

# The Social Status of Vocational Education and Training in Switzerland

## Information Brochure for Professionals in Vocational Education and Training



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# The Social Status of Vocational Education and Training in Switzerland

The Swiss vocational education and training (VET) system is held in high regard by other countries. Young skilled workers from Switzerland consistently secure top marks at world skills competitions. But how has the social status of VET developed relative to that of baccalaureate schools? What changes can be ascertained in the various parts of the country and population groups? We have been able to answer these and other questions thanks to a new measurement.

## Current Discussion on the Social Status of VET

High youth unemployment in many countries in the wake of the financial crisis attracted a great deal of international attention to the Swiss VET system. In Switzerland, however, this worldwide interest did not stop discussion about the low social status of VET in comparison to academic qualifications. Companies complain that it is becoming increasingly difficult to attract adolescents with sufficiently high schooling abilities to VET programmes. At the same time, baccalaureate schools are said to continue to boom. Swiss newspapers report, for example, that parents are determined to do anything they can to send their children to baccalaureate schools, and that companies are finding it difficult to find competent adolescents to complete a Federal VET Diploma in Commerce.

Increasing internationalisation of the economy and rising immigration from countries with more academic education systems may partly explain why the low social

status of VET in such countries is increasingly affecting VET's social status in Switzerland. Nevertheless, most adolescents in Switzerland continue to go into VET following their compulsory schooling. Moreover, the majority of employees in Swiss companies in the industrial, construction and services sectors have completed VET.

## Content, Goals and Addressees of this Brochure

Few studies have been conducted to date into the social status of VET and its determining factors. For this reason, we developed a concept to measure the social status of VET that enables us to study the positioning of VET relative to other education programmes in Switzerland. This brochure summarises the most important findings and aims to raise interest in the topic of the social status of VET. Although



our VET system is frequently praised at home and abroad for its high quality, it is also dependent upon adolescents, parents, teachers and employees appreciating the value of Swiss VET.

The brochure illustrates the social status of VET in Switzerland, and examines whether differences exist between population groups. The findings provide a basis for any possible measures to strengthen Swiss vocational and professional education and training (VPET). The brochure is aimed in particular at institutions responsible for providing information and advice, employers of future holders of vocational qualifications, and VET stakeholders.

Before discussing the results of our research in greater detail, we provide a concise overview of the Swiss education system and highlight the key aspects of VET.

**NOTE** The analyses presented in this brochure are based on data drawn from the Programme for International Student Assessment PISA (see <http://www.oecd.org/pisa/>). Since the turn of the century, PISA performance tests have been conducted around the world every three years amongst 15 year-old adolescents in over 70 countries and economies. They assess students' skills and knowledge in reading, mathematics and science, and extend beyond merely surveying pure school knowledge by, for example, testing reading or problem-solving abilities.

To analyse the social status of VET, we used data from around 63,000 adolescents who took part in Swiss PISA tests in the years 2000, 2003, 2006, 2009 or 2012 (see <https://pisa.edu.ch/>). These are adolescents in the ninth grade (11<sup>th</sup> grade HarmoS), i.e. at the end of their compulsory schooling. In the PISA questionnaires, they specified whether they were planning to take up an interim solution or to attend one of the following upper-secondary education programmes: baccalaureate school, upper-secondary specialised school, apprenticeship or school-based VET.

## VET as a Central Pillar of the Swiss Education System

The Swiss education system is unique with its strong focus on VET. Switzerland has the highest rate of adolescents completing a VET programme after their compulsory schooling. VET programmes provide young professionals with the necessary skills and competencies by combining different learning places. The Swiss education system underwent major reforms in recent years, further boosting quality and social mobility. Chart 1 provides an overview of the education system at the upper-secondary education level and shows possible transition routes to the tertiary level.

### High graduation rates for VET

Adolescents in Switzerland who complete their nine-year compulsory schooling have the opportunity to attend a general education or VET programme at the upper-secondary education level or to find a transitional interim solution. Around one third choose a general education

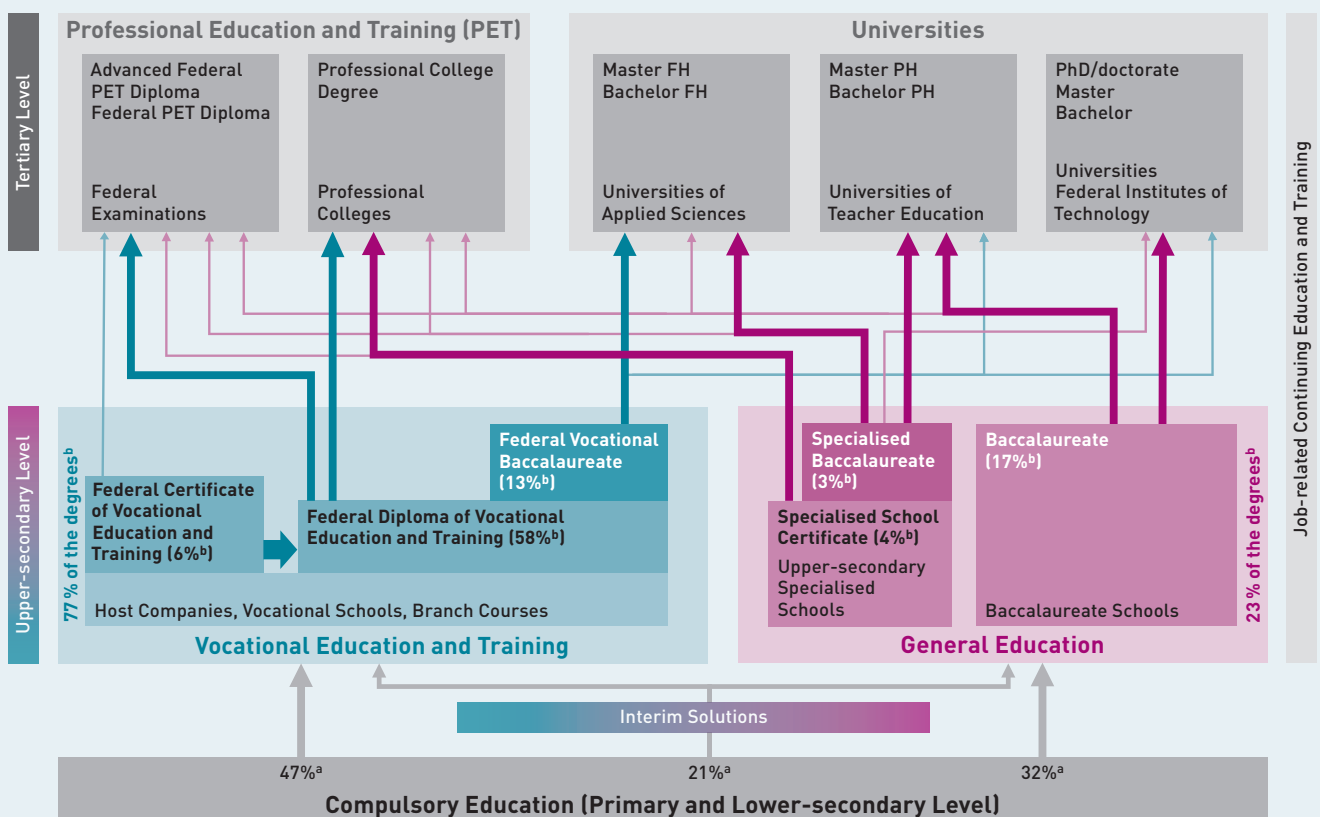
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## About half of all ninth grade pupils plan a direct transition to a VET programme.

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programme; most of these pick a baccalaureate school and only a small proportion choose an upper-secondary specialised school. Almost half of all adolescents plan to transition to a VET programme. VET students either attend a 2-year programme to obtain a federal certificate of

Chart 1: Swiss education system



Sources: Own chart based on the description of the Swiss education system provided by the State Secretariat for Education, Research and Innovation SERI (<https://www.sbfi.admin.ch/sbfi/en/home/bildung/swiss-education-area/das-duale-system.html>); the coloured arrows represent the pathways from vocational education and training (blue) and general education (pink) to the tertiary education level, whereby the arrows' thickness indicates how usual each pathway is;

**a Transition rates:** The rounded percentages shown for compulsory schooling relate to the numbers planning to go into VET, an interim solution and general education, calculated on the basis of weighted PISA data for 2000, 2003, 2006, 2009, 2012;

**b Graduation rates:** The rounded percentages shown for graduation at upper-secondary education level show the number of graduates in the year 2016 recorded by the Federal Statistical Office (<https://www.bfs.admin.ch/bfs/en/home/statistics/catalogues-databases/tables.assetdetail.2950608.html>).





vocational education and training (Eidgenössisches Berufsattest - “EBA”) or a 3- or 4-year programme to obtain a federal diploma of vocational education and training (Eidgenössisches Fähigkeitszeugnis – “EFZ”). The remaining one fifth of adolescents chose an interim solution. As most of the transitions surveyed in the Programme for International Student Assessment PISA (see information box on page 4) are indeed realised, the data on these planned transitions is reliable.

Graduation rates at the upper-secondary education level show for 2016 that 77 percent of the qualifications were achieved through VET. This high figure also reflects the fact that many adolescents who initially chose an interim solution subsequently start a VET programme. It should be noted, however, that these statistics cover graduations and not persons. Double graduations, for example if a pupil simultaneously completes a federal diploma of vocational education and training and a vocational baccalaureate, are therefore possible.

Differences between cantons and language regions

The transition to upper-secondary education and the baccalaureate school admission criteria differ from canton to canton. In the majority of cantons, however, the selection into education programmes with different requirements takes place at the sixth primary grade. In the Canton of

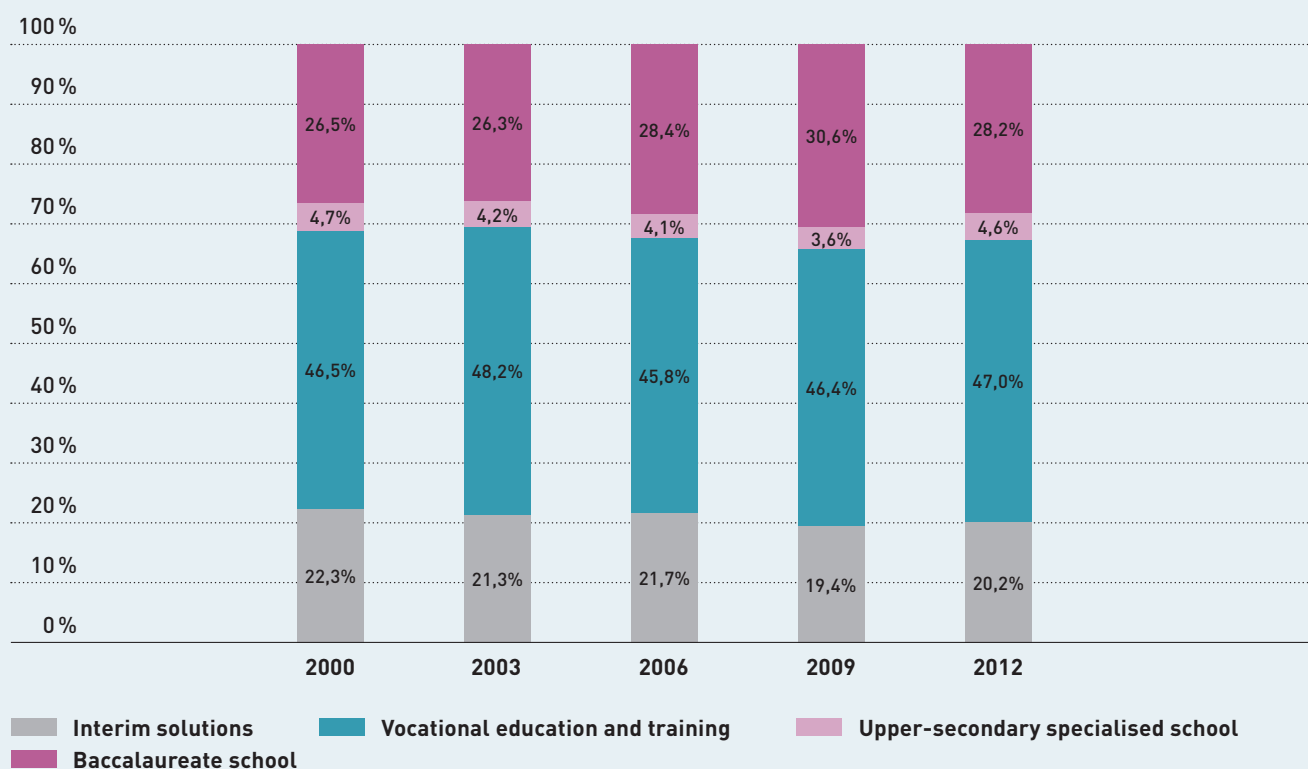
Zurich and in the cantons of central and eastern Switzerland, in particular, long-duration baccalaureate schools lasting six years are commonplace. The proportion of the various training programmes at the upper-secondary education level also vary strongly between the cantons and the language regions, as Table 1 shows. For example, over 50 percent of adolescents are planning to complete a VET

Table 1: Planned transitions of adolescents to the various education programmes at upper-secondary education level according to language region

Language regions	Education programmes			
	Interim solutions	Vocational education and training	Upper-secondary specialised school	Bacca-laureate school
German	22,3	51,3	3,0	23,4
French	18,6	34,9	7,4	39,2
Italian	12,8	37,6	6,4	43,2
Total	21,0	46.8	4,2	28,0

Data: Weighted PISA data for 2000, 2003, 2006, 2009, 2012 for the total of 63,139 ninth grade pupils

**Chart 2: Development of adolescents' planned transitions to the various education programmes at the upper-secondary education level over time**



Data: Weighted PISA data for 2000, 2003, 2006, 2009, 2012 for the total of 63,139 ninth grade pupils

programme in German-speaking Switzerland. In French-speaking and Italian-speaking Switzerland, by contrast, the share is significantly lower at 34.9 percent and 37.6 percent, respectively. At the same time, about 40 percent of pupils are planning to attend a baccalaureate school in these two language regions, while the figure in German-speaking Switzerland is just 23.4 percent.

### Wide-ranging options following VET

As Chart 1 (see page 5) clearly shows, while VET programmes are an integral part of the Swiss education system, they are certainly not a dead-end option. Instead, adolescents with initial vocational qualifications have many opportunities to continue their career in the education system. Adolescents with an EFZ and additional job experience have direct access to professional education and training at professional colleges and federal examinations. The vocational baccalaureate, which can be completed either together with the EFZ or thereafter, offers access to

the universities of applied sciences. In addition, the university aptitude test even makes it possible for someone with a vocational baccalaureate to study at a university or federal institute of technology. The permeability of Switzerland's education system means that university programmes are not simply restricted to adolescents with an academic baccalaureate.

### Consistent transition numbers

Chart 2 clearly shows that planned transitions to the various education programmes at the upper-secondary education level remained remarkably consistent between 2000 and 2012. If one examines the development of transitions for the various language regions, a difference becomes apparent only if a distinction is made between school-based VET and apprenticeships. In French-speaking and Italian-speaking Switzerland, for example, the proportion of apprenticeships has declined in favour of school-based VET and upper-secondary specialised schools.



## Concept for Measuring the Social Status of VET

To measure the social status of VET in Switzerland, we develop a new concept. Unlike surveys, our concept is based on observed education decisions taken by ninth grade pupils shortly before they transition to the upper-secondary education level. These data enable us to record the relative positioning of VET compared to other education programmes at the same education level. Our argument is that a link exists between the social status of VET and the choice of a specific education programme, as long as other conditions, such as admission criteria, remain the same.

We argue that adolescents with higher schooling abilities increasingly choose VET programmes over baccalaureate schools when vocational qualifications are held in higher

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**We argue that if the social status of VET increases, adolescents with higher cognitive abilities decide to pursue VET.**

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esteem by society and businesses. This increased social status of VET is reflected in the higher average abilities of adolescents who choose a VET programme compared to those choosing a baccalaureate school. We measure the relative abilities of prospective apprentices vis-à-vis baccalaureate school students by the difference between the average abilities of the two groups.

A decrease in this ability difference suggests that the social status of the baccalaureate school has fallen or that

the one of VET has risen. We argue that this development is attributable to the following: On average, due to the higher social status of VET, adolescents with higher abilities have chosen a VET programme. And/or adolescents with weaker abilities have chosen the baccalaureate school option on account of the decreased social status of the baccalaureate school.

We examine the social status of VET in Switzerland over time based on these ability differences. We also investigate whether the social status of VET differs between different population groups.

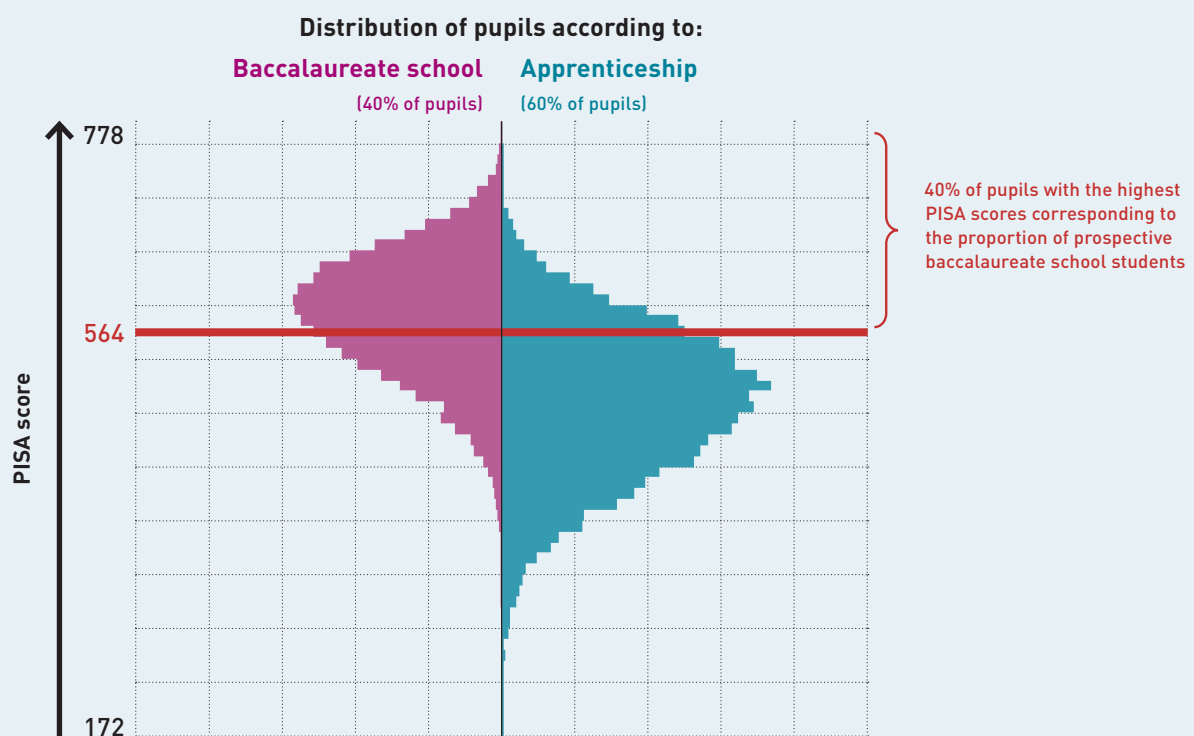
### **PISA scores as the basis for the measurement**

To examine the social status of VET based on the relative abilities between pupils in different education programmes, we use the average reading and mathematics abilities recorded by PISA (see information box on page 4). These PISA scores enable us to take account of cognitive abilities but no other abilities such as social or personal skills.

In the following analyses of the social status of VET we focus on the apprenticeship, because some 90 percent of qualifications in the field of VET are achieved through this route. We consider the relative abilities between adolescents who choose an apprenticeship and those who are planning to attend a baccalaureate school. In the following we use the terms “apprentices” and “baccalaureate school students”. But as PISA scores are recorded in the ninth grade, these adolescents have not yet begun the corresponding education programmes. Chart 3 illustrates how PISA scores in terms of reading and mathematics are distributed between adolescents who are planning to complete an apprenticeship and adolescents who are planning to attend baccalaureate school.

Starting from the top, Chart 3 shows that ninth grade pupils with the highest PISA scores choose to attend baccalaureate school (pink area). However, the best students who choose an apprenticeship (blue area) also have very high PISA scores. Thus pupils with high cognitive abilities also choose apprenticeships. If the baccalaureate school



**Chart 3: Distribution of PISA scores between prospective baccalaureate school students and apprentices**

Data: Weighted PISA data for 2000, 2003, 2006, 2009, 2012 for the total of 47,631 ninth grade pupils

**INTERPRETATION AID** In the manner of a population pyramid, the chart shows the distribution of pupils' cognitive abilities on the basis of PISA scores on the vertical axis. These abilities range from the lowest scores total of 172 to the highest of 778. The horizontal axis shows the distribution of pupils between apprenticeships and baccalaureate schools. The pink area represents the distribution of baccalaureate school students over the various PISA scores. The blue area shows the distribution of PISA scores for the prospective apprentices. The red horizontal line visualises the 40 percent share of baccalaureate school students at 564 PISA scores. As the pink area above the level 564 relative to the area below is significantly larger than in the case of the blue area, the chart demonstrates that the average scores of the prospective baccalaureate school students are higher than those of apprentices.





had the maximum social status in comparison to the apprenticeship, then all prospective baccalaureate school students would be amongst the 40 percent of adolescents with the highest PISA scores, and would consequently be located above the red horizontal line. In this scenario, only prospective apprentices would be below this line. However, as the abilities of the two groups overlap strongly, this is not the case.



## Empirical Results of the Research Project

### **The social status of VET is stable over time**

On the basis of our measurement of the social status of VET, we are now able to examine its development over time. This enables us to analyse whether increasing academisation and internationalisation has led to a decline in the social status of VET in Switzerland. The upper part of Chart 4 shows the development over time on the basis of the average PISA reading and mathematics scores of baccalaureate school students (pink bar) and of apprentices

**NOTE** It is important to note that the following charts do not consider further factors that could explain the differences in the social status of VET between population groups. For example, differences between Swiss citizens and immigrants may also be because these two groups differ in respect of where they live. This would be the case, for example, if immigrants lived more frequently in rural regions where the social status of VET is higher. However, detailed analyses in which we control for these additional factors confirm the results presented here.

**Chart 4: Stable development of the social status of VET relative to bacculaureate school over time**

Data: Weighted PISA data for 2000, 2003, 2006, 2009, 2012 for the total of 51,191 ninth grade pupils

**INTERPRETATION AID** The bars in the upper part of the chart show the average PISA reading and mathematics scores of prospective bacculaureate school students (pink) and of prospective apprentices (blue) on the vertical axis. The horizontal axis represents the development over time. The difference between the pink and blue bars illustrates the relative abilities between the two groups in the respective year. For example, prospective apprentices achieved 84 fewer PISA scores than prospective bacculaureate school students in the year 2000.

In the lower part of the chart, the same difference is shown as a dot. Thus the vertical axis of the chart again shows the difference between the average PISA scores of apprentices relative to bacculaureate school students for each PISA year on the horizontal axis. As the ability differences have barely changed over the years, the social status of VET remained relatively constant between 2000 and 2012. The red, vertical lines through the dots trace the statistical uncertainty of the values. Because the vertical lines of the various dots overlap, changes in the relative abilities over years are not statistically verified.

(blue bar) in the respective year. We measure the social status of VET on the basis of the ability differences between the two groups described on page 8. We argue in this conjunction that if VET had a higher social status, then pupils with higher school abilities would also choose an apprenticeship; meaning that their abilities rise relative to the ones of pupils choosing baccalaureate school. Chart 4 (see page 11) clearly shows that this ability difference has remained at broadly the same level over the years. Thus the social status of VET barely changed between 2000 and 2012.

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### The social status of VET has barely changed from 2000 to 2012 – notwithstanding trends in the other direction.

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In the interest of simplicity, we use only the relative abilities shown in the lower section of Chart 4 for the following analyses. On the vertical axis, we show the difference between the PISA scores of prospective apprentices and baccalaureate school students, that is to say the relative abilities. The PISA test years are shown on the horizontal axis. The value of the red dots in each year corresponds precisely to the differences between the bars in the upper part of the chart. These ability differences again show that the social status of VET has barely changed relative to baccalaureate school. Moreover, we observe this stability over time not merely for the social status of apprenticeships, but also for that of school-based VET relative to baccalaureate school.

#### **VET has a higher social status in the countryside**

We find substantial differences in the social status of VET when we compare various regions. Chart 5 (see page 14) shows that the social status of VET in rural regions (less than 15,000 inhabitants) is significantly higher than in urban regions (more than 15,000 inhabitants), because the relative cognitive abilities of apprentices relative to baccalaureate school students are higher in the countryside than in cities.

#### **The social status of VET is highest in French-speaking Switzerland**

While the language regions differ significantly in their views of the social status of VET, they do not do so in the manner we would have expected on the basis of the distribution of education programmes (see table 1 on page 6). Remarkably, the analyses with our measurements in Chart 5 (see page 14) show that the social status of VET relative to baccalaureate school is highest in French-speaking Switzerland and lowest in German-speaking Switzerland, while Italian-speaking Switzerland lies in between. This unexpected result applies not just to apprenticeships but also to school-based VET programmes, which are less widespread in German-speaking Switzerland.

As the difference between the average PISA scores of prospective apprentices and baccalaureate school students is lowest in French-speaking Switzerland, we conclude that the social status of VET is highest in this region. Thus PISA reading and mathematics scores of apprentices relative to baccalaureate school students are higher in French-speaking Switzerland than in the other language regions.

We examine this unexpected result in greater detail by analysing the average PISA scores of prospective baccalaureate school students and apprentices in the different language regions in Chart 6 (see page 14). The height of the blue bars shows that the average abilities of prospective apprentices differ only marginally between German-speaking Switzerland and French-speaking Switzerland. However, the pink bars present a different picture: The



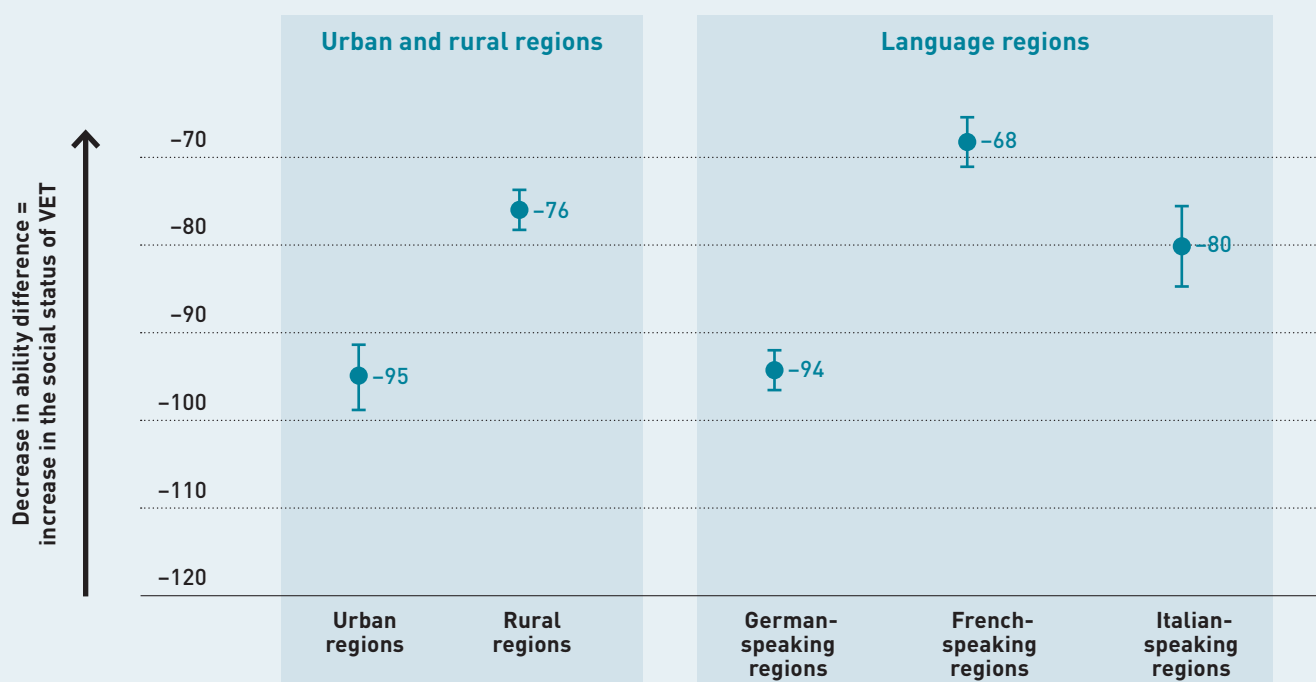
significantly higher bar for German-speaking Switzerland shows that these prospective baccalaureate school students have the highest average PISA scores.

The unexpected result for the language regions underscores the fact that we regard social status as a relative concept and we thus need to consider the relative abilities of adolescents in different education programmes. Lower ability differences between baccalaureate school students and apprentices always reflect a higher social status of VET. However, this increase may arise because either the relative abilities of prospective apprentices have risen or those of prospective baccalaureate school students have fallen, as in the above example for the language regions.

However an analysis of the development over time shows that between 2000 and 2012 the social status of VET converges in the various language regions. Notwithstanding a falling proportion of apprentices in French- and Italian-speaking Switzerland, we are able to observe a rise in their relative abilities compared to baccalaureate school students. At the same time, relative abilities in German-speaking Switzerland have narrowed due to a rise in the



**Chart 5: Regional differences in the social status of VET relative to baccalaureate schools**



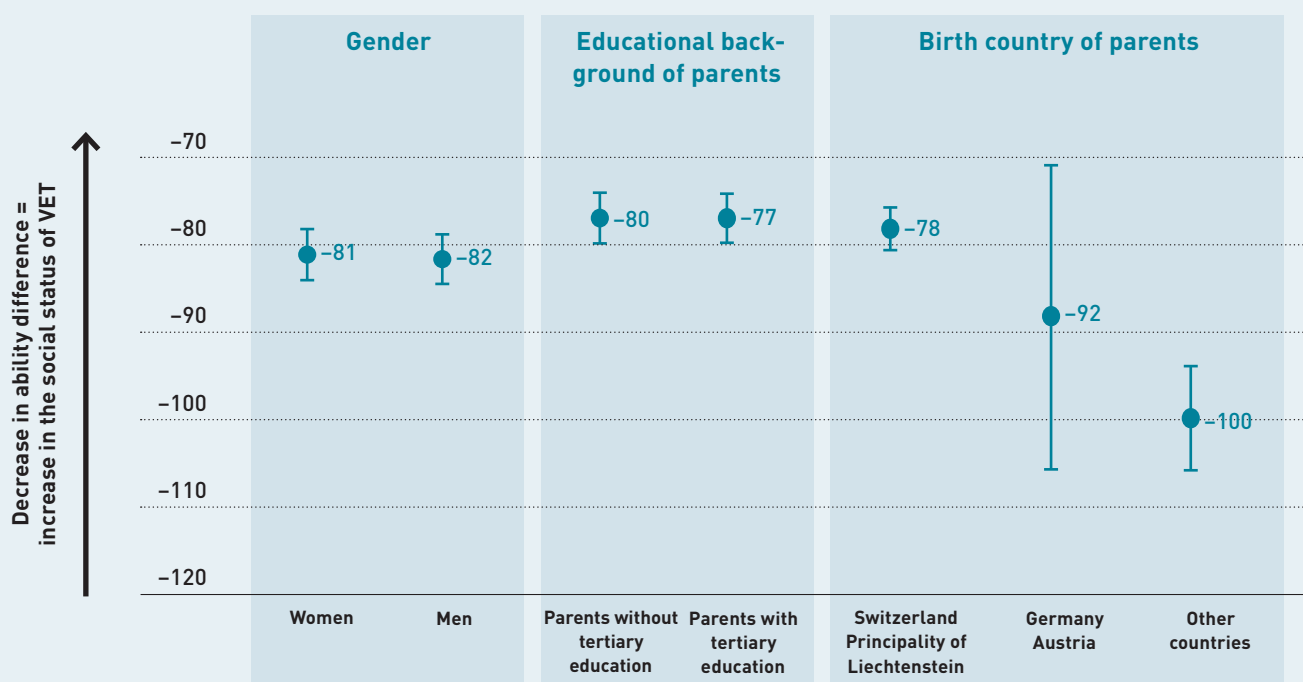
Data: Weighted PISA data for 2000, 2003, 2006, 2009, 2012 for the total of 51,191 ninth grade pupils

**Chart 6: Distribution of PISA scores of prospective baccalaureate school students and apprentices in the different language regions**



Data: Weighted PISA data for 2000, 2003, 2006, 2009, 2012 for the total of 51,191 ninth grade pupils

**Chart 7: Differences in the social status of VET relative to baccalaureate school based on gender, educational background, and birth country of parents**



Data: Weighted PISA data for 2000, 2003, 2006, 2009, 2012 for the total of 51,191 ninth grade pupils for gender and educational background of parents; weighted PISA data for 2000, 2003, 2009, 2012 for the total of 37,966 ninth grade pupils for birth country of parents

abilities of prospective apprentices. By contrast, the prospective baccalaureate school students' abilities have barely changed in the various language regions.

#### **Gender and parents' educational background have no impact on the social status of VET**

As Chart 7 shows, young women and men value the social status of VET relative to baccalaureate school equally. Adolescents of both genders with the same schooling abilities choose either an apprenticeship or a baccalaureate school at equal rates.

We also find no difference for the parents' educational background, as Chart 7 shows. Interestingly, the views of adolescents whose parents have a tertiary education qualification (see Chart 1 on page 5) do not differ significantly from those of other adolescents. It is important to note, however, that the tertiary education level covers a range of different education programmes. For example, professional education and training is a common tertiary qualification

in Switzerland. We would also expect to see differences in the social status of VET between adolescents with an academic education and those with a vocational qualification. Unfortunately, this distinction is not included in the PISA educational background data.

#### **The birth country of the parents affects the social status of VET**

Chart 7 presents the differences in the estimation of the social status of VET between adolescents of national origin, measured in terms of the parents' country of origin. The social status of VET is substantially higher for adolescents who have at least one parent born in Switzerland, relative to adolescents whose parents were born in a non-German-speaking country. By contrast, adolescents whose parents were born in Austria or Germany value the social status of VET higher than other adolescents of foreign origin, but lower than those of Swiss origin. In our view, the tendency of adolescents with higher school abilities

and Austrian or German origin to choose VET can be explained by these two countries' VET systems that are comparable to that of Switzerland. At the same time, however, the statistical uncertainty of adolescents whose parents are born in Austria or Germany is relatively high, on account of the small number of cases.

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### Differences in the level of knowledge of VET in Switzerland might be a reason for differences in the social status of VET.

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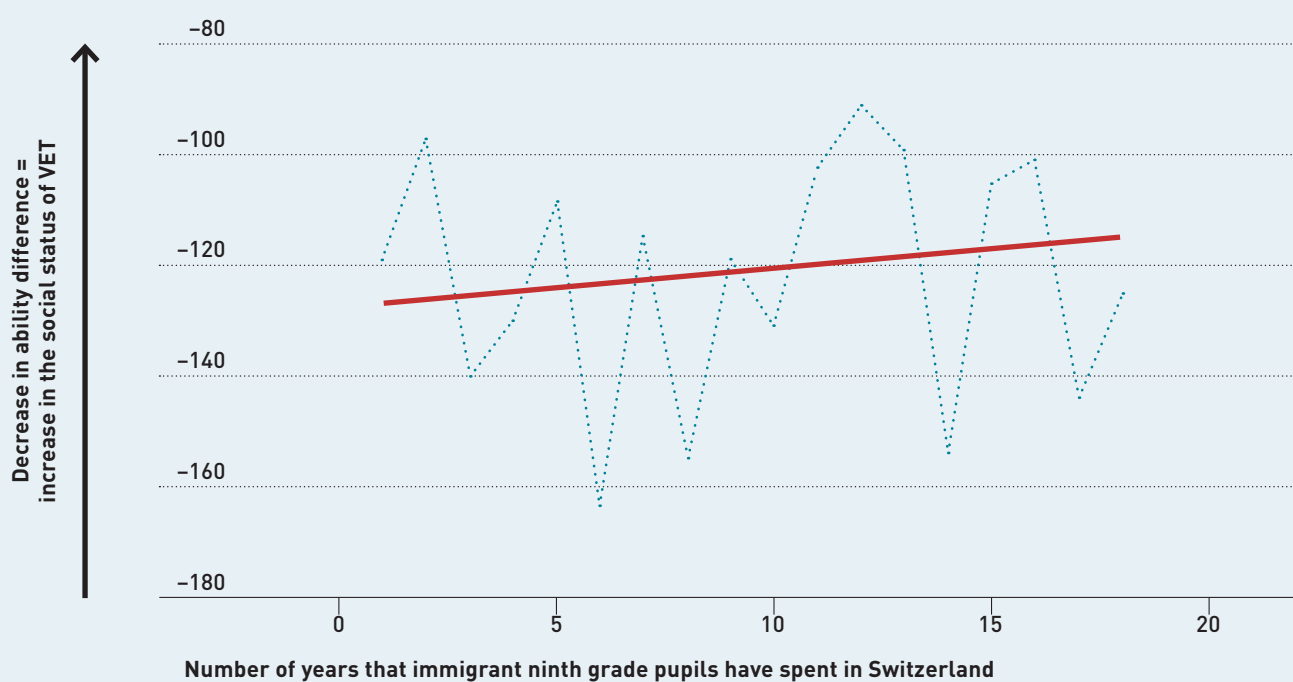
Interestingly, the views of adolescents of different national origins became more similar between 2000 and 2012. For adolescents whose parents were not born in a country with a similar VET system, the social status of VET has risen. In contrast, it has fallen for adolescents whose parents were born in Austria or Germany.

#### **The longer the time spent in the country, the higher the social status of VET**

Against this backdrop, we now take a closer look at immigrant adolescents, that is to say adolescents who were not born in Switzerland, and their attitude towards VET. Here too, adolescents who were born in Switzerland value the social status of VET substantially higher than the ones born abroad. However, the longer immigrant adolescents live in Switzerland, their views increasingly match those of Swiss-born adolescents. Chart 8 illustrates that the relative

cognitive abilities of immigrant ninth grade pupils who choose an apprenticeship rises in comparison to those who decide to attend baccalaureate school. Thus in the view of immigrant adolescents, the social status of VET increases with the time spent in Switzerland.

However, this is not the case for adolescents born in Austria or Germany, and therefore in a country with a similar VET system. We thus argue that the different level of knowledge about the education system and consequently about the merits of Swiss VET may be a reason for these differing attitudes towards the social status of VET. Another possible reason is the socialisation or integration of adolescents who were born abroad, that is to say their adoption of Swiss values and standards the longer they live in Switzerland.

**Chart 8:** Rising social status with increasing time spent in Switzerland by adolescents born abroad

Data: Weighted PISA data for 2000, 2003, 2009, 2012 for the total of 1,126 ninth grade pupils

**INTERPRETATION AID** The red trend line shows the average increase in the relative abilities between prospective apprentices and baccalaureate school students born abroad (vertical axis), depending on the length of time spent in Switzerland before taking the education decision for the transition to upper-secondary education (horizontal axis). The average ability difference for immigrant adolescents who arrived in Switzerland only shortly before the education decision, i.e. at the end of compulsory schooling, and choose an apprenticeship, is about -130 PISA scores. As at the end of the trend line we find a lower ability difference of about -115 PISA scores, immigrant adolescents with better relative school abilities chose an apprenticeship if they had spent practically their entire lives here.



## Conclusions and Implications for Education Policy

Our analyses show that the social status of VET has remained practically unchanged over time – notwithstanding developments in the other direction, such as increasing academisation and internationalisation. This could suggest that political measures such as the introduction of the new Swiss Vocational and Professional Education and Training Act [Berufsbildungsgesetz] in 2004 and increasing Swiss VPET marketing campaigns have maintained the attractiveness of VET.

However, our findings show that the social status of VET differs between population groups. For this reason, future campaigns should in particular also take account of the lower social status of VET in urban regions and amongst adolescents whose parents were not born in Switzerland. It is also important to consider why the abilities of prospective baccalaureate school students in French-speaking and Italian-speaking Switzerland are demonstrably lower relative to German-speaking Switzerland.

The views of immigrant adolescents who have lived in Switzerland for many years increasingly match those of adolescents who were born in Switzerland. This results underscores the importance of early integration of immigrants in the education system. It also demonstrates the need for the targeted provision of information and career counselling.

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**Campaigns to rise the social status of VET should in particular aim at urban regions and at immigrants from non-German-speaking countries.**

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