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Matching demand and supply for training contracts in the dual system

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1. Matching demand and supply: a political task

The dual system of apprenticeship training is market driven. Companies decide about their participation, the volume of training, the professions and they decide, which applicants finally get a training contract. These decisions normally don't come up to the needs of society and the interests of the school-leavers. Matching between demand and supply of training contracts within the dual system is therefore a major issue.

Main political actors in this process are the federal ministries (especially for education, economy and labour) the responsible ministries in the Länder, the national employment agencies and business organisations like chambers of trade and commerce, chambers of craft trades, employer organisations and – as well – trade unions. All together are discussing the situation on the training market and possible instruments to bring demand and supply together so that all youngsters who are willing and able to finish an apprenticeship training have a chance to start. Company-based training has a clear priority in realizing this aim.

On federal level the Federal government is discussing training strategies together with the partners of the "National Alliance for Initial and Further Training". Besides the Federal government (BMWi, BMAS, BMBF and integration commissioners), the employment Agencies (BA), business and industry groups, unions and Länder governments are members of the Alliance. They agreed upon the common goal of strengthening dual vocational training and establishing the equivalence of company-based and academic training. Besides the national level also alliances in the Länder and as well on the regional level are supporting the matching process. For example: they organize vocational fairs to inform school-leavers about professional profiles, they support internships, they inform about training offers and they support SME's in organizing training.

A legalized forum of co-determination has been established with the main board of the Federal Institute for Vocational Education and Training (BIBB). The Board is a legal organ and the executive body BIBB. It also acts as a statutory advisory body of the federal government. It gives advice in fundamental matters regarding vocational education and training. Representatives of employers, trade unions, Germany's federal states and the federal government work together on the board, with each group having an equal share of votes.

Each year the Federal Ministry for Education and Science (BMBF) publishes the national VET report. The report describes the situation on the training market, analyses structural tendencies, makes a projection of the situation in the ongoing year and describes political programmes and instruments in the field of VET. The board of BIBB discusses and comments the national VET-report and gives own recommendations. In completion and parallel to the national VET-report, BIBB publishes the VET Data report with additional statistical and empirical data.

Federal government as well as ministries in the Länder have launched diverse programmes to assist and support the matching of supply and demand. The national VET-report gives an overview on political aims, instruments and programmes. Important programmes are – for example – focussing on the

- organisation of vocational orientation in secondary schools (BOP),
- implementation of assistant structures for SME's (JOBstarter),
- organisation of assistant courses for apprentices with a weak performance in part-time vocational training schools (ausbildungsbegleitende Hilfen),
- information and consultation of drop-outs from higher education about VET and the
- support of VET for adults with no professional degree (Nachqualifizierung).

The federal government as well as the governments of the Länder also support companies, especially SME's, through different instruments and programs. Most important is the financial support of inter-company training centres. They offer training courses which complete the training within companies as many companies are not able to fulfil the requirements of the training regulations. For example: when they have specialized on a narrow program of products or services they maybe can't train apprentices in a wide range of professional tasks. In this case they have the possibility to cooperate with other companies or to send their apprentices to training courses in inter-company training centres.

2. Matching Process: interests versus needs

The training period within the dual system starts in August or September. Big companies normally start their recruiting process for apprentices already one year in advance. The matching process is organized in a way that school leavers of the following year send their application together with CV and certificates from school to a company and apply for a training contract. Companies themselves check the application and invite potential candidates to the

recruiting process. For example: They test competencies in German or Mathematic, they interview applicants and they invite them to an internship. Big companies organize the recruiting of new apprentices professionally and with sophisticated instruments, for example like an assessment centre. Small companies make their choice on the basis of a few and simply to handling instruments. They normally invite applicants to an interview and offer an internship of one or two weeks to check whether they are suitable for a training.

When both sides agree, a training contract is signed, in which rights and duties of companies and apprentices are stipulated. The training contract formally is a working contract with special obligations following the Vocational Training Act. The signed contract is send to a responsible body (normally a chamber of craft trade or chamber of industry and commerce) where the contract is officially registered.

Even when the training period has started the matching process is still going on. It is possible to sign a training contract also in the first month of the ongoing training period. School leavers who were not successful in getting a training contract until August have the opportunity to sign a training contract also in the last month of the year. Employment agencies and responsible bodies are engaged in this period with different actions to support the matching process.

The first month of the training period give both parties – companies as well as apprentices – the opportunity to check their choice. The trial period can last up to four months. When apprentices are not satisfied with the profession or the working conditions in the company they can quit the contract. Vice versa the company also has the right to quit the contract if the apprentice is not motivated enough and doesn't fulfil the expectations and requirements. After this trial period companies are not allowed to quit the contract without serious reasons.

The whole training period of two or three years can also be seen as a testing period. Apprentices can test the chosen profession, while companies are able to test the apprentices before they offer them a regular working contract for a qualified job. About 70 % of the successful apprentices continue working in their company.

3. Indicators: matching results

A good result of the matching process would be when all applicants for an apprenticeship training finally get a contract in the preferred profession, region and company. This is of course an ideal, which is difficult to realize. While companies decide upon the volume of their training and the professions of training contracts on their specific needs, school-leavers have their own preferences and expectations. Both normally differ.

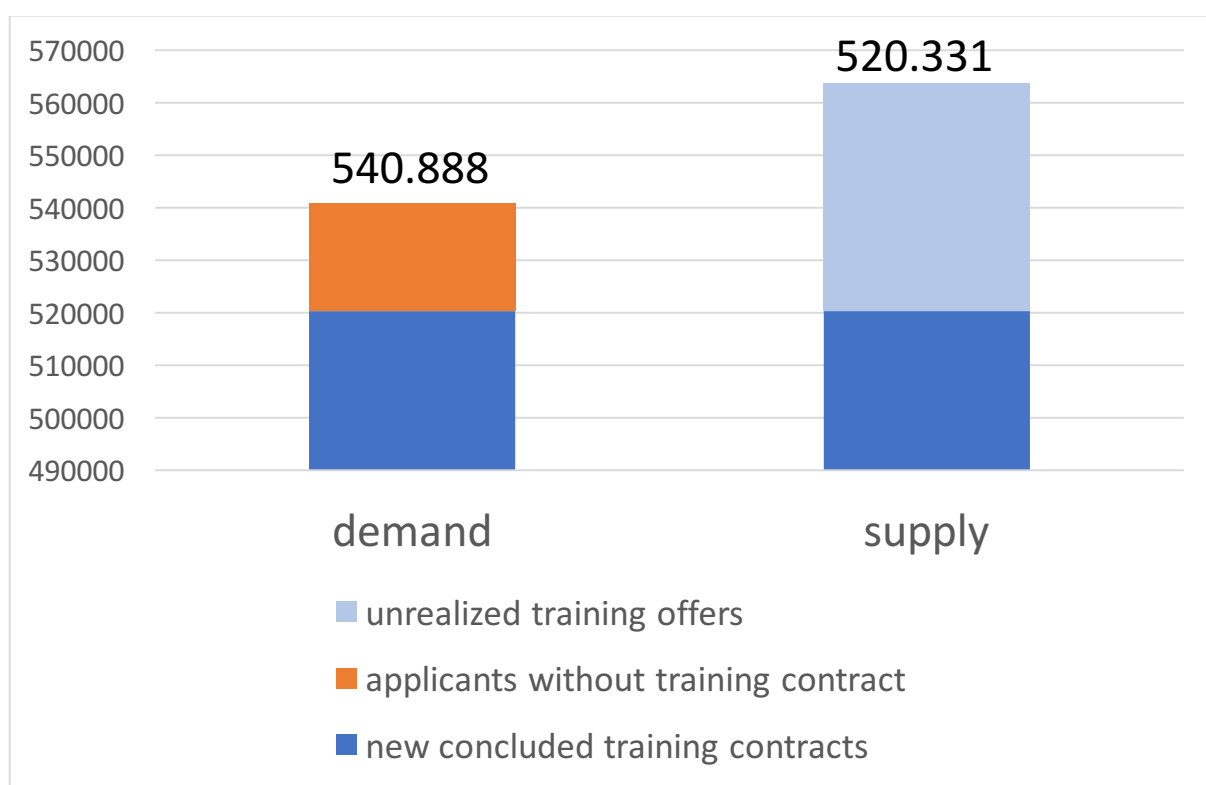
The national VET-report describes the situation on the training market by different indicators. Most relevant are the number of concluded and recognized training contracts, the supply-demand-ratio and the placement rate. The indicators show – in general – fairly good matching results. But of course: applicants as well as companies have to be flexible. Applicants for example have to accept other professions than primarily preferred and they maybe have to move to another city. Companies have to accept applicants with a weaker performance than preferred and they maybe have to offer additional services to make their training attractive.

Concluded and recognized training contracts

On the basis of the Vocational Training Act (BBiG), the supply of training places is recorded as the number of newly concluded training contracts plus training places registered by employment agencies as still unfilled. Demand is calculated on the basis of the newly concluded training contracts and the unplaced applicants registered with employment agencies.

In 2016 more than 520.000 new training contracts have been concluded between apprentices and companies (see chart 1). They refer on nearly 330 generally accepted professions. This number of training contracts was nearly as high as in the year before. Comparing with 2009, when nearly 582.000 new contracts had been registered, the number was clearly lower in recent years. There are two main reasons for this decrease. Due to the demographic development the number of school-leavers with a basic or medium qualification, which are traditionally the main group applying for a vocational training, is much lower. In addition: the number of youngsters with a university entrance qualification is much higher than it was in the past. Traditionally most of these young men and women decide to start studying at a university or university of applied sciences.

Chart 1: Demand and supply of training contracts 2016



To cover their demand of qualified personnel companies had to recruit apprentices for a dual training from school-leavers with a lower degree and weaker performance. Youngsters who were not successful in getting a training contract in the past and therefore had decided to continue schooling within the so-called transition sector got a greater chance for a training contract. The transition sector represents a mixture of different types of schools and courses in which pupils have the possibility to improve their competences, to achieve a higher (general) degree or to achieve a basic vocational qualification. To achieve a fully recognized vocational qualification graduates from the transitional system need a vocational training in the dual system.

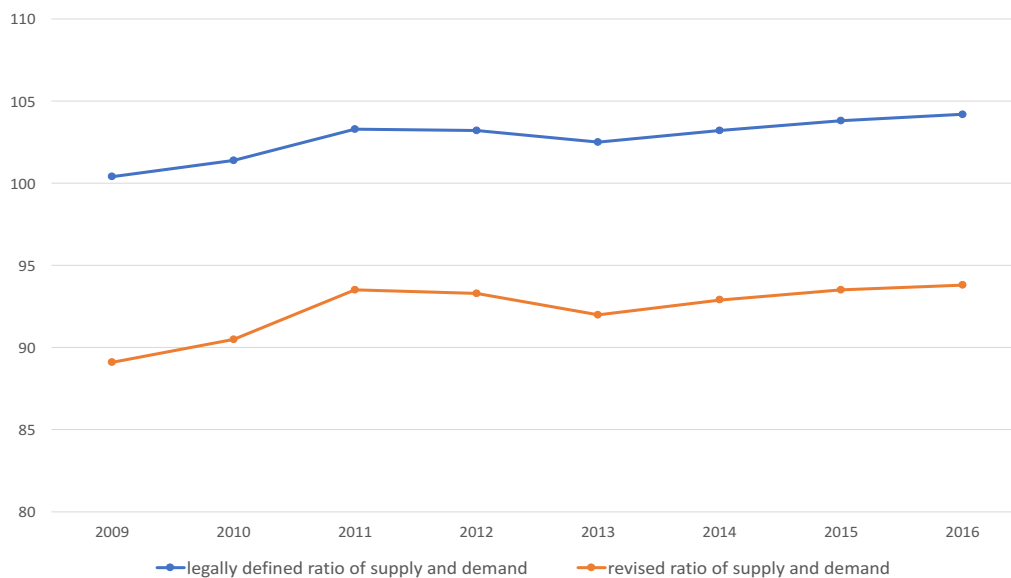
Supply-demand-ratio

At the beginning of the new training period in 2016 a total number of 520.331 new training contracts were concluded nationally. Together with training contracts which had been offered but couldn't find an interested and / or qualified applicant (43.478) the total volume of training supply in 2016 was 564.809 places.

According to the legal definition, there was a demand for 540.881 training places. This figure is based on 520.331 newly concluded training contracts and a number of 20.550 applicants who were not successful in getting a training contract and were at the beginning of the training period still looking for a contract.

The ratio of supply and demand gives an aggregated information to the situation on the training market. A ratio under 100 shows a shortage of supply. A ratio over 100 shows that there are more offered trainings than applicants and that companies couldn't find apprentices for their offers. During the last years the situation on the training market has improved. The (legal) ratio of supply and demand went up from 101 in 2009 to 104 in 2016 (see chart 2).

Chart 2: Ratio of supply and demand



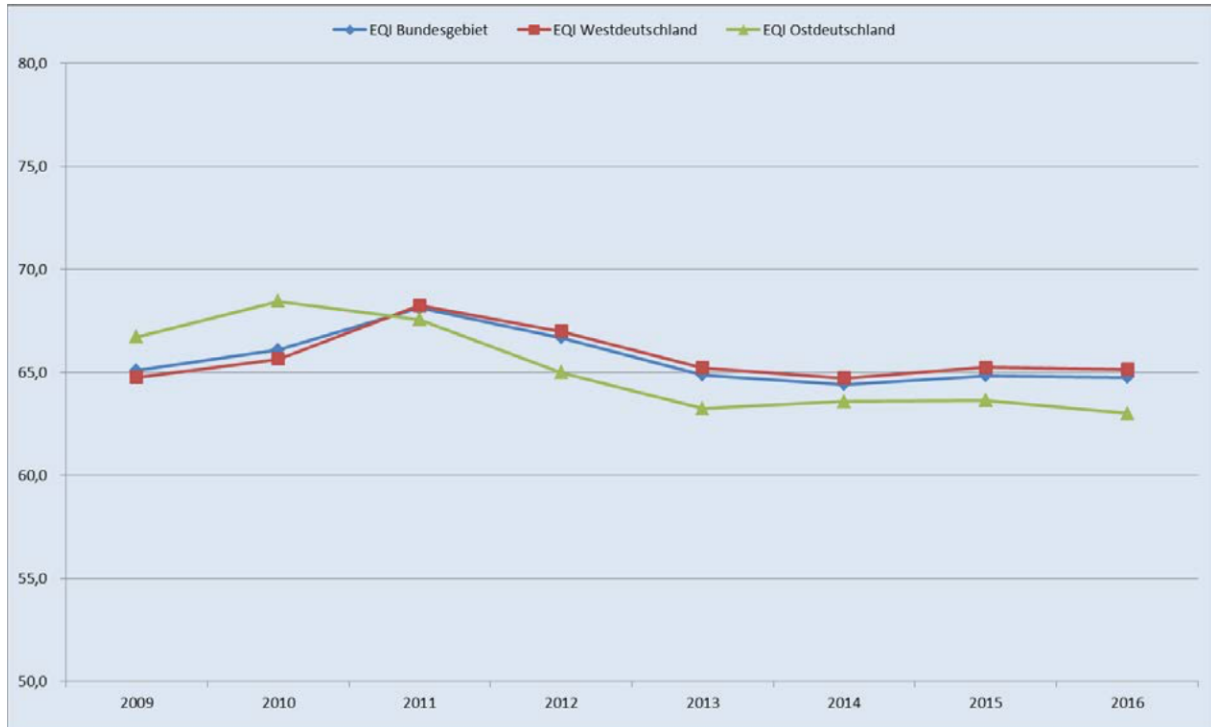
The legal definition of supply and demand has been criticized as both figures only give a rough, but not precise information of the situation on the training market. A revised definition of the demand has therefore been suggested by colleagues from BIBB. Data of the revised definition are now also published in the national VET-report. It includes also those applicants who succeeded to find an alternative training, for example in the transition system, but still are interested in an apprenticeship training. As the calculated demand is higher than in the legal definition, the figures of the revised supply-demand-ratio are lower. But the tendency remains equal: Both figures show an improvement in the period between 2009 and 2016.

Placement rate

The computed placement rate (EQI) calculates the proportion of those youngsters registered as interested in training to those who were recruited into dual vocational training. In 2016 the placement rate for Germany was 65. It was a bit higher in the west than in the east.

The placement figure of 65 can't be interpreted in the way that only two of three youngsters were successful in getting a training contract. It's just an indicator to show how much youngsters were interested in an apprenticeship training at the end of their schooling as an option for their career development. As they have different options they later often decide to go to school to achieve a higher degree, to study at a university or to start with a school-organized training in the health-sector or in social professions. Between 2009 and 2016 the placement rate first increased from 65 to 68 and later decreased back to 65. Looking on whole period the placement rate was fairly stable.

Chart 3: Placement rates (2009 – 2016) in Germany – West Germany – East Germany



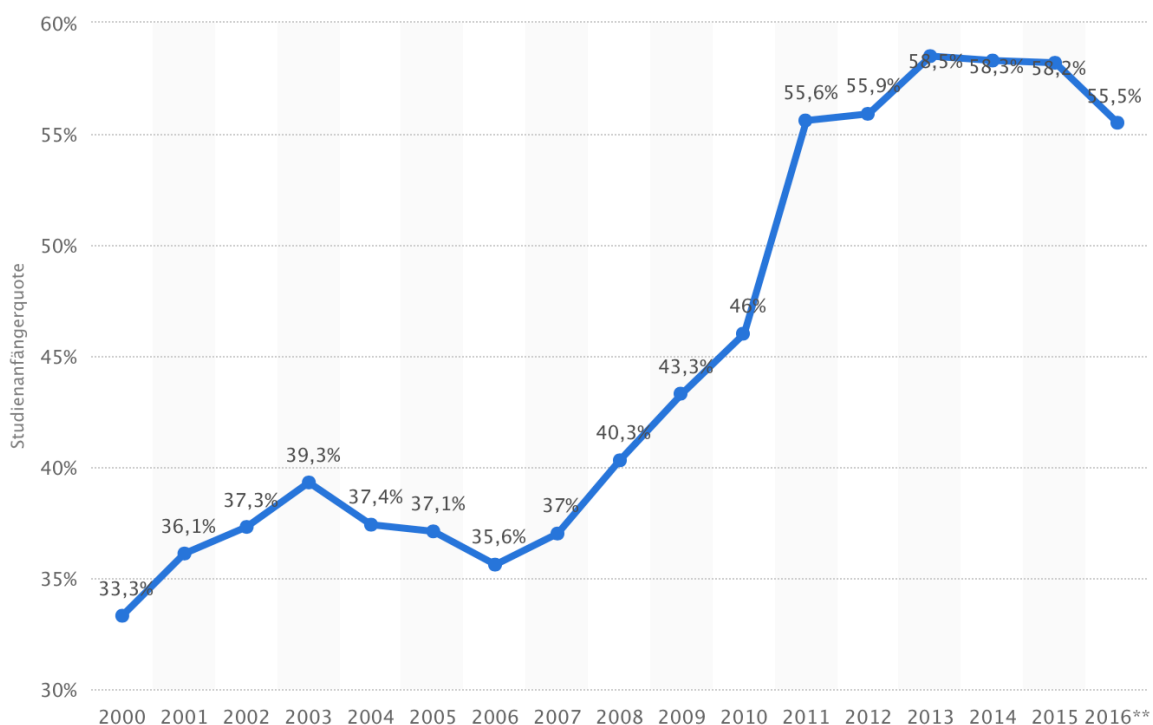
4. Educational attainment: increasing formal level

Increasing number of students

Since 2013 the number of youngsters starting in the higher education sector is bigger than those starting with professional training in the dual system. While the percentage of students in the age group was 35,6 % in 2006 it climbed within a few years up to 55,6 % in 2011. Over last years this share has stabilized on this level.

The dramatically shift in the number of students as well as in the share of the age group has caused intensive public and scientific debates. This development has been interpreted as indicator for a serious crisis of the dual system. It could finally shrink to a qualification system for a minority of youngsters, focussing on some craft and industrial professions and attractive only for school-leavers with a low performance. The increasing share of students could on the other hand lead to shrinking quality of academic studies.

Chart 4: Students starting in the tertiary sector as percentage of the age group (2000 – 2016)



Source: Federal Statistical Office, 2017

The sorrows are justified but critics overestimate the real developments. To get a clear picture additional information should be considered:

- It is necessary to have a look on all entrants to VET. Besides actually 520.000 new training contracts within the dual system there are about 200.000 entrants to school-organized professional trainings. In the health and social sector this kind of training is dominant. Putting dual and other kinds of vocational training together there are still much more starters in vocational training than to higher education.
- Dual apprentice training lasts between two and three years, with a maximum of three and a half year. To finish studies in higher education five or six years are necessary and usual. Comparing graduation rates the VET-system has still much more successful graduates than higher education.

Increasing educational background in VET

In 2016 27,7 % of new apprentices were qualified to enter higher education. Compared with the past years the formal level of qualification has grown (see Chart 5). 42,7 % of trainees with newly concluded training contracts had an intermediate school leaving certificate (Mittlere Reife / Realschulabschluss). 26,7 % had a secondary general school certificate (Hauptschulabschluss) and 2,8 % had no secondary general school certificate. The figures also show that an apprenticeship training is

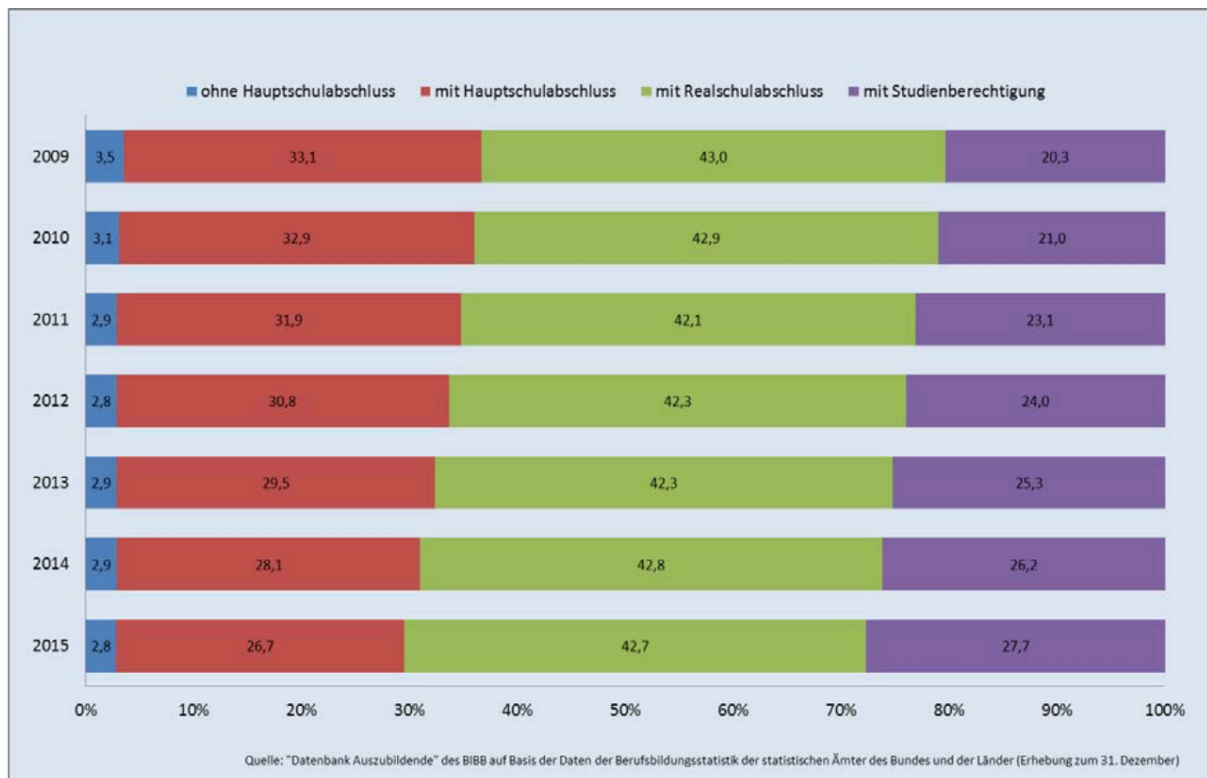
- open for school-leavers with different degrees as there is no formal obligation to have a special degree,
- of interest for an increasing number of qualified school leavers with university entrance degree (Abitur / Studienberechtigung).

Apprentices with a higher formal degree nevertheless have a lower share than graduates with this degree in the total age group.

The main reason for this development is a generally updating of the educational attainment of all school-leavers in the past. Meanwhile 51 % of the age group achieve the university entrance degree. The motivation to choose an apprenticeship training are different. Some are interested in a special profession and want to learn more practical. Others want to achieve professional competences as a solid basis to start studying. This is very common for economic or engineering studies. A third group is unsure about their future plans. To start with a vocational training gives time to make experiences in a specific profession and to better identify interests, options and pathways. Besides we have to consider an increasing number of drop-outs from university. They are looking for alternatives and often they start with an apprenticeship training to have better opportunities for a qualified job. And vice versa: companies are nowadays interested in recruiting apprentices from

this group.

Chart 5: Schooling background of trainees with newly concluded training contracts, 2009 to 2014



5. Challenges: growing mismatch – retreat of SME's – segmentation

The dual apprenticeship system has in fact to face different challenges. Most important are a growing mismatch between supply and demand, a reduced engagement of companies in training and last but not least the segmentation of applicants.

Growing mismatch: In 2016 more training places remained unfilled than in the years before. At the same time a growing number of applicants were still looking for a training place at the beginning of the training year. Matching problems persist as one of the central challenges for policy makers. Analyses of the training market show mismatches due to vocation, qualification and as well to regional criteria.

- **Vocational mismatch:** Some professions are of high interest for youngsters, others are not. For example: Companies have big problems to find adequate

applicants for their trainings as restaurant specialist, butcher, salesperson, plumber, baker, scaffolder or cook. Attractive professions are for example: animal keeper, media designer, visual marketing designer, print media designer, biology laboratory technician, IT-systems electronics technician, photographer, tourism and leisure agent, event manager.

- **Qualification mismatch:** Though the formal level of educational degrees is better now than ever before companies comply about the competences of school-leavers. Besides a lack of competences in German and mathematics they comply about a lack of social attitudes and competences. As they are responsible for a successful training they don't want to give applicants a training contract which don't fulfil their standards.
- **Regional mismatch:** Due to the economic and demographic structure the relation between supply and demand is quite heterogeneous in regional perspective. There are regions with a lack of training places or applicants. And there are regions with a lack of training places and applicants at the same time.

Less companies provide training: 20 % of all companies with at least one employee for whom they pay social insurance contributions were offering training in 2016. This is the lowest rate ever. Responsible for this drop are the smallest companies (with less than 20 employees). This must be seen in the context of increasing difficulties of smaller companies in filling training places. Training and working in bigger companies normally is more attractive for school-leavers.

Segmentation of applicants: the opportunities of school-leavers in getting a training contract depend on their school performance, their educational attainment as well as on individual and social characteristics. School-leavers with a poor performance in school, with the basic degree (Hauptschulabschluss), with migration background or with handicaps have problems to find a company which is willing to sign a training contract. A great challenge for the next years will be the integration of young refugees to the VET-system and the labour market. Until now most of them are attending language courses, general or vocational training schools. Only few succeeded to get a training contract.

6. Reform: Permeability and attractiveness of training

The dual system of VET is neither a unique system nor an inflexible system. The common basis are the regulations laid down in the Training Act. Main pillars are the organisation of learning in companies and part-time vocational training schools, the definition of professional standards and the participation of business organisations in the governance of the system. This system was able to tackle a number of challenges in the past. It will also be able to find answers to the challenges of the future. The main actors of this system – as mentioned above – are already discussing and implementing instruments for a better matching, for example to better integrate young refugees with a perspective to stay in Germany in dual training. It is also quite clear that it is necessary to keep the attractiveness of vocational training.

An important message for the equivalence of higher and vocational education came from “Germany’s Qualification Framework” (DQR): higher vocational degrees, like “Meister” or “Techniker”, have been put on level six. They now have the same ranking like bachelor-degrees. Some higher vocational degrees have even been put on level seven which is the level of the master-degree. The message is that it is possible to reach the same qualification level via higher education or via vocational qualification.

Indeed there is need for a continuous reform. Common afford is necessary to secure quality, to realize more permeability and to keep the vocational education attractive. Elements of a reform are – for example – the creation of attractive professions, the integration of additional courses in dual training for the most qualified and motivated apprentices as well as a better support of continuous training throughout working live. Besides companies have to think about their strategies for recruitment and development of their personnel. When academics finally have a higher job security and get the leading positions this is a clear signal for employees, that their children should have an academic degree.

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