
<p>Information on the quality of the indicator</p>	<ul style="list-style-type: none"> • Of all the indicators for progression to vocational education and training presented in Section 7, the progression rate of those interested in training certainly represents the most appropriate approach to estimating the actual degree of participation in the dual system by young people interested in training in an up-to-date manner each year on the basis of official data and for comparing such participation with the values from the previous year. • Data is available in a timely manner. • To this extent, the EQI is also suitable as an easily regionalisable variable to map the supply and participation conditions for young people interested in training in a relatively valid manner within the framework of research analysis. • Limits of calculation: commuter movements can distort the characteristics of the indicator. New training contracts are aligned to the location of the company rather than place of residence, whereas training place applicants are registered at their place of residence. If there are deviations between location of company and place of residence, the participation rates are estimated at too low a level for regions in which there are more outgoing than incoming commuters. The opposite applies to regions with a surplus of incoming commuters. Although the EQI does not remain statistically unaffected by the commuter problem, it is significantly less distorted by the situation than an indicator such as the REQ (cf. Section 7.2). A further statistical problem affects the denominator. The number of non-progressing applicants (as part of the denominator) is calculated by deducting the number of progressing applicants from the total number of all registered applicants. Because applicants whose destination is unknown are added to non-progressing applicants, however, the presence in such a group of persons who were in actuality able to commence a course of vocational education and training (without informing the Federal Employment Agency) cannot be excluded. By the same token, it is also impossible to exclude the fact that part of the progressing applicants cannot be equated with applicants with newly concluded training contracts because they have not signed a contract (school-based training in BBiG occupations), vocational

	<p>education and training does not begin until after 30 September or because they drop out of training during the probationary period. The results of the Applicant Survey carried out by the Federal Employment Agency (BA) and the Federal Institute for Vocational Education and Training (BIBB) show, however, that both forms of potential distortion are likely to be limited in extent. They also largely cancel each other out.</p>
<p>Other interpretation information (Frequently asked questions)</p>	<p>Is sufficient supply of training places for persons interested in training only achieved if EQI = 100 %?</p> <p><i>No. A substantial proportion of persons who demonstrate interest in vocational education and training during the course of the reporting year voluntarily relinquish their interest. This is, for example, the case when the alternatives of school-based VET or higher education study have been considered alongside dual vocational education and training and applicants ultimately decide to pursue such a course.</i></p> <p>How high must the progression rate of those interested in training (EQI) be in order to secure sufficient supply for persons interested in training?</p> <p><i>This cannot be stipulated with certainty. Important indications are, however, provided by comparison with EQI values from previous years (especially training market years where the situation was easier) or by comparison with other regions (whereby, of course, particular regional characteristics need to be taken into account at all times).</i></p>
<p>Main publications</p>	<p>GERICKE, NAOMI; UHLY, ALEXANDRA; ULRICH, JOACHIM GERD: Wie hoch ist die Quote der Jugendlichen, die eine duale Berufsausbildung aufnehmen? Indikatoren zur Bildungsbeteiligung [<i>What is the proportion of young people who enter vocational education and training? Training participation indicators</i>]. Berufsbildung in Wissenschaft und Praxis [<i>Vocational Training in Research and Practice</i>] 40 (2011) 1, pp. 41–43</p>

7.5 Literature

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8 Indicators for the quantitative significance of dual vocational education and training and for the integration of groups of persons into dual vocational education and training

8.1 Introduction

What is the quantitative significance of dual vocational education and training²⁵, how large is the proportion of the resident population concluding a dual training contract? How does the level of integration delivered by the dual system differ with regard to different groups of persons? How many percent of the resident population do not merely conclude a training contract but also go on to complete training successfully? Do the proportions change over the course of time?

The data produced by the Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States (hereinafter referred to in abbreviated form as “VET statistics”) and the Population Forecast issued by the Federal Statistical Office provide a basis for the calculation of various indicators to address such questions regarding training participation. These indicators state arithmetical proportions of “synthetic age cohorts” (SCHARFE 2010, p. 552) in which the respective event to be described occurs at any point in time during the biography of the group of persons forming the object of consideration. The individual differences in the transitional periods to this event are ignored. For the purpose of calculation, a so-called “sum of rates” method²⁶ is used, in which individual rates for individual age cohorts within the resident population are formed and added together to create an overall rate.

8.1.1 Calculation according to the „sum of rates” method

Because the VET statistics do not survey the leaving year of general schooling, the proportion of entrances within a school leaving cohort cannot be identified. The VET statistics do, however, record the year of birth of the trainees together with the training contracts. Because individual age cohorts are also differentiated in the Population Forecast, the proportion of the resident population concluding a training contract or successfully completing dual training can be identified. This process does not involve calculating a “simple rate”. The aim is to identify the respective proportion of the resident population, regardless of when the event occurs within the biography. If, for example, the proportion of 20-year olds in the resident population concluding a training contract within the current reporting year were to be recorded, events in the past or future would not be taken into

²⁵ This includes state recognised training occupations pursuant to the Vocational Training Act or the Crafts and Trades Regulation Code, training occupations being piloted and training occupations in accordance with training regulations for persons with disabilities.

²⁶ In accordance with the international Conventions of the Organisation for Economic Co-operation and Development (OECD), the “sum of rates” method is also used in international and national educational reporting to calculate the rate of persons entering higher education study (cf. here also SCHARFE 2010).

account. Some of those aged 20 within the reporting year will not conclude a training contract until the following year, others will have done so in the previous year. The significance of the dual system with regard to this age cohort in the resident population would be underestimated. If all newly concluded contracts were to be related to the resident population, the problem of the choice of the precise reference variable remains, i.e. the question of which age groups should be used. For this reason, partial rates are calculated per age cohort and added together to form an overall rate.

Why are the partial rates added together? The following consideration may begin with any age group and serves the purpose of presenting the logic underlying the calculation. The first step is to calculate the rate of 20-year olds in the reporting year, e.g. the partial rate comprising trainees aged 20 with a newly concluded training contract and the resident population aged 20. Some of the 20-year olds in the resident population will not conclude a training contract until the following year, some will have done so in the previous year. The partial rates of persons currently aged 21..., 22..., 19..., 18 etc. are used as arithmetical representations, and these individual rates are subsequently added together to form an overall rate and result in the desired indicator. This indicator is then to be interpreted as the proportion of the resident population in which the event forming the object of consideration has occurred once at some stage of the biography. BIBB applies the „sum of rates“ method for the current reporting year and not retrospectively.

Does a „sum of rates“ method not exaggerate the overall rate? Although such a problem may indeed exist, this only takes place when the event forming the object of consideration occurs on more than one occasion during the course of the biography and the date used does not provide a sufficient basis for ensuring that only the first occurrence of the event is included in the calculation. If this cannot be effected, repeated results within the same reporting year lead to direct multiple countings of persons. Proxy effects may ensue indirect multiple countings. In such a case, overall rates exaggerate the proportion of the resident population in respect of which the relevant event has occurred at some time or another. The definition of newly concluded contracts ²⁷ has largely excluded multiple countings of the same person within a training year, and incidences of persons successfully completing more than one final examination in a calendar year will virtually never occur. Rates may, however, be significantly exaggerated via the proxy effects. In calculating the partial rates, such exaggerations can be avoided by counting only the trainees in the dual system for whom the respective event occurs for the first time. This is made possible by the revision to the VET

²⁷ Within the scope of the VET statistics, newly concluded contracts are defined as: “Vocational education and training contracts entered into the index of vocational education and training contracts pursuant to the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO) in respect of which the training contract has begun within the recording period and is still in existence on 31 December (definition until 2006) or which has not been dissolved by 31 December (definition since 2007)”, see in this regard http://www.bibb.de/dokumente/pdf/a21_dazubi_daten.pdf. Although the slight change to definition made by the statistical offices since the reporting year 2007 no longer completely excludes multiple countings of individual persons as newly concluded training contracts within the reporting year, the proportion of those persons completing a contract concluded in the same calendar year by passing the examination and then concluding a new contract will be extremely low.

statistics introduced by Article 2a of the Vocational Training Reform Act (BerBiRefG) of 23 March 2005, which entered into force in 2007.

8.1.2 New design concepts and extended analytical opportunities: Significance of revised VET statistics for the set of indicators relating to training participation

BIBB previously calculated training participation rates on the basis of the newly concluded training contracts included within the VET statistics. These rates were developed on the basis of the aggregate data concept available to the VET statistics until 2006. The problem with this process was, however, that it was not possible to count only trainees with a newly concluded contract who had not already concluded a new training contract during the preceding years. The counting variable of newly concluded contracts does not equate to training entrants. So-called “follow-up contracts” (which are concluded following completion of dual VET in one of the two-year occupations and continue training in another occupation) and commencement of a second training course following completion of dual vocational education and training also constitute new training contracts. Some of those whose training contract is prematurely dissolved also ultimately conclude a new training contract (in the case of a change of company providing training and/or training occupation). The training participation rate thus overestimated the proportion of the resident population commencing training for the first time.

A further problem of the aggregate statistics was that until 2006 the necessary age information for trainees was not available in a form differentiated according to various personal characteristics. Age information for men and women or Germans and foreigners was not provided, only information for newly concluded contracts as a whole. For this reason, the „sum of rates” method could not be used to calculate rates for individual groups of persons. Finally, the aggregate statistics also did not provide any age information for those completing training on the dual system, meaning that the relevant training completion rate could not be calculated.

An extensive revision of the VET statistics took place in the form of Article 2a of the Vocational Training Reform Act (BerBiRefG) of 23 March 2005, which entered into force on 1 April 2007. Alongside the expansion of the catalogue of characteristics, this revision encompasses the switch from aggregate data to individual data recording and thus considerably extends the analytical opportunities on the basis of such data. Individual data permit the combination of all characteristics recorded within the scope of the evaluation. Since 2007, it has, for example, been possible to calculate newly concluded contracts and persons completing training in accordance with all characteristics recorded (including separated according to age for all groups of persons). It has also been possible further to develop the indicators calculated on the basis of the VET statistics accordingly.

Of particular significance for the indicators presented here is the fact that, due to expansion of the characteristics relating to previous vocational education and training, entrants or those completing training for the first time can be identified. This means that exaggeration of overall rates via multiple countings of persons can largely be avoided.

In the reporting year 2009, the training entrant rate was introduced alongside the training participation rate, the latter still being necessary for long-term time comparisons. The calculation of a training completion rate is also currently under development.

Table 6: New and further development of the training participation rate (AQ), the training entrant rate (AAQ) and the training completion rate (AbsQ) following the revision of VET statistics in 2007

Reporting year	AQ for total newly concluded contracts according to the „sum of rates” method	AQ for differentiated groups of persons according to the simple rate method	Calculation of the AQ for differentiated groups of persons according to „sum of rates” method	AAQ	AbsQ
Until 2006	X	X	-	-	-
2007	X	X (Only continued for long-term time series)	X (Introduced)	-	-
2008	X (Only continued for long-term time series)	X (Only continued for long-term time series)	X (Only continued for time series)	X (Under development)	-
2009	X (Only continued for long-term time series)	X (Only continued for long-term time series)	X (Only continued for time series)	X (Under development)	X (Under development)

8.2 Training participation rate (AQ)

Name	Training participation rate (AQ)
Core statement	<p>In the reporting year 2009, the arithmetical proportion of a (synthetic) age cohort within the resident population concluding a training contract within the dual system was 61.0%.</p> <p>Duration of transition from the general school to vocational education and training or the age at which the training contract begins are not taken into account within this process.</p>
Current validity	The indicator is available with a delay of approximately one year.
Significance for vocational education and training	<ul style="list-style-type: none"> • An indicator for the quantitative significance of vocational education and training • An indicator for the integration of population groups • Comparability over the course of time and between various groups of persons
Reference variables	<p><u>Numerator:</u> Trainees with a newly concluded training contract differentiated according to age.</p> <p><u>Denominator:</u> Resident population differentiated according to age.</p> <p><u>Remarks on the reference variables</u></p> <ul style="list-style-type: none"> • The rate needs to be interpreted with regard to any age cohort which concludes a training contract at any point in its educational biography (regardless of at which age). • The training participation rate is an arithmetical rate which involves establishing a ratio between data from the VET statistics and the Population Forecast. • Problem: trainees with a newly concluded training contract do not necessarily equate to training entrants due to the fact that new training contracts are also concluded in the case of a change of occupation or company. • For the figures of newly concluded contracts, trainees with a maximum age of 16 and a minimum age of 24 are put together to form the respective lower and upper “marginal group”.
Calculation formula	$\sum_{i=16}^{24} \frac{\text{Trainees with newly concluded contract } i}{\text{Resident population } i} * 100$ <p>$i = \text{age}^{\#}$</p> <p>$\#$ Trainees with a newly concluded contract at the age of “16 and</p>

	<i>younger” are put together to form the lower age group. Those at the age of “24 and older” are put together to form the upper age group.</i>
Possible differentiations	<ul style="list-style-type: none"> • Gender • Nationality • Germany as a whole; further regional differentiation only possible in restricted form (the rate has only been separately calculated by BIBB for West and East Germany thus far) • Respective combinations of the characteristics stated
Data sources	<ul style="list-style-type: none"> • Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States • Population Forecast (Destatis)
Cut-off date/ period of consideration	<p>Cut-off date: 31.12.</p> <ul style="list-style-type: none"> • Newly concluded training contracts within the calendar year not dissolved by 31 December • Resident population on 31 December of the reporting year <p>The indicator may be considered as an estimated variable for the proportion (of an age cohort) within the resident population concluding a training contract in the dual system.</p>
Information on the quality of the indicator	<ul style="list-style-type: none"> • Significance: Newly concluded contract numbers, not entrant numbers, are used to calculate the training participation rate (AQ). Since persons may conclude more than one new training contract within the course of an educational biography, this indicator overestimates the proportion of persons in the resident population concluding a training contract in the dual system. Until 2008, however, it was not possible to identify the number of training entrants (in 2007, the revision of the VET statistics had not yet been fully implemented in practice or reports regarding the new characteristics of the VET statistics were not yet sufficiently valid). No characteristics for the delineation of training entrants were available prior to revision. • This indicator should merely be used for longer time comparisons encompassing the years prior to 2008 and not for considerations of reporting years from 2008 onwards. • Regional differentiations are only possible to a restricted extent. Commuter movements distort the rate in the case of regional differentiations. Because the VET statistics do not record the place of residence of trainees (exception: Brandenburg), commuter movements cannot be taken into account. This distortion results from the fact that trainees whose primary place of residence is not at the

	<p>location of their training venue are counted for a different region in the trainee numbers than for place of residence. This means that the AQ is overestimated for regions with a high number of incoming commuters and underestimated for regions with a high number of outgoing commuters. For this reason, BIBB calculates the rate for the whole of Germany only and regional differentiation only for East and West Germany and not for individual federal states or local government areas.</p> <ul style="list-style-type: none"> • Separate calculation of the training participation rate for various groups of persons using the „sum of rates” method has only been possible since 2007. Previously a variation on the method of calculation based on existing database populations was required for men and women and for persons with or without German nationality. The AQ’s calculated as simple rates are not comparable with the AQ’s calculated using partial rate totals. • Limits of current validity: data is not available until one year later. Non-measured effects within the scope of the „sum of rates” method also cause the mixing together of data from different accounts which may differ from one another in terms of training behaviour.
<p>Other interpretation information (Frequently asked questions)</p>	<ul style="list-style-type: none"> • Demographic fluctuations are controlled because reference is always established to the age cohorts within the current resident population. This means that changing population structures are always directly included in the calculation. • The duration of transition from the general school to dual vocational education and training is not taken into account. This means that the indicator is not suitable for mapping transition durations or problems relating to the increase in transition durations. The partial rates may, however, provide indications of time-delayed entries to the dual system.
<p>Main publications</p>	<p>GERICKE, NAOMI: Alter der Auszubildenden und Ausbildungsbeteiligung der Jugendlichen im dualen System [<i>Age of trainees and training participation of young people in the dual system</i>]. In: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datenreport zum Berufsbildungsbericht 2011: Informationen und Analysen zur Entwicklung der beruflichen Bildung [<i>Information and analyses on the development of vocational education and training</i>]. Bonn, 2011. pp. 148-154 – URL: http://datenreport.bibb.de/ [last accessed: 01-07-2011]</p> <p>FEDERAL MINISTRY OF EDUCATION AND RESEARCH (Ed.): Report on Vocational Education and Training 2011. Bonn, Berlin 2011. – URL: http://www.bmbf.de/de/berufsbildungsbericht.php [last accessed:</p>

	<p>01-07-2011]</p> <p>FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datensystem DAZUBI – Zusatztabelle [DAZUBI data system – additional tables] – URL: http://www.bibb.de/de/57057.htm [last accessed: 01-07-2011]</p> <p>GERICKE, NAOMI; UHLY, ALEXANDRA; ULRICH, JOACHIM GERD: Wie hoch ist die Quote der Jugendlichen, die eine duale Berufsausbildung aufnehmen? Indikatoren zur Bildungsbeteiligung [<i>What is the proportion of young people who enter vocational education and training? Training participation indicators</i>]. In: Berufsbildung in Wissenschaft und Praxis [<i>Vocational Training in Research and Practice</i>] 40 (2011) 1, pp. 41-43</p> <p>UHLY, ALEXANDRA; GERICKE, NAOMI: Neuberechnung der Ausbildungsbeteiligungsquoten. Neuerungen der Berufsbildungsstatistik aus 2007 ermöglichen erstmals genauere Berechnung differenzierter Quoten für Personengruppen [<i>Recalculation of training participation rates. Improvements to the Vocational Education and Training Statistics from 2007 enable more precise calculation of differentiated rates for groups of persons to be undertaken for the first time.</i>] Bonn, 2010. – URL: http://www.bibb.de/dokumente/pdf/a21_ausweitstat_information_sbeitrag-uhly-gericke_neuberechnung-ausbildungsbeteiligungsquote.pdf [last accessed: 01-07-2011]</p>
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8.3 Training entrant rate (AAQ) (still under development)

Name	Training entrant rate (AAQ) (still under development)
Core statement	In the reporting year 2009, the arithmetical proportion of a (synthetic) age cohort within the resident population commencing training of the first time with a training contract within the dual system was 53.6 %. This process does not take into account the duration of transition to training or the age at which training in the dual vocational education and training system is commenced.
Current validity	The indicator is available with a delay of approximately one year.
Significance for vocational education and training	<ul style="list-style-type: none"> • An indicator for the quantitative significance of vocational education and training • An indicator for the integration of groups of persons • Comparability over the course of time and between various groups of persons
Reference variables	<p><u>Numerator:</u> Training entrants in the dual system differentiated according to age.</p> <p><u>Denominator:</u> Resident population differentiated according to age.</p> <p><u>Remarks on the reference variable</u></p> <ul style="list-style-type: none"> • Trainees with a newly concluded training contract do not necessarily equate to training entrants in the dual system due to the fact that new training contracts are also concluded in the case of a change of occupation or company. Entrants to the dual system are defined on the basis of information relating to prior vocational education and training and the duration of the training contract as persons in respect of whom the following applies. <p>There was no previous vocational education and training in the dual system. Or, if there was previous vocational education and training ('which was not successfully completed'), the shortening of training time was small (initially "less than 12 months" was used as a delineation criterion, although this will be reduced to a lower number of months in future).</p> <p><i>It is necessary for newly concluded contracts where previous vocational education and training took place to be counted as training entrants, otherwise persons who were training entrants within a training year and dissolve their contract before concluding a new contract would never be counted as training entrants.</i></p>

	<p>Some new concluded contracts are not counted as training entrants despite being reported as being without previous vocational education and training if the shortening of the training time is at least 12 months, although trainees are neither older than 21 no in possession of a higher education entrance qualification (cf. Chapter A4.3, FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING 2011). This delineation will also be defined in more precise terms in future.</p> <p><i>This second delineation criterion is required since the assumption may be made that the characteristic of previous vocational education and training has not yet been fully correctly recorded in the initial years following the revision of the VET statistics. Since an age of over 21 and/or possession of a higher education entrance qualification may lead to a shortening of 12 months, these two characteristics are introduced as a control.</i></p> <ul style="list-style-type: none"> • The rate needs to be interpreted with regard to any age cohort which commences dual vocational education and training with a training contract at any point in its educational biography (regardless of at which age). • The training entrant rate is an arithmetical rate which involves establishing a ratio between data from the VET statistics and the Population Forecast. • For the figures of training entrants, trainees with a maximum age of 16 and a minimum age of 24 are put together to form the respective lower and upper “marginal group”.
<p>Calculation formula</p>	$\sum_{i=16}^{24} \frac{\text{Training entrants } i}{\text{Resident population } i} * 100$ <p>i = age[#]</p> <p>Tabelle 1: <i># Training entrants at the age of “16 and younger” are put together to form the lower age group. Those at the age of “24 and older” are put together to form the upper age group.</i></p>
<p>Possible differentiations</p>	<ul style="list-style-type: none"> • Gender • Nationality • Germany as a whole; further regional differentiation only possible in restricted form (the rate has only been calculated by BIBB for West and East Germany thus far) • Respective combinations of the characteristics stated

Data sources	<ul style="list-style-type: none"> • Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States • Population Forecast (Destatis)
Cut-off date/ period of consideration	<p>Cut-off date: 31.12.</p> <p>Newly concluded training contracts within the calendar year not dissolved by 31 December; the number of training entrants as a sub-group of newly concluded contracts is thus also cut-off date related; resident population on 31 December of the reporting year.</p> <p>The indicator may be considered as an estimated variable for the proportion (of an age cohort) within the resident population commencing a training contract in the dual system.</p>
Information on the quality of the indicator	<ul style="list-style-type: none"> • In contrast to the AQ (cf. Section 8.2), the AAQ avoids overestimation of the amount of training entrants as a proportion of the resident population because multiple countings are avoided. • The proportion of the resident population beginning dual vocational education and training may, however, be underestimated. Because the duration of the training contract is also used to delineate the training entrant definition rather than merely reports regarding previous vocational education and training, some trainees in the dual system are never counted as training entrants. This is the case when actual commencement of training does not coincide with the beginning of a training contract. If trainees have, for example, initially completed a school-based basic vocational training year or two-year full-time school-based vocational education and training which is fully credited towards subsequent dual VET, they will not be counted as training entrants if they had not previously commenced another dual training course with a training contract within the dual system. To this extent, therefore, the number of training entrants may be underestimated. The calculation method for training entrants will be modified in this regard in future so that this underestimation is avoided. • Regional differentiations are only possible to a restricted extent. Commuter movements distort the rate in the case of regional differentiations. Because the VET statistics do not record the place of residence of trainees (exception: Brandenburg), commuter movements cannot be taken into account. This distortion results from the fact that training entrants whose primary place of residence is not at the location of their training venue are counted for a different region in the training entrant numbers than for

	<p>place of residence. This means that the AAQ is overestimated for regions with a high number of incoming commuters amongst training entrants and underestimated for regions with a high number of outgoing commuters. For this reason, BIBB calculates the rate for the whole of Germany only and regional differentiation only for East and West Germany and not for individual federal states or local government areas.</p> <ul style="list-style-type: none"> • Limits of current validity: data is not available until one year later. Non-measured effects within the scope of the „sum of rates“ method also cause the mixing together of data from different accounts which may differ from one another in terms of training behaviour.
<p>Other interpretation information (Frequently asked questions)</p>	<ul style="list-style-type: none"> • Demographic fluctuations are controlled because reference is always established to the age cohorts within the current resident population. This means that changing population structures are always directly included in the calculation. • The duration of transition from the general school to dual vocational education and training is not taken into account. This means that the indicator is not suitable for mapping transition durations or problems relating to the increase in transition durations. The partial rates may, however, provide indications of time-delayed entries to the dual system.
<p>Main publications</p>	<p>GERICKE, NAOMI: Alter der Auszubildenden und Ausbildungsbeteiligung der Jugendlichen im dualen System [<i>Age of trainees and training participation of young people in the dual system</i>]. In: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datenreport zum Berufsbildungsbericht 2011: Informationen und Analysen zur Entwicklung der beruflichen Bildung [<i>Information and analyses on the development of vocational education and training</i>]. Bonn, 2011. pp. 148-154 – URL: http://datenreport.bibb.de/ [last accessed: 01-07-2011]</p> <p>Note: <i>indicator under development. The first calculation of the training entrant rate is included in the Data Report to accompany the 2011 Report on Vocational Education and Training. A more detailed and further developed calculation of the training entrant rate will be included in the Data Report to accompany the 2012 Report on Vocational Education and Training (scheduled for publication in April 2012).</i></p> <p>UHLY, ALEXANDRA: Neuabschlüsse in der Berufsbildungsstatistik (Erhebung zum 31.12.) [<i>Newly concluded contracts in the VET statistics (survey as of 31 December)</i>] In: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datenreport zum Berufsbildungsbericht 2011: Informationen und Analysen zur</p>

	<p>Entwicklung der beruflichen Bildung [<i>Information and analyses on the development of vocational education and training</i>]. Bonn, 2011. pp. 127-136 – URL: http://datenreport.bibb.de/ [last accessed: 01-07-2011]</p> <p>FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datensystem DAZUBI – Zusatztabelle[n] [<i>DAZUBI data system – additional tables</i>] – URL: http://www.bibb.de/de/57057.htm [last accessed: 01-07-2011]</p> <p>GERICKE, NAOMI; UHLY, ALEXANDRA; ULRICH, JOACHIM GERD: Wie hoch ist die Quote der Jugendlichen, die eine duale Berufsausbildung aufnehmen? Indikatoren zur Bildungsbeteiligung [<i>What is the proportion of young people who enter vocational education and training? Training participation indicators</i>]. In: Berufsbildung in Wissenschaft und Praxis [<i>Vocational Training in Research and Practice</i>] 40 (2011) 1, pp. 41-43</p>
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8.4 Training completion rate (AbsQ) (still under development)

Name	Training completion rate (AbsQ) (still under development)
Core statement	<p>In the reporting year 2009, the arithmetical proportion of a (synthetic) age cohort within the resident population successfully completing dual vocational education and training with a training contract was 45.6 %.</p> <p>The age at which training is completed is not taken into account.</p>
Current validity	The indicator is available with a delay of approximately one year.
Significance for vocational education and training	<ul style="list-style-type: none"> • An indicator for the quantitative significance of dual vocational education and training (not including so-called external examinations) • An indicator for the integration of various population groups • Comparability over the course of time and between various groups of persons • The comparison between the training entrant rate and the training completion rate will enable the scope of dropouts within the dual system to be quantified in future.
Reference variables	<p><u>Numerator:</u></p> <p>Trainees who have passed a final examination differentiated according to age and who have previously not successfully completed dual training (persons completing training for the first time).</p> <p><u>Denominator:</u></p> <p>Resident population differentiated according to age.</p> <p><u>Remarks on the reference variable</u></p> <ul style="list-style-type: none"> • The rate needs to be interpreted with regard to any age cohort which successfully completes dual training at any point in its educational biography (regardless of at which age). • The training completion rate is an arithmetical rate which involves establishing a ratio between data from the VET statistics and the Population Forecast. • Multiple countings and a concomitant overestimation of the rate are avoided because only persons who conclude initial dual training are included in the calculation (although other vocational education and training courses have possibly also been completed). • For the training completion figures, those completing training at a maximum age of 19 and a minimum age of 27 are put together to

	<p>form the respective lower and upper “marginal group”. The selection of the age limits is aligned to the approach adopted to the calculation of the training participation rate (AQ) and the training entrant rate (AAQ) with a time lag of three years (corresponding to the duration of training in most training regulations) and to the age distribution of those completing training.</p>
Calculation formula	$\sum_{i=19}^{27} \frac{\text{Persons completing training for the first time } i}{\text{Resident population } i} * 100$ <p>$i = \text{age}^{\#}$</p> <p>$\#$ Persons completing training for the first time at the age of “19 and younger” are put together to form the lower age group. Those at the age of “27 and older” are put together to form the upper age group.</p>
Possible differentiations	<ul style="list-style-type: none"> • Gender • Nationality • Germany as a whole; further regional differentiation only possible in restricted form (the rate has only been separately calculated by BIBB for West and East Germany thus far) • Respective combinations of the characteristics stated
Data sources	<ul style="list-style-type: none"> • Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States • Population Forecast (Destatis)
Cut-off date/ period of consideration	<p>Persons completing training for the first time: all successful final examinations within the calendar year without previous successful completion of dual vocational education and training</p> <p>Resident population: as of the cut-off date of 31 December</p> <p>The indicator may be considered as an estimated variable for the proportion of the resident population which successfully completes dual training within the dual system with a training contract during the present reporting year.</p>
Information on the quality of the indicator	<ul style="list-style-type: none"> • The training completion rate (AbsQ) reflects the proportion of the resident population which successfully completes dual vocational education and training with a training contract. Because the calculation only includes examinations passed where trainees have not previously achieved a dual vocational qualification, no multiple countings occur (if prior learning information has been

	<p>correctly reported). For this reason, the proportion of persons in the resident population who successfully complete a course of dual vocational education and training at some stage of their biography is not overestimated.</p> <ul style="list-style-type: none"> • Regional differentiations are only possible to a restricted extent. Commuter movements distort the rate in the case of regional differentiations. Because the VET statistics do not record the place of residence of trainees (exception: Brandenburg), commuter movements cannot be taken into account. This distortion results from the fact that persons completing whose primary place of residence is not at the location of their training venue are counted for a different region in the number of persons completing training than for place of residence. This means that the AbsQ is overestimated for regions with a high number of incoming commuters amongst those completing training and underestimated for regions with a high number of outgoing commuters. For this reason, BIBB calculates the rate for the whole of Germany only and regional differentiation only for East and West Germany and not for individual federal states or local government areas. • Limits of current validity: data is not available until one year later. Non-measured effects within the scope of the „sum of rates” method also cause the mixing together of data from different accounts which may differ from one another in terms of training behaviour.
<p>Other interpretation information (Frequently asked questions)</p>	<ul style="list-style-type: none"> • Demographic fluctuations are controlled because reference is always established to the age cohorts within the current resident population. This means that changing population structures are always directly included in the calculation. • The duration of the transition to dual vocational education and training and the duration of the training itself are not taken into account. • The difference between the training completion rate and the training entrant rate (see Section 8.3) provides a basis for the measurement of the size of drop-out within the dual system. The training completion rate from the current reporting year (t) can be compared with the training entrant rate (e.g. from the year t-3) for this purpose. Because the training entrant rate has only been calculated since 2008, this comparison can only take place in the future. Nevertheless, this method only permits an

	approximate estimation of the amount of drop-out due to the fact that actual duration of training varies significantly.
Main publications	<p>GERICKE, NAOMI: Alter der Auszubildenden und Ausbildungsbeteiligung der Jugendlichen im dualen System [<i>Age of trainees and training participation of young people in the dual system</i>]. In: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datenreport zum Berufsbildungsbericht 2011: Informationen und Analysen zur Entwicklung der beruflichen Bildung [<i>Information and analyses on the development of vocational education and training</i>]. Bonn, 2011. pp. 148-154 – URL: http://datenreport.bibb.de/ [last accessed: 01-07-2011]</p> <p>Note: indicator under development. The first calculation of the training completion rate is included in the Data Report to accompany the 2011 Report on Vocational Education and Training (in a form which deviates from the form presented here). A more detailed and further developed calculation of the training completion rate will be included in the Data Report to accompany the 2012 Report on Vocational Education and Training (scheduled for publication in April 2012).</p>

8.5 Literature

FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datenreport zum Berufsbildungsbericht 2011: Informationen und Analysen zur Entwicklung der beruflichen Bildung [*Information and analyses on the development of vocational education and training*] [HTML version]. 2011. – URL: <http://datenreport.bibb.de/> [last accessed: 01-07-2011]

FEDERAL MINISTRY OF EDUCATION AND RESEARCH (Ed.): Report on Vocational Education and Training 2011. Bonn, Berlin 2011. – URL: <http://www.bmbf.de/de/berufsbildungsbericht.php>

GERICKE, NAOMI; UHLY, ALEXANDRA; ULRICH, JOACHIM GERD: Wie hoch ist die Quote der Jugendlichen, die eine duale Berufsausbildung aufnehmen? Indikatoren zur Bildungsbeteiligung [*What is the proportion of young people who enter vocational education and training? Training participation indicators*]. In: Berufsbildung in Wissenschaft und Praxis [*Vocational Training in Research and Practice*] 40 (2011) 1, pp. 41-43

SCHARFE, SIMONE: Einfluss doppelter Abiturientenjahrgänge auf die Entwicklung der Studienanfängerquote [*Influence of double upper secondary leaver cohorts on the development of the higher education entrant rate*]. In: Wirtschaft und Statistik [*Economics and Statistics*], 6 (2010), pp. 552-560

UHLY, ALEXANDRA: Neuabschlüsse in der Berufsbildungsstatistik (Erhebung zum 31.12.) [*Newly concluded contracts in the VET statistics (survey as of 31 December)*] In: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datenreport zum Berufsbildungsbericht 2011: Informationen und Analysen zur Entwicklung der beruflichen Bildung [*Information and analyses on the development of vocational education and training*]. Bonn, 2011. pp. 127-136 – URL: <http://datenreport.bibb.de/> [last accessed: 01-07-2011]

FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Erläuterungen zu den Auszubildenden-Daten der Berufsbildungsstatistik der statistischen Ämter des Bundes und der Länder (Erhebung zum 31.12.), den Berufsmerkmalen und den Berechnungen des BIBB (Datenstand: 2009) [*Explanations of the trainee data of the Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States (survey as of 31 December). Occupational characteristics and BIBB calculations (data status 2009)*] – URL: http://www.bibb.de/dokumente/pdf/a21_dazubi_daten.pdf [last accessed: 01-07-2011]

UHLY, ALEXANDRA; GERICKE, NAOMI: Neuberechnung der Ausbildungsbeteiligungsquoten. Neuerungen der Berufsbildungsstatistik aus 2007 ermöglichen erstmals genauere Berechnung differenzierter Quoten für Personengruppen [*Recalculation of training participation rates. Improvements to the Vocational Education and Training Statistics from 2007 enable more precise calculation of differentiated rates for groups of persons to be undertaken for the first time.*] Bonn, 2010. – URL: http://www.bibb.de/dokumente/pdf/a21_ausweitstat_informationsbeitrag-uhly-gericke_neuberechnung-ausbildungsbeteiligungsquote.pdf [last accessed: 01-07-2011]

9 Indicators for the efficiency of dual vocational education and training

9.1 Introduction

How can the efficiency or performance of the dual system be ascertained? One important role in this regard is played by the stability of the training contracts within the dual system. If persons who have progressed to company-based training remain within the training contract entered into, this can be interpreted as an effective exploitation of resources deployed by both contractual parties. Dissolved contracts can normally be viewed as an indicator for failure (cf. UHLY/GERICKE 2011), even if such dissolutions are not always wholly avoidable and may in some cases also be viewed as necessary and sensible. Contract dissolutions mostly mean a loss of resources (for all those involved) and may result in strongly demotivating consequences. With regard to the function of the dual system in terms of providing persons with vocational training, effectiveness and performance still continue to be displayed to the extent that it produces persons successfully completing such training. Only trainees who successfully complete examinations taken within the dual system and achieve a vocational qualification are available to society and to the labour market as qualified skilled workers. The extent to which temporary failure to complete the examination successfully can be useful is also an object of debate in this regard. In both cases, dissolution of contract and failure in the examination, a certain degree of dropout cannot be entirely avoided. Nevertheless, the aim of minimisation of failure and inefficiency is a plausible one. In respect of these indicators, considerable differences according to occupations or personal characteristics can be identified over the course of time. The object is to subject these to closer analysis.

In accordance with the multi-dimensional nature of the concept of “performance”, such differences are mapped via various indicators. The stability and efficiency of training can be identified on the basis of the proportion of prematurely dissolved contracts and examination success. The data of the *Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States* (hereinafter referred to in abbreviated form as VET statistics) can be deployed to calculate these indicators. The VET statistics are a full annual survey containing the multifarious data relating to trainees in dual training occupations pursuant to the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO)²⁸. Evaluations of occupational structure and personally related correlations are possible on the basis of these statistics.

²⁸ This includes state recognised training occupations pursuant to the Vocational Training Act or the Crafts and Trades Regulation Code, training occupations being piloted and training occupations in accordance with training regulations for persons with disabilities.

9.1.1 Stability of the course of training: premature contract dissolutions

Premature contract dissolutions are recorded in the VET statistics. Such premature dissolutions need to be differentiated from complete training dropouts, since changes of company or occupation can also lead to a dissolution of contract. It is not possible to tell whether individual cases involve conflict situations due to the fact that the VET statistics do not record reasons or which side dissolves the contract. Even if this means that we cannot always conclude the significance of a dissolution of contract for the parties involved, comparative observations of contract dissolution events over the course of time, between regions or between groups of persons nevertheless provide an important assessment and display possible areas where analysis or action is required. "Dissolution rates" on the basis of training contracts commenced are calculated as an indicator. One difficulty is, however, that it is not possible to identify exactly how high the final proportion of dissolved contracts will prospectively be for the current cohort concluding contracts. Ultimately, a part of the contracts begun in the present year will be dissolved in the future. For this purpose, an „sum of rates" method ("multi-tier model") is deployed, which represents future contract dissolutions of the current cohort commencing training by using the proportions of contracts which began at an earlier point in time and which were dissolved during the current reporting year. This involves calculating partial rates which are then added together to form an overall rate. This rate produces an approximation for the amount of prematurely dissolved training contracts as a proportion of all contracts commenced in the reporting year.

9.1.2 Acquisition of full vocational qualifications: examinations successfully completed

The VET statistics record both how many final examinations were conducted in a calendar year and the extent to which these final examinations were first or repeated examinations. They thus record the number of examination cases. The statistics also contain information on the result of the final examinations. No marks are taken into account, however. The survey only records whether examinations were passed, not passed or definitively not passed. Since the switch from aggregate to individual data, the VET statistics also provide information as to how many persons have taken part in final examinations during the reporting year.

The data forms a basis for the calculation of various success rates. These provide indications as to the degree of effectiveness or efficiency with which full vocational qualifications are acquired within the dual system. The success rate calculated on the basis of all final examinations conducted (EQ I) takes into account the volume of examinations behind the full vocational qualifications obtained. The success rate calculated on the basis of all examination candidates (EQ II) provides information on the extent to which training is ended with a full vocational qualification irrespective of whether the vocational qualification was acquired at the first attempt or as the result of a repeated attempt. Finally, the success rate determined on the basis of the first attempt at examinations (EQ_{EP}) indicates the proportion of training which directly concludes with a full vocational qualification.

9.1.3 New design concepts and extended analytical opportunities: significance of the revised Vocational Education and Training Statistics for the set of indicators regarding the efficiency and stability of training contracts in the dual system

An extensive revision of the VET statistics took place in the form of Article 2a of the Vocational Training Reform Act (BerBiRefG) of 23 March 2005, which entered into force on 1 April 2007. This instigated a switch from aggregate data recording to individual data recording and the surveying of new characteristics and has meant that data has since been available which facilitates important improvements in the set of indicators including with regard to the stability and efficiency of the dual system. Although some of the indicators are continued because of the better calculations they provide for time series comparisons, the earlier calculations have essentially been replaced by the new indicators. In order to provide a full summary, the respective dissolution and success rates together with relevant remarks are presented below on the basis of individual data recording as well as on the basis of the earlier aggregate recording used.

9.2 (Contract) dissolution rate (LQ)

9.2.1 (Contract) dissolution rate on the basis of individual data recording (from the 2009 reporting year onwards)

Name	(Contract) dissolution rate on the basis of individual data recording (new dissolution rate)
Core statement	<p>In the reporting year 2009, the proportion of training contracts commenced that is prematurely dissolved amount to 22.1%.</p> <p>Note <i>Premature contract dissolutions should not be equated with training dropouts! (Many persons who dissolve their contract subsequently conclude a new contract and therefore do not leave dual training entirely.)</i></p>
Current validity	The indicator is available with a delay of approximately one year.
Significance for vocational education and training	<ul style="list-style-type: none"> • An indicator for the efficiency of the dual system • Comparability over the course of time, between occupations, occupational groupings, regions, between groups of persons and all other recording characteristics of the Vocational Education and Training Statistics <p><u>Remark on the term “efficiency”</u></p> <p>There is a basic consensus that contract dissolutions should be as low as possible. Contract dissolutions are, however, unavoidable to a certain extent. They may also be efficient and do not necessarily have to be the result of conflict or discrimination. (A premature contract dissolution can be a sensible move for both sides in the case of a less than optimum suitability between a trainee and a training place which is not always discernible prior to the commencement of a contract. Contract dissolutions may also occur as a result of a switch from a publicly financed training place to a company-funded training contract and very much be viewed as a success).</p>
Reference variables	<p><i>Calculation method since the reporting year 2009, for previous system see 9.2.2</i></p> <p>Partial rates each including</p> <p><u>Numerator:</u></p> <p>Prematurely dissolved contracts in the current reporting year differentiated according to “beginning year” (data from the current reporting year (t))</p>

	<p><u>Denominator:</u> Training contracts beginning in the respective year (t to t-3) (Data from the respective reporting year)</p> <p><u>Remarks on the reference variable</u> Training contracts may be prematurely dissolved in each year of training (first, second, third or fourth year of training). Nevertheless, it is not useful to relate the number of dissolutions to the total number of trainees due to the fact that most dissolutions take place at an early stage. For this reason, the total database population only still includes trainees from previous years whose probability of dissolution is low. The calculation of the dissolution rate on the basis of the stock of current trainees would, therefore, underestimate the proportion of dissolved contracts.</p>
<p>Calculation formula</p>	<p>Dissolution rate according to the “new multi-tiered model” („sum of rates” method) since 2009.</p> <p><i>Because “beginners” can only be recorded from the reporting year 2007 onwards, only a maximum of three partial rates can be calculated as of the reporting year 2009. Four partial rates will be calculated from the reporting year 2010 onwards. No differentiation will be made between any more than four partial rates in future due to methodological and pragmatic considerations.</i></p> <p>2009</p> $LQ_{\text{new}} = \sum_{t=1}^{t-2(\text{and earlier})} \frac{\text{Prematurely dissolved training contracts}_{B=t}}{\text{Training contracts begun}_t}$ <p>B: Beginning year t: Current training year; t-1: Previous year, ...</p> $= \frac{\text{Prematurely dissolved training contracts}_{\text{Begin} = 2009}}{\text{Training contracts begun}_{2009}} + \frac{\text{Prematurely dissolved training contracts}_{\text{Begin} = 2008}}{\text{Training contracts begun}_{2008}} + \frac{\text{Prematurely dissolved training contracts}_{\text{Begin} = 2007 \text{ and earlier}}}{\text{Training contracts begun}_{2007}}$

	<p>From 2010</p> $LQ_{\text{new}} = \sum_{t=1}^{t-3(\text{and earlier})} \frac{\text{Prematurely dissolved training contracts}_{\text{Begin}=\text{t}}}{\text{Training contracts begun}_t}$ <p>B: Beginning year t: Current training year; t-1: Previous year, ...</p> $= \frac{\text{Prematurely dissolved training contracts}_{\text{Begin}=\text{t}}}{\text{Training contracts begun}_t}$ $+ \frac{\text{Prematurely dissolved training contracts}_{\text{Begin}=\text{t}-1}}{\text{Training contracts begun}_{\text{t}-1}}$ $+ \frac{\text{Prematurely dissolved training contracts}_{\text{Begin}=\text{t}-2}}{\text{Training contracts begun}_{\text{t}-2}}$ $+ \frac{\text{Prematurely dissolved training contracts}_{\text{Begin}=\text{t}-3 \text{ and earlier}}}{\text{Training contracts begun}_{\text{t}-3}}$ <p><i>A ratio is established between the contracts dissolved in the current training year and the training contracts begun in the respective beginning year.</i></p> <p>Note Calculation of the indicator has been improved since the reporting year 2009 as a result of the revision of the Vocational Education and Training Statistics which entered into force in 2007. The number of training contracts begun in the respective year, which is calculated on the basis of individual data, can now be used instead of the benchmark “Total of newly concluded contracts and dissolutions during the probationary period”. Dissolutions within the current year are now also differentiated according to the “beginning year” of the contract rather than according to training years.</p> <p>Important In some cases, calculation of the dissolution rate for individual training occupations (for reasons such as too low a number of newly concluded training contracts or limited data availability) needs to take place on the basis of alternative calculation formulae (see the remarks at: http://www.bibb.de/dokumente/pdf/a21_dazubi_daten.pdf [last accessed: 01-07-2011]).</p>
<p>Possible differentiations</p>	<ul style="list-style-type: none"> • Individual occupations or occupational groupings; Restriction: In the initial years following the updating of training occupations, dissolution rates can only be calculated for the aggregation of respective predecessor and successor occupations. The dissolution rate can also only be calculated for the

	<p>aggregation of specialisms within an occupation and not for individual specialisms (see the remarks at: http://www.bibb.de/dokumente/pdf/a21_dazubi_daten.pdf [last accessed: 01-07-2011]).</p> <ul style="list-style-type: none"> • Region; currently federal states • Differentiations according to all characteristics of the Vocational Education and Training Statistics and respective combinations (see § 88 Vocational Training Act, BBiG) are possible in principle (e.g. according to gender, general school leaving qualification, nationality etc.). Notwithstanding this, distortions occur if missing information regarding the characteristics fluctuates over the course of time.
Data sources	Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States
Cut-off date/ period of consideration	<p><u>Numerator:</u> Training contracts dissolved in the calendar year (until 31 December at the latest)</p> <p><u>Denominator:</u> Training contracts begun in the current and previous calendar years</p> <p><i>Since the number of training contracts which will be dissolved during the following year is not known within the respective reporting year, representative figures are used for persons who began their training contract in earlier years and whose contract was dissolved in the current reporting year. This means that the dissolution rate can only be interpreted as an approximate calculation of the proportion of premature dissolutions of contracts begun in the current reporting year.</i></p>
Information on the quality of the indicator	<ul style="list-style-type: none"> • The indicator provides a good approximate calculation of the proportion of training contracts of a “beginning year” which are prematurely dissolved. Consideration needs to be accorded to the fact that distortions can particularly occur in the following circumstances: <ul style="list-style-type: none"> a) if there is a strong variance in the incidence of contract dissolutions between the individual “beginning years”; b) if Vocational Education and Training Statistics reports regarding the characteristics of training occupation (including specialism), year of the beginning of the contract or year of the dissolution of the contract are invalid or unreliable;

	<p>c) in the case of very small training occupations;</p> <p>d) if occupations receive new occupational titles and/or occupational codings under which they are reported following modernisation (the problem being that the newly concluded contract is reported in the predecessor occupation and the contract dissolution is later reported in the successor occupation);</p> <p>e) in the case of dissolution rates differentiated according to further variables if missing values relating to these variables fluctuate over the years.</p> <p>To a): changes from year to year will usually be straightforward. More significant changes tend to result over the course of longer periods. Nevertheless, large movements may occur in the case of individual occupations even within a few years.</p> <p>To b): there were major reporting problems regarding contract dissolutions in the first two years following the revision of the Vocational Education and Training Statistics (reporting years 2007 and 2008). No dissolution rates were calculated for the years 2007 and 2008. Although the reporting problems no longer affect the calculation of the dissolution rate from 2009, the problem remains that in some years occupations are reported in accordance with specialisms and in other years without specialisms. For this reason, dissolution rates cannot be calculated for the individual specialisms.</p> <p>To c): in such cases, BIBB uses another method to calculate the dissolution rates, namely a “simple dissolution rate” which comprises a quotient of the dissolutions from the current reporting year and the newly concluded contracts from the current reporting year multiplied by 100 .</p> <p>To d): in this case, the dissolution rate in the first few years following modernisation can only be calculated for the aggregate of occupation and predecessor occupation.</p> <ul style="list-style-type: none"> • Extensive new features mean at all times that the Vocational Education and Training Statistics prior to and from 2007 are only comparable with each other to a restricted extent. In addition to this, the calculation of the indicator was modified due to the fact that improvements became possible on the basis of the individual data introduced in 2007. With regard to the training contracts within the dual system in overall terms, there is extensive comparability of dissolution data (with the exception of the years 2007 and 2008). In the case of individual occupations, however,
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	<p>large movements may occur in the comparison of the years 2006 and 2009 due to reporting behaviour and the changed method of calculation of the dissolution rate. For the reporting year 2009, a comparison between the dissolution rates of the individual training occupations and occupational groups in accordance with the previous and new method of calculation has been made available in the “DAZUBI Online Data System” at: www.bibb.de/dazubi/zusatztabellen [last accessed: 01-07-2011].</p> <p>To e): in 2008, for example, a comparatively high proportion of contracts begun without a general school leaving qualification was reported (or reported in the category of “qualification acquired abroad which cannot be aligned”). Since 2009, this has only been the case with a very small number of contracts. If the dissolution rate is calculated pursuant to the multi-tier model in a way differentiated in accordance with school qualifications, distortions may occur because dissolutions from the current reporting year are used. Since 2009, virtually all of these have been differentiated according to school qualification. In the case of contracts begun in 2008 from the reporting year 2008, however, this information is frequently missing. This means that the relevant partial rate is produced by dividing by too low a number of training contracts begun, thus resulting in an underestimation of the partial rate.</p> <p>With regard to the example of the general school qualification, however, extrapolations show that this distortion takes place at a low level only (approximately 0.1 percentage points). In the medium term, no missing information should any longer occur including with regard to the new characteristics of the Vocational Education and Training Statistics introduced in 2007. This will mean that this problem of distortion in the case of dissolution rates (differentiated according to further characteristics) will no longer exist.</p>
<p>Other interpretation information (Frequently asked questions)</p>	<p><i>The indicator does <u>not</u> state the rate of training dropouts in the dual system. Many persons who dissolve their contract subsequently conclude a new contract and therefore do not leave dual training entirely.</i></p> <p><i><u>Which contractual party</u> has dissolved the contract and for <u>which reasons</u> is <u>not</u> surveyed. These reasons are multifarious (e.g. company closure, change of company providing training, change from a largely publicly financed training contract to a company-based training contract, change of occupation, change to higher education study, complete dropout from training).</i></p>

Information on interpretation

Since the number of training contracts which will be dissolved during the following year is not known within the respective reporting year, representative figures are used for persons who began their training contract in earlier years and whose contract was dissolved in the current reporting year. This means that the dissolution rate can only be interpreted as an approximate calculation of the proportion of premature dissolutions of contracts begun in the current reporting year.

How is a contract dissolution rate of 22.1% in the reporting year 2009 to be interpreted?

Approximately 22% of the training contracts begun in the reporting year 2009 are dissolved prior to the agreed end of contract (were dissolved in 2009 or are expected to be dissolved within the coming years).

Why is the database population not used as a reference variable? Because training contracts may be prematurely dissolved in each year of training (first, second, third or fourth year of training), should the number of dissolutions not be related to the total number of trainees?

Because most dissolutions take place at a very early stage, the database population from the previous years contains only trainees whose probability of dissolution is low. A dissolution rate calculated on the basis of the stock of current trainees underestimates the proportion of dissolved training contracts. For this reason, it seems useful to calculate the dissolution rate on the basis of training contracts begun. Within this process, however, it is important for dissolutions to be related to the training contracts begun in the relevant "beginning year" respectively. The contracts dissolved in 2009, for example, are related to contracts which began in 2009, 2008 ... etc. depending on the "beginning year".

Why is the multi-tier model (a partial rate „sum of rates“ method) used in the calculation formula?

If we wish to determine the proportion of training contracts begun which are prematurely dissolved, this cannot be precisely calculated ex ante for the current cohort. Some contracts have not yet been prematurely dissolved but will be so dissolved before the agreed end of the contract.

The contracts which began in 2008 and were dissolved in 2009 can be used to represent contracts which began in 2009, which had not yet been dissolved by 31 December 2009 but which are dissolved in 2010.

	<p><i>In the same way, the contracts which began in 2007 and were dissolved in 2009 can be used for the training contracts begun in 2009 which are dissolved in 2011. It would actually be possible to continue in the same way for contracts which began in 2009 and are dissolved in 2012. This means that, in overall terms, the dissolution rate for the current “beginning year” is only calculated approximately.</i></p> <p><i>Because “beginners” can only be recorded from the reporting year 2007 onwards, only a maximum of three partial rates can be calculated as of the reporting year 2009. Four partial rates will be calculated from the reporting year 2010 onwards. No differentiation will be made between any more than four partial rates in future due to methodological and pragmatic considerations.</i></p> <p>Why is the contract dissolution rate not calculated for the individual specialisms of training occupations and why only for occupations aggregated with their predecessors?</p> <p><i>When the dissolution of a contract is reported under another occupation (different training regulations) or by stating a different specialism than at the beginning of the contract, calculation in accordance with the „sum of rates” method leads to artefacts, because data reports from several years are used.</i></p> <p><i>This phenomenon may occur in two cases in particular:</i></p> <ul style="list-style-type: none"> • <i>in the case of updatings of training occupations (some training contracts are reported under the predecessor occupation in one year and under the successor occupation in the following year (in the case of updatings);</i> • <i>if in one year the report takes place without statement of specialism and with statement of specialism in the next year.</i>
<p>Main publications</p>	<p>UHLY, ALEXANDRA; GERICKE, NAOMI: Vorzeitige Lösung von Ausbildungsverträgen [<i>Premature dissolution of training contracts</i>]. In: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Data Report to accompany the 2011 Report on Vocational Education and Training. Bonn 2011, pp. 179-187 http://datenreport.bibb.de/ [last accessed: 01-07-2011]</p> <p>Note <i>Since the 2011 edition new method of calculation made possible on the basis of the individual data provided in the Vocational Education and Training Statistics; in earlier years: previous method of calculation which was designed on the basis of aggregate data.</i></p>

	<p>FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.):</p> <p>Datensystem DAZUBI – Zusatztabellen [<i>DAZUBI data system – additional tables</i>] – URL: http://www.bibb.de/de/57057.htm [last accessed: 01-07-2011]</p> <p>Note: Updated annually (“data sheets” still contain the earlier method of calculation; the “additional tables” contain the new method of calculation and a comparison of the two methods of calculation).</p>
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9.2.2 (Contract) dissolution rate on the basis of aggregate data recording (until the 2006 reporting year)

Name	(Contract) dissolution rate on the basis of aggregate data recording (old dissolution rate)
Core statement	<p>In the reporting year 2009, the proportion of newly concluded training contracts prematurely dissolved is 22.6 %.</p> <p>Note <i>Premature contract dissolutions should not be equated with training dropouts! (Many persons who dissolve their contract subsequently conclude a new contract and therefore do not leave dual training entirely.)</i></p> <p>Note <i>Aggregate data recording took place until 2006. The method of calculation of the contract dissolution rate as developed for the aggregate data was still calculated for later reporting years for reasons of comparison.</i></p>

Current validity	The indicator is available with a delay of approximately one year.
Significance for vocational education and training	<ul style="list-style-type: none"> • An indicator for the efficiency of the dual system • Comparability over the course of time, between occupations, occupational groupings and regions <p><u>Remark on the term “efficiency”</u></p> <p>There is a basic consensus that contract dissolutions should be as low as possible. Contract dissolutions are, however, unavoidable to a certain extent. They may also be efficient and do not necessarily have to be the result of conflict or discrimination. (A premature contract dissolution can be a sensible move for both sides in the case of a less than optimum suitability between a trainee and a training place which is not always discernible prior to the commencement of a contract. Contract dissolutions may also occur as a result of a switch from a publicly financed training place to a company-funded</p>

	<p>training contract etc.). Reasons are not recorded in the Vocational Education and Training Statistics.</p> <p>Note <i>The dissolution rates published on the data sheets of the DAZUBI Online Data System are currently still determined according to this method of calculation. In the medium term, however, only the new method of calculation of the dissolution rates will be used (cf. 9.2.1).</i></p>
<p>Reference variables</p>	<p><i>Previous method of calculation (developed on the basis of the survey of aggregate data):</i> Partial rates each including</p> <p><u>Numerator:</u> Premature training contract dissolutions in the current reporting year differentiated according to year of training (data from the current training year)</p> <p><u>Denominator:</u> Training contracts begun in the current and in earlier calendar years (data originates from the respective reporting year)</p> <p>Within the scope of the aggregate data reporting, the total of newly concluded contracts and dissolutions in the probationary period is used as an approximate value for the “number of training contracts begun in the respective reporting year”.</p> <p><u>Background</u> <i>In the Vocational Education and Training Statistics, only training contracts which have not been dissolved by 31 December of the respective year are taken into account as newly concluded contracts. Contracts which have been concluded within the calendar year and dissolved again are not included and therefore also do not need to be taken into account alongside the newly concluded contracts in calculating the rate in the denominator. Contracts dissolved in the probationary period are used as an approximate value for this purpose. Most contracts are concluded in August/September, meaning that dissolutions within the probationary period usually fall within the same calendar year as the conclusion of the contract.</i></p> <p><u>Note:</u> <i>Training contracts may be prematurely dissolved in each year of training (first, second, third or fourth year of training). Nevertheless, it is not useful to relate the number of dissolutions to the total number of trainees due to the fact that most dissolutions take place prematurely. For this reason, the total database population only still includes trainees from previous years whose probability of dissolution is low. The calculation of the dissolution rate on the basis of the stock of current trainees would, therefore, underestimate the proportion of dissolved contracts.</i></p>
<p>Calculation</p>	<p>Dissolution rate according to the „earlier multi-tier model“ („sum of rates“</p>

<p>formula</p>	<p>method) until 2008 (aggregate data recording until 2006, although the new calculation could not yet take place in 2008):</p> $LQ \text{ old} = \frac{\text{dissolved contracts}_{1,AJ}}{\text{Newcon-prob}_t} + \frac{\text{dissolved contracts}_{2,AJ}}{\text{Newcon-prob}_{t-1}} + \frac{\text{dissolved contracts}_{3,AJ}}{\text{Newcon-prob}_{t-2}} + \frac{\text{dissolved contracts}_{4,AJ}}{\text{Newcon-prob}_{t-3}}$ <p>AJ: Training year; t: Current calendar year; t-1: Previous year, ... Newcon-prob_t: Newly concluded contracts_t + dissolutions in the probationary period_t</p> <p>A ratio is established between the contracts dissolved in the current training year and the training contracts begun in the respective beginning year. Because aggregate data recording did not identify the year in which the dissolved training contract was begun, the training year is used as a benchmark. In the multi-tier model, the dissolutions in the first, second, third or fourth year of training are related to contracts begun in the current reporting year, the previous year and the two preceding years respectively under the assumption that those reported in the current reporting year under "Dissolution in the first year of training" had their contract beginning in the current calendar year and that those reported under "Dissolution in the second year of training" had their contract beginning in the previous year, and so on.</p> <p>Note Calculation of the indicator has been improved since the reporting year 2009 as a result of the revision of the Vocational Education and Training Statistics which entered into force in 2007. The number of training contracts begun in the respective year, which is calculated on the basis of individual data, can now be used instead of the benchmark "Total of newly concluded contracts and dissolutions during the probationary period". Dissolutions within the current year are now also differentiated according to the "beginning year" of the contract rather than according to training years (see 9.2.1).</p> <p>Important: In some cases, calculation of the dissolution rate for individual training occupations (for reasons such as too low a number of newly concluded training contracts or limited data availability) needs to take place on the basis of alternative calculation formulae (see the remarks at: http://www.bibb.de/dokumente/pdf/a21_dazubi_daten.pdf [last accessed: 01-07-2011])</p>
<p>Possible differentiations</p>	<ul style="list-style-type: none"> • Individual occupations or occupational groupings; <u>Restriction:</u> In the initial years following the updating of training occupations, dissolution rates can only be calculated for the aggregation of respective predecessor and successor occupations. The dissolution rate can also only be calculated for the aggregation of specialisms within an occupation and not for individual specialisms (see the remarks at: http://www.bibb.de/dokumente/pdf/a21_dazubi_daten.pdf [last accessed: 01-07-2011]).

	<ul style="list-style-type: none"> • Region; federal states • <u>No</u> differentiation according to personal characteristics
Data sources	Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States
Cut-off date/ period of consideration	<p><u>Numerator:</u> Training contracts prematurely dissolved in the calendar year (until 31 December at the latest)</p> <p><u>Denominator:</u> Training contracts begun in the current and in earlier calendar years, calculated in an approximate manner on the basis of newly concluded contracts + dissolutions in the probationary period within the respective reporting year</p> <p><i>Since the number of training contracts which will be dissolved during the following year is not known within the respective reporting year, representative figures are used for persons who began their training contract in earlier years and whose contract was dissolved in the current reporting year. This means that the dissolution rate can only be interpreted as an approximate calculation of the proportion of premature dissolutions of contracts begun in the current reporting year.</i></p>
Information on the quality of the indicator	<ul style="list-style-type: none"> • The indicator provides an approximate calculation of the proportion of training contracts of a “beginning year cohort” which are prematurely dissolved. <p>Consideration needs to be accorded to the fact that <i>distortions</i> can particularly occur in the following circumstances:</p> <ol style="list-style-type: none"> a) the dissolutions are not aligned to the correct “beginning year”; b) the number of training contracts begun in the individual years is erroneous; c) there is a strong variance in the incidence of contract dissolutions between the individual “beginning year cohorts”; d) Vocational Education and Training Statistics reports regarding the characteristics of training occupation (including specialism), year of training or point in time of the dissolution of the contract are invalid or unreliable; e) training occupations are very small; f) occupations receive new occupational titles and/or occupational codings under which they are reported following modernisation (the problem being that the newly concluded contract is reported in the predecessor occupation and the contract dissolution is later reported in the successor occupation). <p>To a): Within the scope of the aggregate data reporting which took place until 2006, the “beginning year” was not recorded. For this reason, dissolutions were differentiated according to years of training (1st, 2nd, 3rd and 4th year of training). The assumption was made that the beginning of training for dissolutions in the first year of training also took place in the reporting year</p>

and that the beginning of training for dissolutions in the second year of training took place in the previous year. These assumptions, however, are not accurate in many cases. This meant that the dissolutions were aligned to an incorrect “beginning year cohort” when calculating the rate. It has been possible to avoid this imprecision since the revision of the Vocational Education and Training Statistics due to the fact that the individual data recording also identifies the “beginning year” thus enabling the contract dissolutions within the calendar year to be aligned exactly to the relevant “beginning years” (see 9.2.1.).

To b): notwithstanding this, the total of newly concluded contracts and dissolutions in the probationary period represents a good approximate value for the number of training contracts begun in the calendar year. It has also been possible to avoid this imprecision since the revision of the Vocational Education and Training Statistics due to the fact that the “beginning year” is recorded in individual data reporting (see 9.2.1.).

To c): changes from year to year will usually be straightforward. More significant changes tend to result over the course of longer periods. Nevertheless, large movements may occur in the case of individual occupations even within a few years.

To e): in such cases, BIBB uses another method to calculate the dissolution rates, namely “simple dissolution rates” which comprise a quotient of the dissolutions from the current reporting year and the newly concluded contracts from the current reporting year multiplied by 100 .

To f): in this case, the dissolution rate in the first few years following modernisation can only be calculated for the aggregate of occupation and predecessor occupation.

- Extensive new features mean at all times that the Vocational Education and Training Statistics prior to and from 2007 are only comparable with each other to a restricted extent. In addition to this, the calculation of the indicator was modified due to the fact that improvements became possible on the basis of the individual data introduced in 2007 (see 9.2.1.). With regard to the training contracts within the dual system in overall terms, there is extensive comparability of dissolution data and rates (with the exception of the reporting years 2007 and 2008). In the case of individual occupations, however, large movements may occur in the comparison of the years 2006 and 2009 due to reporting behaviour and the changed method of calculation of the dissolution rate. For the reporting year 2009, a comparison between the dissolution rates of the individual training occupations and occupational groups in accordance with the previous and new method of calculation has been made available in the “DAZUBI Online Data System” at: www.bibb.de/dazubi/zusatztabellen [last accessed: 01-07-2011]

<p>Other interpretation information and answers to “frequently asked questions”</p>	<p>The indicator does <u>not</u> state the rate of <u>training dropouts</u> in the dual system. Many persons who prematurely dissolve their contract subsequently conclude a new contract and therefore do not leave dual training entirely.</p> <p><u>Which contractual party</u> has dissolved the contract and for <u>which reasons</u> is <u>not</u> surveyed. These reasons are multifarious (e.g. company closure, change of company providing training, change from a largely publicly financed training contract to a company-based training contract, change of occupation, change to higher education study, complete dropout from training).</p> <p>Since the number of training contracts which will be dissolved during the following year is not known within the respective reporting year, representative figures are used for persons who began their training contract in earlier years and whose contract was dissolved in the current reporting year. This means that the dissolution rate can only be interpreted as an approximate calculation of the proportion of premature dissolutions of contracts begun in the current reporting year.</p> <p>How is a contract dissolution rate of 22.6 % in the reporting year 2009 to be interpreted?</p> <p><i>Approximately 23 % of the training contracts begun in the reporting year 2009 were dissolved prior to the agreed end of contract (were dissolved in 2009 or are expected to be dissolved within the coming years).</i></p> <p>Why is the database population not used as a reference variable? Because training contracts may be prematurely dissolved in each year of training (first, second, third or fourth year of training), should the number of dissolutions not be related to the total number of trainees?</p> <p><i>Because most dissolutions take place at a very early stage, the database population from the previous years contains only trainees whose probability of dissolution is low. A dissolution rate calculated on the basis of the stock of current trainees underestimates the proportion of dissolved training contracts. For this reason, it seems useful to calculate the dissolution rate on the basis of training contracts begun. Within this process, however, it is important for dissolutions to be related to the training contracts begun in the relevant “beginning year” respectively. The contracts dissolved in 2009, for example, are related to contracts which began in 2009, 2008 ... etc. depending on the “beginning year”.</i></p> <p>Why is the multi-tier model (an „sum of rates” method) used in the calculation formula?</p> <p><i>If we wish to determine the proportion of training contracts begun which are prematurely dissolved, this cannot be precisely calculated ex ante for the current cohort. Some contracts have not yet been prematurely dissolved but</i></p>
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	<p><i>will be so dissolved before the end of the contract.</i></p> <p>Why is the contract dissolution rate not calculated for the individual specialisms of training occupations and why only for occupations aggregated with their predecessors?</p> <p>In general terms, when the dissolution of a contract is reported under another occupation (different training regulations) or by stating a different specialism than at the beginning of the contract, calculation in accordance with the „sum of rates“ method leads to artefacts, because data reports from several years are used.</p> <p><i>This phenomenon may occur in two cases in particular:</i></p> <ul style="list-style-type: none"> • <i>in the case of updatings of training occupations. Some training contracts are reported under the predecessor occupation in one year and under the successor occupation in the following year (in the case of updatings);</i> • <i>if in one year the report takes place without statement of specialism and with statement of specialism in the next year.</i>
<p>Main publications</p>	<p>HERGET, HERMANN: Vorzeitige Lösung von Ausbildungsverträgen [<i>Premature dissolution of training contracts</i>]. In: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Data Report to accompany the 2010 Report on Vocational Education and Training. Bonn 2010, pp. 173-178 http://datenreport.bibb.de/dr2010.html [last accessed: 01-07-2011]</p> <p>Note: <i>Since the 2011 edition new method of calculation made possible on the basis of the individual data provided in the Vocational Education and Training Statistics; in earlier years: previous method of calculation which was designed on the basis of aggregate data.</i></p> <p>FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datensystem DAZUBI – Zusatztabelle[n] [<i>DAZUBI data system – additional tables</i>] – URL: http://www.bibb.de/de/57057.htm [last accessed: 01-07-2011]</p> <p>Note: <i>Updated annually (“data sheets” still contain the earlier method of calculation; the “additional tables” contain the new method of calculation and a comparison of the two methods of calculation).</i></p>

9.3 Success rates

9.3.1 Success rate I (EQ I) – participation-related success rate

Name	Success rate I (EQ I) – participation-related success rate
Core statement	In the year 2009, 90.2% of all final examinations conducted were successful.
Current validity	The data is available with a delay of approximately one year.
Significance for vocational education and training	<p>The indicator</p> <ul style="list-style-type: none"> • shows the amount of final examinations passed as a proportion of all examinations conducted within the reporting year including repeated examinations; • facilitates comparisons over the course of time and between various occupations, areas of responsibility and more besides; • can be used to estimate the performance of dual vocational education and training.
Reference variables	<p><u>Numerator:</u> Number of final examinations passed in the reporting year</p> <p><u>Denominator:</u> Number of all final examinations conducted in the reporting year including repeated examinations (= examination cases)</p> <p><u>Remarks on the reference variable</u> This means that the denominator encompasses the number of examination <i>participations</i>, not the number of examination <i>candidates</i>.</p>
Calculation formula	$EQ I = \frac{\text{Number of passed examinations}}{\text{Number of examination participations}} * 100$
Possible differentiations	<p>Until 2006, examination data was recorded in the Vocational Education and Training Statistics as aggregate data. This meant that opportunities for differentiation were essentially restricted to the following characteristics:</p> <ul style="list-style-type: none"> • gender, • area of responsibility, • region (including East/West; federal state) and • occupations surveyed (and aggregates thus formed) <p>Following the reorganisation of the Vocational Education and Training Statistics to show individual data, there have been extensive opportunities for differentiation according to all characteristics used in the Vocational Education and Training Statistics. This means that</p>

	<p>differentiations according to characteristics such as general school qualification or nationality are possible. Differentiations are, however, still largely focusing on the previous characteristics (cf. also BIBB 2009).</p>
Data sources	Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States
Cut-off date/ period of consideration	The indicator is period-related and reflects the situation in a specific reporting year which coincides with the calendar year.
Information on the quality of the indicator	<p>Consideration needs to be accorded to the fact that the EQ I is a participation-related indicator rather than a candidate-related indicator. This means that, in the case of repeated examinations, persons may be counted more than once within a calendar year. This can occur, for example, in circumstances where they take part in repeated examinations in an examination which they have also not passed within the reporting year. Until 2006, all examination participations by a person in the calendar year were counted, i.e. up to two repeated examinations were recorded. Following the switch to individual statistics, only a maximum of one repeated examination (the last examination) was recorded per person in the reporting years 2007 to 2009. This meant that the number of examination cases between 2007 and 2009 was underestimated and that EQ I tended to display a higher level. From 2010, all repeated examinations have once again been recorded.</p> <p>Account also needs to be taken of the fact that, until 2006, participations in so-called external examinations and in retraining examinations in the craft trades were also counted alongside participations in final examinations. "Other examinations", which include external examinations and retraining examinations, have only been separately recorded since the reorganisation of the Vocational Education and Training Statistics to show individual data.</p>
Other interpretation information (Frequently asked questions)	<p>Due to the reorganisation of the Vocational Education and Training Statistics to show individual data, comparisons of the indicator with previous years has only been possible to a limited extent from 2007 onwards.</p> <p>Is an EQ I of 100% possible?</p> <p><i>It is possible in principle for the EQ I to reach a value of 100%. In order for this to happen, the number of examination participations must be equal to the number of candidates and all would need to pass the examination. In actuality, however, such a case is scarcely likely to occur.</i></p>

<p>Main publications</p>	<p>EBBINGHAUS, MARGIT: Teilnahmen an Abschlussprüfungen sowie Berufsabschlüsse [<i>Participation in final examinations and vocational qualifications</i>]. In: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Data Report to accompany the 2011 Report on Vocational Education and Training. Bonn 2011, pp. 173-178 http://datenreport.bibb.de/ [last accessed: 01-07-2011]</p> <p>Note: <i>Since the 2011 edition new method of calculation made possible on the basis of the individual data provided in the Vocational Education and Training Statistics; in earlier years: previous method of calculation which was designed on the basis of aggregate data.</i></p> <p>FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datensystem DAZUBI – Zusatztabellen [<i>DAZUBI data system – additional tables</i>] – URL: http://www.bibb.de/de/57057.htm [last accessed: 01-07-2011]</p> <p>Note: <i>Updated annually (“data sheets” still contain the earlier method of calculation; the “additional tables” contain the new method of calculation and a comparison of the two methods of calculation).</i></p> <p>FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Erläuterungen zu den Auszubildenden-Daten der Berufsbildungsstatistik der statistischen Ämter des Bundes und der Länder (Erhebung zum 31.12.), den Berufsmerkmalen und den Berechnungen des BIBB (Datenstand: 2009) [<i>Explanations of the trainee data of the Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States (survey as of 31 December). Occupational characteristics and BIBB calculations (data status 2009)</i>] 2009) – URL: http://www.bibb.de/dokumente/pdf/a21_dazubi_daten.pdf [last accessed: 01-07-2011]</p>
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9.3.2 Success rate II (EQ II) – candidate-related success rate

<p>Name</p>	<p>Success rate II (EQ II) – candidate-related success rate</p>
<p>Core statement</p>	<p>In the year 2009, 93.8% of all examination candidates passed the final examination.</p>
<p>Current validity</p>	<p>The data is available with a delay of approximately one year.</p>
<p>Significance for vocational education and training</p>	<p>The indicator</p> <ul style="list-style-type: none"> • states the amount of examination candidates as a proportion of

	<p>all examination candidates who passed the final examination regardless of whether they passed the examination at the first attempt or following a repeated attempt;</p> <ul style="list-style-type: none"> • shows the proportion of examination candidates who acquire a full vocational qualification; • facilitates comparisons over the course of time and between various occupations, areas of responsibility and similar; • provides a reference for the performance of the dual system.
<p>Reference variables</p>	<p><u>Numerator:</u> Number of examinations passed in the reporting year</p> <p><u>Denominator:</u> Until 2006: number of examinations conducted in the reporting year minus the number of repeated examinations in the reporting year Since 2007: number of examination candidates in the reporting year</p> <p><u>Remarks on the reference variable</u></p> <p><u>Numerator:</u> The number of examinations passed is identical with the number of successful examination candidates.</p> <p><u>Denominator:</u> Until the reorganisation of the Vocational Education and Training Statistics from aggregate data to individual data in 2007, the number of examination candidates could only be calculated in an approximate form by correcting the number of all examinations by the number of repeated examinations. This is governed by the following facts and circumstances. Until 2006, the aggregate data used in the Vocational Education and Training Statistics exclusively recorded examination participations (examination cases). This meant that there was a possibility that examination candidates could be counted more than once, such as if they where they took part in (up to two) repeated examinations in an examination which they had also not passed within the reporting year. Correcting the total number of examination participations by participations in repeated examinations is an attempt to balance out multiple countings. The resulting value is, however, only an approximate value for the number of examination candidates due to the fact that the aggregate statistics do not reveal whether individual persons a) sat one or two repeated examinations in the reporting year or b) sat only one repeated examination in the reporting year which was a resit of a first examination sat in the previous year.</p>

	Such a correction is no longer necessary from the reporting year 2007 onwards because the number of examination candidates can now be directly stated.
Calculation formula	<p>Until 2006:</p> $EQ II = \frac{(\text{Examinations passed})}{(\text{Examination participations}) - (\text{Repeated examinations})} * 100$ <p>Since 2007:</p> $EQ II = \frac{(\text{Number of examinations passed})}{(\text{Number of all examination candidates})} * 100$
Possible differentiations	<p>Until 2006, examination data was recorded in the Vocational Education and Training Statistics as aggregate data. This meant that opportunities for differentiation were essentially restricted to the following characteristics:</p> <ul style="list-style-type: none"> • gender, • area of responsibility, • region (including East/West; federal state) and • occupations surveyed (and aggregates thus formed) <p>Following the reorganisation of the Vocational Education and Training Statistics to show individual data, there have been extensive opportunities for differentiation according to all characteristics used in the Vocational Education and Training Statistics. This means that differentiations according to characteristics such as general school qualification or nationality are possible. Differentiations are, however, still largely focusing on the previous characteristics (cf. also FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING 2009).</p>
Data sources	Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States
Cut-off date/ period of consideration	The indicator is period-related and reflects the situation in a specific reporting year which coincides with the calendar year.
Information on the quality of the indicator	<p>Until 2006, the EQ II facilitated only an approximate statement of the amount of successful examination candidates as a proportion of all examination candidates (see "Reference variables" above).</p> <p>Following the reorganisation of the Vocational Education and Training Statistics to show individual data in 2007, the number of examination candidates can be directly stated on the basis of the statistics rather than any longer needing to be recorded in an</p>

	<p>approximate form. If the EQ is, however, calculated in the conventional form, consideration needs to be given to the fact that only a maximum of one repeated examination (the last examination) has been counted per person since 2007 rather than all repeated examinations. This means that the number of repeated examinations is lower compared to the years until 2006 and that the EQ II tends to be lower. From 2010, all repeated examinations have once again been recorded.</p> <p>Account also needs to be taken of the fact that, until 2006, participations in so-called external examinations and in retraining examinations in the craft trades were also counted alongside participations in final examinations. "Other examinations", which include external examinations and retraining examinations, have only been separately recorded since the reorganisation of the Vocational Education and Training Statistics to show individual data.</p> <p>This means that, in overall terms, EQ II provides a more precise statement of the amount of successful examination candidates as a proportion of all examinations candidates in the reorganisation of the Vocational Education and Training Statistics.</p>
<p>Other interpretation information (Frequently asked questions)</p>	<p>Due to the reorganisation of the Vocational Education and Training Statistics to show individual data, comparisons of the indicator with previous years has only been possible to a limited extent from 2007 onwards.</p>
<p>Main publications</p>	<p>EBBINGHAUS, MARGIT: <i>Teilnahmen an Abschlussprüfungen sowie Berufsabschlüsse [Participation in final examinations and vocational qualifications]</i>. In: FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): <i>Data Report to accompany the 2011 Report on Vocational Education and Training</i>. Bonn 2011, pp. 173-178 http://datenreport.bibb.de/ [last accessed: 01-07-2011]</p> <p>Note: <i>Since the 2011 edition new method of calculation made possible on the basis of the individual data provided in the Vocational Education and Training Statistics; in earlier years: previous method of calculation which was designed on the basis of aggregate data.</i></p> <p>FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): <i>Datensystem DAZUBI – Zusatztabellen [DAZUBI data system – additional tables]</i> – URL: http://www.bibb.de/de/57057.htm [last accessed: 01-07-2011]</p>

	<p>Note: Updated annually (“data sheets” still contain the earlier method of calculation; the “additional tables” contain the new method of calculation and a comparison of the two methods of calculation).</p> <p>FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Erläuterungen zu den Auszubildenden-Daten der Berufsbildungsstatistik der statistischen Ämter des Bundes und der Länder (Erhebung zum 31.12.), den Berufsmerkmalen und den Berechnungen des BIBB (Datenstand: 2009) [Explanations of the trainee data of the Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States (survey as of 31 December). Occupational characteristics and BIBB calculations (data status 2009)] 2009) – URL: http://www.bibb.de/dokumente/pdf/a21_dazubi_daten.pdf [last accessed: 01-07-2011]</p>
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9.3.3 Success rate for first examinations (EQ_{EP})

Name	Success rate for first examinations (EQ _{EP})
Core statement	In the year 2009, 91.2% passed the final examination at the first attempt.
Current validity	The data is available with a delay of approximately one year.
Significance for vocational education and training	<p>The indicator</p> <ul style="list-style-type: none"> • states the proportion of persons who pass the final examination at the first attempt (first examination); • states the extent to which training directly leads to a full vocational qualification; • permits assessments of the performance and efficiency of dual vocational education and training courses.
Reference variables	<p><u>Numerator:</u> Number of first examinations passed in the reporting year</p> <p><u>Denominator:</u> Number of all first examinations conducted in the reporting year</p>
Calculation formula	$EQ_{EP} = \frac{\text{(First examinations passed)}}{\text{(All first examinations)}} * 100$

Possible differentiations	<p>Differentiations according to all characteristics of the Vocational Education and Training Statistics are possible in principle. Differentiations are currently focusing on the following characteristics:</p> <ul style="list-style-type: none"> • gender, • area of responsibility, • occupations surveyed (and aggregates thus formed) and • type of admission (regular/early/following extension). <p>As far as the future is concerned, further differentiations are intended, particularly for the drawing up of time series. These include nationality (German/not German) and prior school learning (highest general school leaving qualification acquired).</p>
Data sources	<p>Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States</p>
Cut-off date/ period of consideration	<p>The indicator is period-related and reflects the situation in a specific reporting year which coincides with the calendar year.</p>
Information on the quality of the indicator	<p>It has only been possible to calculate the EQEP since the reorganisation of the Vocational Education and Training Statistics from aggregate data to individual data. This change was put in place for the first time for the reporting year 2009 (cf. Federal Institute for Vocational Education and Training 2011). If, in individual cases, the result of the first examination is reported to be “definitively not passed”, such cases are treated as “first examinations not passed”, although no decision can ultimately be taken as to whether the type of examination or the examination success was recorded correctly or incorrectly.</p>
Other interpretation information (Frequently asked questions)	<p>Because each person can only take part in a first examination once, the number of examination candidates is identical with the number of examination cases. To this extent, the EQEP is a participation-related and a candidate-related indicator in equal measure.</p>
Main publications	<p>Ebbinghaus, Margit: Teilnahmen an Abschlussprüfungen sowie Berufsabschlüsse [Participation in final examinations and vocational qualifications]. In: Federal Institute for Vocational Education and Training (Ed.): Data Report to accompany the 2011 Report on Vocational Education and Training. Bonn 2011, pp. 173-178 http://datenreport.bibb.de/ [last accessed: 01-07-2011] Federal Institute for Vocational Education and Training (Ed.):</p>

	<p>Erläuterungen zu den Auszubildenden-Daten der Berufsbildungsstatistik der statistischen Ämter des Bundes und der Länder (Erhebung zum 31.12.), den Berufsmerkmalen und den Berechnungen des BIBB (Datenstand: 2009) [Explanations of the trainee data of the Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States (survey as of 31 December). Occupational characteristics and BIBB calculations (data status 2009)] 2009 – URL: http://www.bibb.de/dokumente/pdf/a21_dazubi_daten.pdf [last accessed: 01-07-2011]</p>
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9.4 Literature

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10 Indicators for the scope of vocational education and training

10.1 Introduction

In 2008, 14.5 million young people between the ages of 20 and 29 were living in Germany. Two thirds had completed a vocational education and training course, normally of at least two years' duration. 2,554,000 (17.6%) were still in training or performing military or civilian service and therefore could not yet be recorded as "with" or "without" training. One in six of this cohort, 2,340,000 men and women, were neither in possession of a vocational training qualification nor any longer involved in initial or continuing training.

People without vocational education and training find it difficult to gain a foothold on the labour market. Their employment rate is below that of persons who have completed training, only a narrow occupational spectrum is open to them, provision of jobs is concentrated on a small number of branches of trade and industry and they leave working life earlier than those who have completed training (BRAUN, BREMSER, SCHÖNGEN, WELLER 2011).

Those without formal qualifications (nfQ) were previously referred to as "unskilled". This term is no longer in use today. Just because a person is unable to present a certificate does not mean that he or she is necessarily "unskilled". Many of those without formal qualifications have dropped out of training or a course of higher education study or have not passed the final examination. A further term in common use is "without training" (e.g. SOLGA 2002).

In Lisbon in the year 2000, the European Council set itself the goal of halving the proportion of 18 to 24-year olds leaving the educational system with a qualification at no higher a level than ISCED II within 10 years. In 2008, the proportion of these "early school leavers" in Germany was just under 11%. Persons in possession of a higher education entrance qualification are not considered to be low-skilled under the EU definition.

Despite the fact that young women leave general schooling with the better school qualifications, the amount of women as a proportion of the 20 to 29-year old nfQ is precisely in line with the proportion of women in the population. Differentiation solely on the basis of gender is, incidentally, misleading. Nationality exerts a greater influence on the achievement or non-achievement of a vocational qualification. The rule of thumb is that young people without German nationality are three times as likely to be represented within the group of nfQ than their proportion within the population suggests. The highest nfQ proportion is exhibited by women of foreign nationality.

As implied by the definition, people without training are not involved in any formal educational measure in which they could be counted. Neither is "not being in training" a

characteristic which can be evidenced and researched in the same way as gender or nationality.

In Germany, the microcensus is used to calculate the proportion of people without vocational education and training. The microcensus (MZ) is an annual sample of 1% of all households. Provision of information is compulsory, and data is collected on every member of the household. Available figures date from 2008.

The Data Report to accompany the Report on Vocational Education and Training defines those without formal qualifications (nfQ) as all 20 to 29-year olds who have not completed vocational education and training, or not in training or higher education and are not currently performing military or civilian service. The last named could interrupt or delay training. Those who have recently participated in continuing vocational training are considered to have maintained a connection with the educational system and are not included in the nfQ figures. The aim is to identify the hard core of persons outside the scope of vocational education and training. Just how many pupils, trainees and higher education students actually successfully complete their training is not yet known. For this reason, the figure needs to be treated with caution at all times and can only be higher.

In 2010, FUNCKE, OBERSCHACHTSIEK und GIESEKE demonstrated that this really is the case by calculating a rate of 20.6% for 25 to 34-year olds (based on the microcensus of 2007). They justified their choice of age range by stating that: “in the case of persons with a low level of qualification, it is not until after the age of 25 that no significant changes in qualifications can be observed” (p 6).

10.2 Young people without a vocational qualification

Name	Young people without a vocational qualification
Core statement	<p>In the year 2008,</p> <ul style="list-style-type: none"> • 1,579,000 of 9,838,000 persons aged from 20 to 29 were without a formal vocational qualification. This corresponds to: • 16.2% of the population at their main place of residence aged from 20-24, • 15.9 % of the population at their main place of residence aged from 25-29, • 16.1 % of the population at their main place of residence aged from 20-29, • 16.2% of the population at their main place of residence aged from 30-34.
Current validity	Data is available up to 2 years later.
Significance for vocational education and training	<p>The indicator states how many people aged between 20 and 29 are not in possession of a formal vocational qualification.</p> <p>People without a vocational qualification are less likely to be in active employment and more likely to be unemployed. They are less likely to be able to meet their living costs from their own income and they are missing as skilled workers.</p>
Reference variables	<p><u>Numerator:</u></p> <p>Total of 20 to 29-year olds who have not acquired a vocational qualification or state that their highest vocational qualification is “semi-skilled training/vocational internship” or “prevocational training year”.</p> <p>Those who are in training or who were performing military/civilian service at the time of the survey are subtracted from this number.</p> <p><u>Denominator:</u></p> <p>Total of persons aged between 20 and 29 in the population at their main place of residence.</p> <p><u>Remarks on the reference variable</u></p> <p>It only makes sense to calculate the indicators for several age cohorts together. The rate fluctuates strongly between the age cohorts.</p> <ul style="list-style-type: none"> • A quarter of 20 to 29-year olds are still in training or are performing military or civilian service. • The corresponding figure for those aged between 20 and 24 is 40%.

	<ul style="list-style-type: none"> • The corresponding figure for those aged between 25 and 29 is 10.5 %. • The corresponding figure for those aged between 30 and 34 is 1.7 %. <p>In 2008, the highest proportion of young people without a formal qualification was amongst the 20-year olds. The lowest value was for 24-year olds, after which the rate once more rose.</p> <p>Persons commencing their initial training after the age of 30 are less likely to achieve a qualification. The nfQ rate amongst the 20 to 34-year olds is higher than in the smaller cohort of the 20 to 29-year olds.</p>
Calculation formula	$\frac{\text{20 – 29 – year olds without a vocational qualification who are not in training or performing military or civilian service}}{\text{persons aged between 20 and 29 in the population at their main place of residence}} * 100$
Possible differentiations	<ul style="list-style-type: none"> • Gender • School leaving qualification • Nationality • Migration background • Federal state • Region (federal states of West Germany/federal states of East Germany) • Regional units of approximately 500,000 inhabitants
Data sources	Microcensus (scientific use file)
Cut-off date/period of consideration	The microcensus has had no cut-off date since 2005. The survey is distributed across the year.
Information on the quality of the indicator	<p>The microcensus is a household survey in which one member of a household might provide information on behalf of another. For this reason, incorrect information may occur. Incorrect information may also occur in cases where someone has not understood the question.</p> <p>“Without training” is deduced from the answers given to two questions rather than being a directly researchable characteristic. These questions are formulated as follows.</p> <ul style="list-style-type: none"> • “Do you have a vocational training qualification or a higher education/University of Applied Sciences qualification?” (Possible answers: “yes” or “no/not yet”) • (only directed to those who have replied “yes”)

	<p>“What is the highest vocational training qualification or higher education/University of Applied Sciences qualification you have?”</p> <p>Missing values: In 2008, 0.3% of answers regarding the question of the existence of a vocational qualification were missing. 0.9% of those surveyed provided no information in response to the question regarding the type of vocational qualification. These cases were ignored in calculating the rate.</p> <p>The microcensus is a sample of 1% of all households in Germany. The provision of information is compulsory. The figures are weighted and extrapolated across the population as a whole on the basis of the benchmark values from the current Population Forecast.</p>
<p>Other interpretation information (Frequently asked questions)</p>	<p><i>What counts as vocational education and training?</i></p> <p><i>Vocational education and training is usually governed by the Vocational Training Act or federal state laws and is of a minimum two years’ duration. Qualifications acquired at one-year schools in the healthcare sector also count. Semi-skilled training, internships and the prevocational training year are not deemed to be training. The basic vocational training year is not surveyed in the microcensus. Training qualifications which were acquired abroad and which are not comparable with German qualifications are counted as training.</i></p> <p>How is the data collected?</p> <p><i>The data is based on information provided by the persons surveyed or information given by a member of the household. Data is cleansed of semi-skilled training, internships and the prevocational training year at BIBB.</i></p> <p>Who is not counted?</p> <p><i>Persons who are surveyed at their secondary place of residence. This is in line with the definition of population of the Federal Statistical Office.</i></p> <p>Which school leaving qualification is most likely to lead to persons being affected by unemployment?</p> <p><i>In 2008, 41% of persons without a formal qualification were in possession of the lower secondary school leaving certificate. 20.5% had acquired the intermediate secondary school leaving certificate and 20.3% had obtained a higher education entrance qualification. 17.9 % had no school leaving certificate, 0.4% of responses were missing.</i></p> <p>How many of those without a formal qualification have dropped out of training and how many have never commenced training?</p>

	<i>This question is not asked in the microcensus. Consideration should also be accorded to the fact that some nfQ have migrated to Germany after their 18th birthday and were no longer subject to compulsory education in the country.</i>
Main publications	FEDERAL INSTITUTE FOR VOCATIONAL EDUCATION AND TRAINING (Ed.): Datenreport zum Berufsbildungsbericht 2010: Informationen und Analysen zur Entwicklung der beruflichen Bildung [<i>Data Report to accompany the 2011 Report on Vocational Education and Training. Information and analyses on the development of vocational education and training</i>] [HTML version]. 2010. - URL: http://datenreport.bibb.de/ [last accessed: 01-07-2011]

10.3 Literature

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11 List of abbreviations

AAQ	Ausbildungsanfängerquote (noch in Entwicklung)	Training entrant rate (still under development)
AbsQ	Ausbildungsabsolventenquote (noch in Entwicklung)	Training completion rate (still under development)
ANR	Angebots-Nachfrage-Relation	Supply and demand ratio
AQ	Ausbildungsbeteiligungsquote	Training participation rate
AQI	Angebotsquote zugunsten der Ausbildungsinteressierten	Supply ratio of those interested in training
Auge	Junge Menschen im Ausbildungsgeschehen	Young people in the training system
BA	Bundesagentur für Arbeit	Federal Employment Agency
BBiG	Berufsbildungsgesetz	Vocational Training Act
BEQ	Bewerbereimündungsquote	Applicant progression rate
BerBiRefG	Berufsbildungsreformgesetz	Vocational Training Reform Act
BGBI	Bundesgesetzblatt	Federal Law Gazette
BIBB	Bundesinstitut für Berufsbildung	Federal Institute for Vocational Education and Training
DAZUBI	Online-Datensystem Auszubildende des Bundesinstituts für Berufsbildung	DAZUBI Online Data System
Destatis	Statistisches Bundesamt	Federal Statistical Office
DEÜV	Datenerfassungs- und -übermittlungsverordnung	Data Recording and Transmission Ordinance
DJI	Deutsches Jugendinstitut	German Youth Institute
EQ I	Erfolgsquote I - teilnahmebezogene Erfolgsquote	Success rate I – participation-related success rate
EQ II	Erfolgsquote II - teilnehmerbezogene Erfolgsquote	Success rate II – candidate-related success rate
EQ _{EP}	Erfolgsquote für Erstprüfungen	Success rate for first examinations
EQI	Einmündungsquote der Ausbildungsinteressierten	Progression rate of those interested in training
FormBild	Junge Menschen in formaler Bildung	Young people in formal education
HIS	Hochschul-Informations-System GmbH / Hochschulstatistik	Higher Education Information System
HwO	Handwerksordnung	the Crafts and Trades Regulation Code
iABE	integrierte Ausbildungsberichterstattung	The Integrated Training Reporting System
ISCED II	Die internationale ISCED-Klassifizierung, Level 2 (Sekundarbildung I/Unterstufe, Mittelstufe)	International Standard Classification of Education level II
LQ	(Vertrags-)Lösungsquote	(Contract) dissolution rate
MZ	Mikrozensus	microcensus

nfQ	nicht formal Qualifizierte	without formal qualifications
OECD	Organisation für wirtschaftliche Zusammenarbeit und Entwicklung	Organisation for Economic Cooperation and Development
REQ	Rechnerische Einmündungsquote	Arithmetical progression rate
SBR	Stellen-Bewerber-Relation	Training places-applicants ratio
SGB III	Sozialgesetzbuch III	German Social Security Code III
SGB IV	Sozialgesetzbuch IV	German Social Security Code IV – Social Insurance

Abstract

Vocational education and training reporting uses various indicators, rates and guidance values to describe developments and problem areas in VET. There are, however, considerable differences in the construction and significance of some of these indicators, even when they relate to similar facts and circumstances. For this reason, a systematic description of the most important vocational education (and training) seemed apposite in order to facilitate their application.

The indicators focus on transitions from the general educational system to the training system (“1st threshold”). The present publication explains the calculation method of the individual indicators and documents their scope and explanatory capacity.